

Prof.ssa Elisabetta TANZI - CURRICULUM

1979 Degree in Biological Sciences at the University of Milan

1986 Specialization in Hygiene at the University of Milan

1992 PhD in Public Health at the University of Milan

1998 Associate Professor of Hygiene at the Faculty of Science, University of Milan

2014 National Scientific Qualification to function as full professor for the sector 06/M1 General and Applied Hygiene, Nursing, Medical Statistics

- Lecturer (**AA 2013/14**) at the master's degree courses in Biology Applied to Biomedical Research (BARB) (LM-6) and in Biology Applied to Nutrition Science (BIONUTRI) (LM-6) and in the course of Science in Nursing (class L/SNT1), University of Milan.
- Member of the Academic Board of the PhD in Epidemiology, Environment and Public Health, University of Milan.
- Member of the SItI, the Italian Society of Hygiene, Preventive Medicine and Public Health.
- Member of CIRI-IT, the Interuniversity Center for Research on flu and other transmitted infections, University of Genoa and University of Milan
- Member of the National Order of Biologists.

RESEARCH

Professor Tanzi carried on her scientific activity at the Virology Section of the Department of Public Health, Microbiology, Virology and, more recently, of the Department of Biomedical Sciences for Health of the University of Milan, dedicating herself especially to the diagnosis, epidemiology and prevention of viral diseases, as hepatitis (A, B, C, D, E, GBV-C/G), those caused by retroviruses (HIV, HTLV-I/II), by respiratory viruses (flu viruses, RSV, HMPV, Coronavirus, Parafly virus, Rhinovirus), by herpes virus (HHV-8, HSV-1/-2) and by human papillomavirus (HPV).

Concerning *viral hepatitis*, especially she engaged herself to the organization and accomplishment of several immunoprophylaxis programs of hepatitis B, to evaluate safety, immunogenicity and efficacy of vaccines, either plasma-derived or recombinant. As regards hepatitis B, she also took part to studies in collaboration with the Royal Free Hospital (London) that allowed to characterize a HBV variant able to potentially elude the vaccine-induced immunity. She performed also studies on the geographic distribution of hepatitis B genotypes, on "escape" and drug-resistant variants, investigating the genetic heterogeneity of HBV genotypes and subgenotypes (S and P genes). She contributed to the realization of several multicentric studies on the mode of transmission of HCV and GBV-C/HGV, with particular attention to the mother-to-infant transmission. In this regard she considered immunological aspects in children born from HCV-infected women. She also collaborated for setting up molecular biology methods that lead to the identification of a new Italian variant of the hepatitis virus E.

Concerning *viral respiratory infections*, she gives her contribute, as a member of an Italian Interuniversity Center for Research on flu and other transmitted infections (CIRI-IT), to a virological surveillance system for influenza oriented towards the detection of circulating viral strains and their temporal distribution, the analysis of mutations in respect to vaccine strains and the study of heterogeneity of viral strains related to different lineages. Her work group was also involved in the validation and application of molecular methods for the differential diagnosis and molecular characterization of viral agents involved in acute respiratory-tract infections in high risk groups, as the paediatric population. She has also collaborated in studies on the immunogenicity of anti-influenza and anti-pneumococcal vaccines in HIV-1 positive and HIV-1 negative former intravenous drug users and on the effects of vaccination on the history of the HIV disease. Studies on the immunogenicity of adjuvanted (MF59 –adjuvanted or virosomal) influenza vaccines were also conducted in children with asthma and in hemodialysis patients.

She also engaged herself in the study of *herpesvirus infections*, in particular to improve the knowledge on the epidemiology (seroprevalence and seroincidence) of herpes simplex virus type 1 (HSV-1) and of herpes simplex virus type 2 (HSV-2) among Italian

adolescents and to correlate the infection with human herpesvirus 8 (HHV-8) to classical Kaposi's sarcoma in an area of Northern Italy with high incidence of this disease.

In addition, she was interested in *environmental virology issues*, evaluating the infectious risk associated to the reclaiming of biopharmacological waste products from a large urban area used as waste pit by serum and vaccine factory. In particular, she contributed to the investigation of the viability in soil of vaccine strains of NDV (Newcastle Disease Virus), reburied after a several years.

In recent years she is particularly devoted to the study of *Sexually Transmitted Infections (STIs)*, particularly with regard to infection by human papillomavirus (HPV) and *Chlamydia trachomatis* (Ct) in both Italian and immigrant population. Regarding HPV infection she is dedicating both to diagnostic aspect (development of molecular methods for determination of HPV-DNA and of high/low risk HPV genotypes, and for molecular characterization of geographical and potential "escape" variants of HPV-16/HPV-18 from different biological samples), and to studies of prevalence in at-risk groups, such as HIV-1 positive subjects, male homosexuals and immigrant women. Following the introduction of HPV vaccination she is taking care of the epidemiological and virological surveillance of HPV infection as a tool for the evaluation of the effectiveness of this preventive strategy.

She took part to several scientific researches and she is currently involved in several studies granted with the funds of the University of Milan, of the Italian Ministry of Education, University and Research (MIUR), of the National Institute of Health (Istituto Superiore di Sanità, Roma) and of the Lombardy Region.

PUBBLICAZIONI

Her scientific activity is supported by **188** publications in extenso on national and international scientific journals (IF **541,6**; H-index **27**) and by her presence to a number of meetings, as attested by 227 published abstracts.

Pubblicazioni selezionate 2009-2014

- **Tanzi E**, Amendola A, Bianchi S, Fasolo MM, Beretta R, Pariani E, Zappa A, Frati E, Orlando G. Human papillomavirus genotypes and phylogenetic analysis of HPV-16 variants in HIV-1 infected subjects in Italy. *Vaccine* **2009**, 27 suppl. 1: A17-A23
- Orlando G, Beretta R, Fasolo MM, Amendola A, Bianchi S, Mazza F, Rizzardini G, **Tanzi E**. Anal HPV genotypes and related displasic lesions in Italian and foreign born high-risk males. *Vaccine* **2009**, 27 suppl. 1: A24-A29.
- Pariani E, Frati ER, Amendola A, Zappa A, Bianchi S, Colzani D, Canuti M, Brambilla D, Zanetti A, **Tanzi E**. Molecular characterization and phylogenetic analysis of human influenza A viruses in three consecutive seasons with different epidemiological profiles. *Journal of Preventive Medicine and Hygiene* **2009**, 50: 113-16.
- Zehender G, De Maddalena C, Canuti M, Zappa A, Amendola A, Lai A, Galli M, **Tanzi E**. Rapid molecular evolution of human bocavirus revealed by Bayesian coalescent inference. *Infection Genetics and Evolution* **2010**, 10: 215-20.
- Orlando G, Pariani E, Mazza F, **Tanzi E**, Meraviglia P, Gianelli E, Argentero B, Amendola A, Galli M, Rizzardini G, Zanetti A. Pandemic influenza vaccine in adult HIV-1 infected patients. *AIDS* **2010**, 24: 2142-3.
- Zappa A, Canuti M, Frati E, Pariani E, Perin S, Ruzza ML, Farina C, Podestà A, Zanetti A, Amendola A, **Tanzi E**. Co-circulation of genetically distinct human Metapneumovirus and human Bocavirus strains in young children with respiratory tract infections in Italy. *Journal of Medical Virology* **2011**, 83:156-64.
- Frati E, Bianchi S, Colzani D, Zappa A, Orlando G, **Tanzi E**. Genetic variability in the major capsid L1 protein of human papillomavirus type 16 (HPV-16) and 18 (HPV-18). *Infection Genetics and Evolution* **2011**, 11:2119-24.
- Martinelli M, Zappa A, Bianchi S, Frati E, Colzani D, Amendola A, **Tanzi E**. Human Papillomavirus (HPV) infection and genotypes frequency in oral mucosa of newborns in Milan, Italy. *Clinical Microbiology and Infection* **2012**, 18:e197-9. doi:10.1111/j.1469-0691.2012.03839.x. Epub 2012 Apr 10
- Orlando G, **Tanzi E**, Chatonoud L, Gramegna M, Rizzardini G, VALHIDATE Study Group. Rationale and design of a multicenter prospective cohort study for the eVALUation and monitoring of HPV Infections and relATEd cervical diseases in high-risk women (VALHIDATE study). *BMC Cancer* **2012**, 12:204. doi: 10.1186/1471-2407-12-204.

- **Tanzi E**, Bianchi S, Fasolo M, Frati E, Mazza F, Martinelli M, Colzani D, Beretta R, Zappa A, Orlando G. High performance of a new PCR-based urine assay for HPV-DNA detection and genotyping. *Journal of Medical Virology* **2013**;85:91-8.
- Bianchi S, Frati ER, Panatto D, Martinelli M, Amicizia D, Zotti CM, Martinese M, Bonanni P, Boccalini S, Coppola RC, Masia G, Meloni A, Castiglia P, Piana A, Gasparini R, **Tanzi E**. Detection and genotyping of Human Papillomavirus in urine samples from unvaccinated male and female adolescents in Italy. *PLoS ONE* **2013**, 8: e79719. doi:10.1371/journal.pone.0079719. IF 3.730
- Panatto D, Amicizia D, **Tanzi E**, Bianchi S, Frati ER, Zotti CM, Lai PL, Bechini A, Rossi S, Gasparini R. Prevalence of human papillomavirus in young Italian women with normal cytology: how should we adapt the national vaccination policy? *BMC Infectious Diseases* **2013**;13:575. doi: 10.1186/1471-2334-13-575.
- Ciccozzi M, Ciccaglione AR, Lo Presti A, Equestre M, Cella E, Ebranati E, Gabanelli E, Villano U, Bruni R, Yalcinkaya T, **Tanzi E**, Zehender G. Evolutionary dynamics of HBV-D1 genotype epidemic in Turkey. *Journal of Medical Virology* **2014**;86:109-16. doi: 10.1002/jmv.23740. Epub 2013 Oct 24
- Orlando G, Fasolo M, Mazza F, Ricci E, Esposito S, Frati E, Zuccotti GV, Cetin I, Gramegna M, Rizzardini G, **Tanzi E**, GROUP VS. Risk of cervical HPV infection and prevalence of vaccine-type and other high-risk HPV types among sexually active teens and young women (13-26 years) enrolled in the VALHIDATE study. *Human Vaccines & Immunotherapeutics* **2014** Jan 14;10(4). [Epub ahead of print]