Editorial

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Evolution is a powerful motor that has driven Man towards growingly accurate knowledge since immemorial times, from the concept of the *homunculus* in ancient Greece to the theories of Lamarck and Darwin and to the current research on human genome content in the XXI century. Science has been contributing significantly to better correlations between medical research and diseases, and between genetic characteristics (genotype) and patient descriptions (phenotype). This approach has enabled modern abilities to cure illnesses by methods supported by evidence-based and targeted medicine. To achieve such a change in the paradigm of death, medical and clinical research have been extremely useful tools. However, for their success, patients and samples are of extreme importance – and, unlike in ancient times, there is now growing recognition that both the autonomy of the patient and dignity for human life must be respected.

A most suitable method to develop a sustained sample source, particularly for genetics or oncology, is the creation of biobanks. These, broadly understood as long term cell, fluid or tissue archiving for secondary analysis, quality control or research of a particular disease, have been proved to be vital in health care, particularly when premature deaths have prevented the final diagnosis for the patients. They are also extremely relevant for public health in that they allow the compilation and use of large collections of data in the development of preventive medicine. However, their main convenience is probably their use for basic, translational and clinical research whose main goal is to discover new ways of curing patients.

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Biobanks may thus facilitate the acquisition of knowledge in disease-specific, molecular-based alterations, improve health, treatment and prognosis of patients' problems and thereby give better quality of life and effectively provide the possibility of really individual, personalized medicine. Biobank samples may be used to prove an innovative theory, explore the genetic uniqueness of any human being and promote radical, effective treatments. The development of appropriate techniques and laboratory conduct is another advantage of the use of biobanks; for this purpose, the harmonization of procedures, professional standards and internal/external quality control programs are necessary, both in national and international terms.

Along with all the mentioned technological and medical possible advances, ethical deliberations aimed at the protection of patients must be taken. On the behalf of donors and contributors to these biobanks, the preservation of autonomy and self-determination must be respected – not only in the contribution itself, but also in the participation of research projects. Privacy and data protection, supported by national and international documentation, must always be declared. The best way to assure these ethical requirements are fulfilled is no longer through oral language but through descriptive, written informed consent, accompanied by leaflets and other information sheets on the purpose of the construction and use of biobank samples; transparency in their right use will thus promote social solidarity while allowing their application for the common good. Beneficence and non-maleficence, taken as the moral obligation not to harm others, and fair, egalitarian behavior towards all subjects – in health care, public health or research – are, equally, important ethical requirements.

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In any area of medical relevance or research interest, sharing technological approaches to disease studies and information technology, combined with adequate phenotypical observations supported by thorough clinical descriptions, generally by scientific presentations and written articles, is the most useful approach for the advancement and knowledge increase on disease. The misuse of facts, information and expertise must be intensely avoided, in order to achieve invaluable benefits of humankind in their permanent pursuit of achieving long and happy lives.

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