Symposium SYSTEMS MEDICINE

Integration models in clinical practice and new therapeutic solutions

Held in Milan, at the University of Milan, on 5 May 2022

under the auspices of:

World Health Organization (WHO) Collaborating Center for Integrative Medicine P.R.M. (International Academy of Physiological Regulating Medicine) FEMTEC (Worldwide Federation of Hydrotherapy and Climatotherapy)

under the patronage of:

Italian Ministry of Health

FNOMCeO (National Federation of the Associations of Surgeons and Dentists)

THE SPEAKERS

PROF. GIUSEPPE BELLELLI

Full Professor of Geriatrics-Internal Medicine, Milan-Bicocca University

PROF. SERGIO BERNASCONI

Full Professor of Paediatrics, Former Director of Paediatric Clinics at the Universities of Modena and Parma

PROF. GIANNI BONA

Full Professor of Paediatric Clinic; Former Director of the Paediatric Clinic, University of Eastern Piedmont

PROF. MARIO CLERICI

Full Professor of Immunology and Immunopathology, University of Milan

PROF. GIUSEPPE DE BENEDITTIS

Associate Professor of Neurosurgery, University of Milan

DR. MARCO DEL PRETE

President P.R.M. Academy (International Academy of Physiological Regulating Medicine)

PROF. FABIO ESPOSITO

Full Professor of Physical Exercise Sciences and Sport, University of Milan

PROF. VASSILIOS FANOS

Full Professor of Paediatrics, University of Cagliari

PROF. ALESSANDRO GENAZZANI

Associate Professor of Obstetrics and Gynaecology, University of Modena-Reggio Emilia

PROF. PAOLO INGHILLERI

Full Professor of Social Psychology, University of Milan

PROF. DAVIDE LAURO

Full Professor of Endocrinology, University of Rome "Tor Vergata"

PROF.SSA JEANETTE MAIER

Full Professor of General and Clinical Pathology, University of Milan

PROF. STEFANO MASIERO

Full Professor of Physical and Rehabilitation Medicine, University of Padua

PROF. MARCO MATUCCI CERINIC

Full Professor of Rheumatology, University of Florence

PROF. ALBERTO MIGLIORE

Director of the UOS (Simple Operative Unit) of Rheumatology, San Pietro Fatebenefratelli Hospital, Rome

PROF. EMILIO MINELLI

WHO (World Health Organization) Expert Advisory, Panel Member Clin. Research on Integrative Medicine

PROF. ANDREA MODESTI

Full Professor of General Pathology, University of Rome "Tor Vergata"

PROF. CLAUDIO MOLINARI

Associate Professor of Human Physiology, University of Eastern Piedmont, Vercelli

PROF. VALTER SANTILLI

Full Professor of Physical and Rehabilitative Medicine, University of Rome "La Sapienza"

PROF. UMBERTO SOLIMENE

Direttore WHO (World Health Organization) Collaborating Center for Integrative Medicine - State University of Milan

HAVE APPROVED THE MILAN DECLARATION 2022 – NEW GOALS FOR MEDICINE
WHICH OUTLINES THE CURRENT AND FUTURE SOCIAL AND HEALTH SCENARIOS THAT MAKE
NECESSARY TO DEFINE A NEW PARADIGM OF MEDICINE.

The Milan Declaration 2022 New goals for Medicine

The reductionist perspective has been the guiding paradigm and has characterized the successes of 20th century Medicine by directing the clinical approach to the patient and the development of new drugs.

Its remarkable achievements have prolonged life expectancy, defeated a great number of diseases, and produced numerous therapeutic successes, drawing new scenarios for the treatment of conditions considered incurable until the recent past.

Today, this approach is no longer sufficient and no longer sustainable.

Modern Medicine must also — and above all — ensure that the living organism persists in a condition of health and wellbeing, preserving the national health systems, and possibly, consequently, containing healthcare expenditure.

The exponential development of highly advanced scientific and medical technologies is accelerating the process of translation of Medicine from the **present** to the **future**, drawing paths that lead:

- from an epidemiological to a personalized vision
- from a descriptive to a predictive narrative
- from a *reductionist* to a *systemic* approach
- from a *reactive* to a *prospective* model of therapeutic intervention
- from a deterministic prevalence of genetics to an equal importance of epigenetics.

This change in medical thinking coincides and overlaps with the progressive evolution of the doctor-patient relationship:

- no longer characterized by paternalism but by therapeutic alliance
- no longer based on *compliance* but on *concordance*
- no longer aimed at cure but at caring
- no longer focused on disease but on illness
- no longer with one of the two actors (the patient) passive, but active (patient empowerment)
- no longer oriented towards a *physician-centered* but a *patient-centered* Medicine
- no longer projected on a communication pragmatics based on "communicating to" but on "communicating with".

Given these premises, there is an urgent need to define a Medicine capable of meeting inalienable needs:

 Need for a new model of human being that interprets the person as a complex system. The systemic-complex thinking, able to describe the new unified reality, must recover the multidimensionality of the *object-subject-environment* relationship as systems-organizations of information.

- Need for new therapies that allow a complex approach to the patient, in which pharmacological interventions (of synthetic or biological or natural origin) and non-pharmacological interventions and Complementary Medicines can intersect and intervene harmoniously on the individual.
 - Need for real and **effective transdisciplinary integration** working together on this basis.

Systems Medicine appears capable of meeting these needs, through:

- the translation from a reductionist approach to a **systemic** one, consistent with the complexity of the human organism which alone can help understand and treat multifactorial diseases such as cancer, neurodegenerative diseases, metabolic diseases, autoimmune diseases, cardiovascular diseases and generally those diseases related to ageing, and address clinical conditions increasingly characterized by chronicity and multimorbidity, according to the *disease network* concept (diseasoma)
- the transition from a strictly biomedical and specialized view of human Physiology and disease to an **interdisciplinary** vision that also includes scientifically validated pathways and therapeutic approaches of Complementary Medicines
- a *multidisciplinary approach* to medical science, enabling a "new" understanding of disease, recognizing, and valuing multi- and comorbidities as well as endophenotypes for a definitive and profound understanding of Personalized Medicine and, above all, for its real application in clinical practice
- an **expanded and systemic vision** of health and disease, consistent with and akin to the emerging concept of *One Health*, proclaimed by the WHO, which includes in the vision of human wellbeing also the whole ecosphere: man, animals, plants, climate and environment.

This new paradigm of Medicine must not and does not want to be different because it is antithetical to the current one, but expression of the different possibilities offered by medical-scientific knowledge within a single Medicine, i.e. *Integrated Medicine*, respecting the unifying and characterizing element of this new vision: the centrality of the patient as a "person" (*Personalized Medicine*), an expression of the complexity of their being – together – body, mind and spirit.

It is from this that the personalized diagnostic approach to the patient must derive, which considers all the different aspects of the etiopathogenetic pathway of the disease: physical, emotional, mental, social, environmental, i.e. an approach that sees *Integrated Medicine* as a consequent expression of the *Systems Medicine* paradigm that represents today one of the most convincing models in the medical interpretation of health and disease.

This new approach fully meets the real **needs** of the patient.

Today, in fact, there are some therapeutic *vacuums* for the physician (lack of therapies, non-responder patients, orphan diseases) and an unsatisfactory response to the needs of the patient-person, especially in clinical conditions increasingly characterized by chronicity and multimorbidity.

Systems Medicine makes it possible to offer concrete answers to these gaps also through the tools of *Predictive Medicine* and *Precision Medicine* in respect of a personalized vision of each individual patient and in compliance with the Hippocratic axiom *primum non nocere*.

Systems Medicine also wants to prompt a turnaround in **health policy** because the systemic vision of health and illness is now shared by a progressively growing part of the population.

This is an opportunity that health policy must be able to seize in order to favour a real promotion of health centered on prevention and to trigger a new consideration aimed at building **healthcare models** that are not only more efficient and in line with the patients' needs, but also more economically sustainable.

References

- 1. Alon U. An Introduction to systems biology: design principles of biological circuits. London: Chapman & Hall/CRC; 2007.
- 2. Barabási AL, Gulbahce N, Loscalzo J. Network medicine: a network-based approach to human disease. Nat Rev Genet. 2011;12(1):56-68.
- Barabási AL, Oltvai ZN. Network biology: understanding the cell's functional organization. Nat Rev Genet. 2004;5(2):101–113.
- 4. Fanos V. Metabolomica e microbiomica. La medicina personalizzata dal feto all'adulto. Hygeia Press. 2015.
- 5. Goldman AW, Burmeister Y, Cesnulevicius K, et al. Bioregulatory systems medicine: an innovative approach to integrating the science of molecular networks, inflammation, and systems biology with the patient's autoregulatory capacity? Front Physiol. 2015;6:225.
- Hu JX, Thomas CE, Brunak S. Network biology concepts in complex disease comorbidities. Nat Rev Genet. 2016;17(10):615-629.
- Laszlo A, Luksha P, Karabeg D. Systemic Innovation, Education and the Social Impact of the Systems Sciences. Systems Research and Behavioral Science. 2017;34.
- 8. Laszlo A. Living Systems, Seeing Systems, Being Systems: Learning to be the systems we wish to see in the world. Spanda Journal. 2015;6:164.
- 9. Mesarovic MD (ed). Systems Theory and Biology. Berlin: Springer-Verlag; 1968.
- 10. Paoloni M, Agostini F, Bernasconi S, Bona G, Cisari C, Fioranelli M, Invernizzi M, Madeo A, Matucci-Cerinic M, Migliore A, Quirino N, Ventura C, Viganò R, Bernetti A. Information Survey on the Use of Complementary and Alternative Medicine. Medicina (Kaunas). 2022;58(1):125.
- 11. Zimmermann GR, Lehár J, Keith CT. Multi-target therapeutics: when the whole is greater than the sum of the parts. Drug Discov Today. 2007;12(1-2):34-42
- 12. http://www.happyageing.it/invecchiamento-in-buona-salute-gli-obiettivi-e-i-limiti-delle-strategie-delloms/
- 13. https://www.euro.who.int/data/assets/pdf_file/0009/415683/20191002-h1450-hesri-executive-summary-it.pdf

P.R.M. Academy (International Academy of Physiological Regulating Medicine) info@prmacademy.org

World Health Organization (WHO) Collaborating Center for Integrative Medicine umberto.solimene@unimi.it

MDs who wish to sign *The Milan Declaration 2022 - New goals for Medicine* can send their adhesion to *didattica@prmacademy.org* specifying

- Surname, First name, specialization (if applicable) and email address
- subject: adhesion to The Milan Declaration 2022 New goals for Medicine

Access the platform SYSTEMS MEDICINE

