

The teaching of the History of Medicine in Italy: a path in progress

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Abstract. *Background:* The increasing attention to the potential application of technology in medicine represents a dangerous warning in the direction of a reductionist approach. The academic system should therefore be strongly engaged to ensure even in medical practice the greatest enhancement of the human dimension. *Targets:* How much space is offered to the teaching of History of Medicine (HM) in Italian Universities? This work aims to answer this question through an in-depth analysis of the teaching plans of the Master’s Degree courses in Medicine and Surgery (MD) activated in Italy. *Materials and Methods:* The survey was carried out through the consultation of information, relating to the year 2019-2020, contained in the UniversItaly portal of the Italian Ministry of Education, University and Research, created to accompany students in their studies, as well as through the information published in the web portals of the various universities. *Results and Discussion:* In Italy in 43 out of 97 Universities there is the Degree Course in Medicine and Surgery for a total of 66 degree courses; some Universities have activated more degree courses depending on the number of learners or on issues of territorial distribution. The teaching of HM is present in the curricula of 54 MD) (82%) and in these is mandatory. In 93% of the cases, it is included in Integrated Courses (IC) and for only 4 MD) it results as autonomous teaching. For the most part (86%) it is included in the first year’s educational plan. The typology of the different ICs is extremely varied, both in terms of denomination, year, and content, as well as in the overall CFUs assigned (university credits). The current teaching staff is divided as follows: 6 full professors; 12 associate professors; 13 Researchers (RU/RD); 20 contract professors. 19 are the researchers/professors engaged in the scientific field of the HM (MED/02). *Conclusion:* Those findings indicate that the HM subject in the Italian medical education programs is not yet universally recognized as able to stimulate medical students to a holistic view of the person and illness and therefore not sufficiently valued. (www.actabiomedica.it)

Keywords: History of Medicine, Humanities, Medical curricula, Medical education, Skills and Competences

Introduction

The reform of the university theoretical and professional training of Italian medical doctors began with the work of the German physician Johann Peter Frank (1745-1821), author of the famous treatise “System einer vollstandigen medizinischen Polizey”. Professor at the University of Pavia from 1786 to 1795, Frank provided a significant contribution to the updating of

the teaching plan of medical faculty by expressly including, in the section “of the sciences to be taught by the medical faculty”, the teaching of the History of Medicine (HM), believing it to be a knowledge capable of bringing a real advantage to human society (1).

Afterward, starting from the beginning of the nineteenth century, many Italian universities, such as the University of Bologna, Ferrara, Milan, Padua, Perugia, Rome, Pisa, Genoa, Florence and Sassari (2), began to

offer this subject, although with significant differences.

In the Italian regulation, HM was officially introduced in 1811 with the “Organic Decree for Public Education” aimed at reorganizing the whole didactic plan of the Medical degree courses. The degree provided for the following nine universities chair into the Medical Faculty: Anatomy and Pathological anatomy, Physiology, Nosology and Pathology, Medical clinic, Surgical clinic and course of surgical operations, Obstetrics, Forensic medicine and Medical police, medical subjects and hygiene and medical history (3).

Officially, HM teaching began in Italy in 1814, when the first teaching chair was established at the University of Naples, which was assigned to Antonio Miglietta (1763-1826), physiologist and hygienist, for his acknowledged scientific merits in vaccine inoculation in the Kingdom of Naples.

The inauguration day on 2 July 1814 has been the occasion for performing a rich and articulated academic prolation, in which Miglietta highlighted the importance of considering the HM as an integral part of medical program, anticipating the principles of modern didactics. The physiologist-hygienist pointed out the need to elaborate an “instructive history of medicine”, according to which to transmit to doctors not so much erudite information and data, a mere chronological recording of “facts” often an end, but, rather, critical tools to better understand the past and treasure it for the present (4, 5).

In his methodological reflections, Miglietta emphasized as well how important it was not only teaching the victories over the history of medicine, the moments of great scientific growth, but also illustrating and critically analyzing errors and prejudices that, in his opinion, have caused a delay in the development of medical knowledge.

In 1870, the HM teaching was abolished in all Italian universities except for the University of Bologna that decided to maintain it and to entrust it to the professor De Meis, the successor of Giuseppe Ceretto from 1863.

After alternate vicissitudes that have seen the presence and abolition of teaching within the training program of medical doctors, today HM is an institutionalized academic discipline within the curricula of three-year and master’s degree courses in medical and

health care and is included in the Scientific Disciplinary Sector MED/02 (History of Medicine, Bioethics, Medical Pedagogy, Paleopathology, Scientific Museology). However, the relationship between technical-scientific training and humanistic education represents a key factor that raises many issues still pending: the lack of homogeneity of this teaching in university curricula, the low awareness of its relevance in medical training, the identification of teaching effective tools (6).

The professional development of specialist and technical knowledge, typical of our modern society, involves a general loss of awareness of the human dimension of the medical profession and the value of the human sciences in the education of young people, compared to the biomedical and clinical sciences (7-9).

Numerous studies highlight the importance of teaching HM as a stimulus for a critical approach to the development of medical science (10). The historical perspective contributes, in fact, not only to a better understanding of the theoretical contents of the different medical disciplines and of their fundamental interrelations, but also to promote a critical analysis of the complex connections between medicine, science and society.

Its educational function is expressed not only and not so much in the transmission of historiographic data, but, as part of the history of ideas, mainly in the examination of the paths that have accompanied current knowledge as well as in the critical evaluation of the internal evolutions of his thought. This knowledge is fundamental to foster an approach to deal with the different dilemmas related to the disease from an existential and not merely biological perspective.

This research therefore aims to analyze the current situation of the existence of HM teaching in the curricula of Medicine degree programs in the Italian universities, by exploring the information available in the didactic programs and the teaching methodologies used.

The main objective of our work is to try to understand the role played by HM within the medical degree courses and to investigate the weight given to it in building an awareness and a critical reflection capacity on the complexity of the medical profession and on the scientific, social, ethical and relational contexts in which it operates.

Materials and methods

By consulting information related to the academic year 2019-20 on the UniverItaly portal of the Italian Ministry of Education, University and Research (MIUR), a systematic review on the existence of HM teaching in the curricula of 43 Italian universities (public and private) was carried out. The analysis of the educational objectives, the relative didactic paths, the didactic methods, and the tools adopted to assess the knowledge achieved completed the analysis of the information published in the UniverItaly portal, University - Training offer section. All material was collected by searching for the following keywords “history of medicine”, “human sciences”, “medical humanities”, “care”, present in the curricula of the investigated medical degree courses.

The information obtained concern the existence of the teaching; the type of teaching (single or integrated); the disciplinary scientific field of reference; the compulsory or optional characterization of the course; the teaching autonomy or inclusion within an integrated course (IC); the number of university credits assigned to the IC and to the single teaching; the academic year of the teaching offer (from 1st to 6th).

The quantitative evaluation of the training offer was carried out in relation to university credits (One CFU - equals one ECTS credit), i.e. the measurement of the volume of learning work, including individual study, required from a student with adequate initial preparation for the acquisition of knowledge and skills in the training activities provided for by the educational systems of the courses of study (Ministerial Decree 270/2004, art. 1, paragraph 1, letter l).

The contents of the disciplinary programs were then systematized and analyzed in qualitative and quantitative terms.

Results

In Italy 43 Universities out of 97 have activated the Degree Course in Medicine and Surgery for a total of 66 degree courses; several universities offer more degree courses according to the number of students or for issues related to the territorial distribution.

The teaching of HM is considered in the curricula of 54 Master's degree courses in Medicine and Surgery

(MD) (82%) and in these ones is mandatory.

In 93% of the cases, it is included in Integrated Courses (IC) and for only 4 MD it results as autonomous teaching. HM is included in IC of extremely different nature, which comprises teachings in various fields, from basic to professionalizing, as shown in the table below.

In 86% of the cases HM is included in the teach-

Table 1. Integrated Courses including the teaching of History of Medicine (a.y. 2019/2020)

Anatomy 1
Anatomy 2
Human Anatomy and Clinical I
Anatomy-History of Medicine
Basic Medical Scientific Methods I
Being a Medical Doctor
Bioethics and Humanities
Economy and International Social Politics
Epistemology and Medical History
Family, Society and Health
Fundamentals of Medicine
Human Sciences
Humanities and Scientific Methods
Humanities and Scientific Methods
Hygiene, Public Health and Community Medicine
Introduction to Medicine
Introduction to Medicine
Histology, Embryology and Humanities
Medical Humanities
Medicine and Society
Forensics
Medicine and Society
Medical-Scientific Methodology
Medical-Scientific Methodology-Legal Medicine
Basic Medical-Scientific Methodology and Humak Sciences
Medical-Scientific Methodology
General Pathology and Medical History
Professionalism, Bioethics and History Of Medicine
Scientific Foundation of Medicine
Human Sciences
Humanities and Language Skills
Humanities and Health Sciences
Humanities, Health Policy and Health Management

ing plan of the first year, in 7% of the courses it is contemplated in the second year, in 3.5% in the third year and the remaining 3.5% over the last three years.

The educational programs - despite their different specificities aimed at deepening the historical evolution of the concepts of health, illness, care, and health organization - claim the common purpose of enhancing the understanding of humanistic values. In the training objectives, the aim is to acquire the capacity for critical reasoning on the complexity of the medical profession and the different scientific, social, ethical and relational contexts in which it operates.

Regarding to the investment in dedicated human resources, the information collected show that teaching is carried out by lecturers from sectors other than the specific sector (MED/02), as shown in the table below, and more than half teachers are external experts, not structured within the Universities.

Considering in detail, the teaching coverage of the scientific disciplinary sector MED/02 comprises: 6 full professors; 12 associate professors; 13 Researchers; 20 contract professors (a category that includes both external experts who have no stable relationship in any University, and adjunct professors from other Universities) with a total number equal to 51.

Discussion

Analysis of the data shows that HM teaching is present in the educational offerings of almost all medical degree courses at Italian universities.

The inclusion of this teaching in the theoretical and epistemological structure of medical education, therefore, highlights the awareness of the Italian academic system of the importance of integrating solid scientific bases, with strong humanistic values which can derive from a constant critical reflection on the paths of science.

HM, as part of the Medical Humanities, is in fact a valuable tool for understanding how medicine cannot be reduced to mere scientific evidence and technical skill, but how all disciplines that have to do with the person need a broader thinking based on the constitutive elements of being a human being such as dignity, respect for the person and his or her experiences (11-13) (,,). This implies that, together with scientific notions and technical skills, critical thinking skills are needed to deal with the questions of clinical practice, which transcend merely technical aspects to invest the complexity of the human dimension (14,15).

Many issues addressed by HM today appear to be common reflections, definitively accepted into the consciousness of our time. Only in rare cases, however, they are translated into good practices and experiences lived with the reason of science and at the same time with the adequate sensitivity. For this reason, in addition to the technical training of health professionals, there is a clear need for care education and complex thinking to become a common heritage in our culture.

The issues addressed by medicine at a theoretical level are in fact characterized by increasing complexity and at a clinical level the contexts in which health services are provided are equally complex, affected by the interconnection with social, ethical, political, and

Table 2. Scientific Disciplinary Sector of the university professors who teach History of Medicine (a.y. 2019/2020)

Scientific Disciplinary Sector	Full Professor	Associate Professor	Permanent Researcher	Temporary Researcher	Total
BIO/16	2	1			3
MED/02	2	7	9	1	19
MED/04		1			1
MED/08				1	1
MED/09	1	1	2		4
MED/38		1			1
MED/43	1				1
M-STO/05		1			1
Totale	6	12	11	2	31

cultural issues particularly challenging, which often make them inefficient.

The relationship between patient, health professionals, and family is itself complex.

The analytical and compartmentalizing orientation, which often leads to our way of thinking, risks removing depth and vastness from our vision and obscuring the ability to understand complexity. The connection between sciences, practices and cultures does not benefit from improvisation, but a very high educational effort is needed.

The general variable presence of HM in educational curricula is a common characteristic of the universities that could express a secondary consideration of this discipline, ancillary to traditional biomedical-clinical teaching (16).

The inclusion of HM in very heterogeneous types of integrated courses with educational objectives even far from those of “Human Sciences” and “Medical humanities” leads, in fact, to believe that there is not adequate recognition of the importance of the discipline as a memory of the past and as a key to the present and future.

The interdisciplinary vocation of HM is even very well suited to its inclusion in integrated clinical courses, as it can effectively establish a cultural dialogue and contribute to enhancing the awareness that medicine is not only about biology, but also about biography, with the consequent need to always combine the clinical and humanistic aspects. However, the evident heterogeneity of the training credits awarded and the strong diversification of the inclusion of teaching within integrated courses seem to suggest that not all universities invest equally in MS as a history and critique of ideas.

The general location of HM in the early years of the academic career also deserves careful consideration. This choice may in fact allow students to study the basics of medicine. However, this situation may also express a lack of awareness on the part of the educational system to understand the authentic meaning of the educational objectives of the discipline that transcend the merely historiographical aspect. At the same time, it may affect the students’ own ability to internalize the teaching value of such teaching and to develop a deep and methodological discussion (17). This approach therefore appears to collide with the

growing awareness of the insufficiency of an exclusively biological model, disconnected from any link and impact with the anthropological sphere.

The possibility of allocating the teaching contents of HM over a longer period, according to a training continuum that takes into account increasing medical acquisitions, as experience from some degree courses suggests, could foster a deeper understanding of MS with the various disciplines that make up medical education and promote a critical capacity that progressively corresponds to new knowledge.

Far from constituting a mere cultural enrichment of the physician, the methodology inherent to HM constitutes an indispensable background for addressing the complex issues of medical practice also with the precious contribution on the historical medical panorama of scholars from other backgrounds and professions (18).

Medicine, as a form of specialized culture in continuous dialogue with the other macro-cultures and indivisible from a conversation that takes place with many other areas of human knowledge, must not forget the recognition of “cultured and human profession that combines science and scientific method with the art of being a doctor, the art of caring for others” (19).

The analysis of the content of the programs reveals some common concepts that guide the orientation of HM teaching in the different medical and health care degree courses offered by different Italian universities.

The strong value attributed to the understanding of the cultural matrices of the professional activity, as a “basic” activity characterizing the training of doctors and health professionals, seems to be the mainstay of the various training courses.

In general, considering the specific features and differences, the educational programs examined develop along five thematic guidelines, closely related to each other:

- Relevance of the awareness of the historical path of medicine in medical training;
- Enhancement of the link between medicine and philosophy;
- Study of the birth of the clinic, its evolutions and criticalities;
- Medicine and modernity;
- History of Hospitals and of the care systems.

The analysis of the programs shows a general and constant attention to promote the shift from the paradigm of “curing the disease” to that of “taking care of the person”, according to the current biopsychosocial model and the metaparadigm of the “complexity of care”.

The explicit reference in many educational programs to the value of care in its broadest sense also highlights the links of HM with bioethical issues and with modern concepts of governance in healthcare.

This connection is particularly evident in the enhancement, within the didactic programs, of the issues related to the approach with the assisted person, the communication as well as the different relationship strategies. However, the most of the programs are carried out according to a linear and strictly chronological sequence.

The modalities of the didactic activities are almost similar, generally foreseeing frontal lessons, seminars, and discussions. In many cases, this teaching methodology is accompanied by a classroom debate aimed at a critical analysis of the historical path and at contextualizing medicine in relation to culture and social organization. However, the reflection on Medicine as a perspective and space for the care of man, beyond a narrow historical chronology of events, can encourage a wider and more articulated reasoning and a reflection of epistemological criticism on the development of the historical path of medicine and on the changes in progress.

Unfortunately, analysis of the information collected shows that only a few departments can offer students access to scientific collections and exhibits of medical-scientific and/or paleopathological interest (20, 21) (,). A practical didactic “laboratory” activity can in fact stimulate students’ interest in history, stimulate reflection on different ethical issues related to the conservation and use of human remains, encourage understanding of other cultures and different care systems.

The learning verification method usually consists of a written, open-ended test, but mostly multiple-choice tests. This type of verification can, however, collide with the effective verification of the achievement of a broad and complex approach methodology and with the verification of an acquisition of a critical capacity of thought.

The number of professors in the scientific field is so small that they do not even cover half of the teaching. This situation could be a weakness in relation to

the sustainability of teaching activities. However, it can offer the possibility to enrich university teaching with the experience and expertise of external experts to university education. The numerous areas that the History of Medicine includes, promote interdisciplinary and contamination between sectors, typical of the humanities (22).

Conclusions

The need for a holistic and humane approach to care of people, a need increasingly felt today, would ask us to look at this matter urgently in order to be able to deal appropriately with the complex issues of the clinical practice (23).

The teaching of HM, although present in the academic curricula of medical degree courses, seems to still receive an unequal and partial burden in the academic reality (24).

An appropriate revision of traditional curricula, together with the introduction of innovative teaching methods, aimed at stimulating methodological reflection through a systematic dialogue on ethical issues of professional practice, could help students to develop attitudes and skills necessary for their future profession. The training process requires organizational, methodological, and didactic innovations capable of promoting a continuous dialogue between scientific and humanistic culture (25, 9).

The teaching of HM, according to this approach, can be fundamental to understand that the scientific and clinical role of the physician is firmly inserted in the social organization and cannot be considered only in purely technical scientific terms. The vision that underlies this meaning of education is, moreover, strongly anchored to that of empowerment, that is, “giving power” to the other, in the sense of accompanying him/her towards a conscious and responsible autonomy through the history of the profession, victories, errors, doubts and challenges (26).

When one abandons the idea of the body as a mere physical object and considers it as a person living in a world, one must ask oneself about the complexity of this reality and its manifestation. The turning point offered by the Medical Humanities in the education of the

future health professional broadens the conception of the person as a reality, especially physical, on which the doctor intervenes according to a cause-effect scheme. Weizsacker's broader perspective that medicine, dazzled by technological successes, does not lose sight of human care and the meaning of human existence, unfortunately risks being compromised (27). In universities, medicine is in fact increasingly linked to advances in the biological sciences and diagnostic and therapeutic technologies and less and less to the multiform perspective of the practice of treatment, characterized by complexity and uncertainty, well described by Cosmacini (28), as constitutive and inevitable dimensions.

References

1. Frank GP. Sistema compiuto di Polizia medica, traduzione dal tedesco del dottor Gio. Pozzi, vol. XVII (supplemento). Milano: Tipi di Giovanni Pirota, 1829, p. 170.
2. Cassidy JH. History of medicine and related sciences in Europe. Notes on teaching and study. *Bull Hist Med* 1969; 43: 270–83.
3. Zazo A, Russo L. L'ultimo periodo borbonico. F. Torraca, G. M. Monti, R. Filangieri Di Candida, N. Cortese, M. Schipa, A. Zazo, L. Russo (Eds.) *Storia della Università di Napoli*, Napoli, Riccardo Ricciardi Editore, 1924. Bologna: Il Mulino, 1993, p. 479.
4. Miglietta A (1814). Academic Proclusion for the inauguration of the Chair of Medical History at the Regia Università degli Studj di Napoli, Naples, Printing House of the Società Tipografica, 1814, p. 1
5. Vergari A (1826). Notizie relative al professore Antonio Miglietta, lette nell'Accademia medico-chirurgica di Napoli, nella tornata del 26 settembre 1826, p. 283.
6. Gazzaniga, V. The teaching of medical history in universities. *Med Histor* 2018; 2(1): 3–4.
7. Nussbaum MC. Not for profit. Why democracy needs the humanities. Princeton/Oxford: Princeton University Press, 2010.
8. Sánchez González MA. Humanism and the Teaching of the Medical Humanities *Educ Med* 2017; 18: 212–8.
9. Armocida E, Aldini NN. Teaching and learning the History of Medicine in the university: some considerations after the students' final exams. *Med Histor* 2018; 2(1): 41–8.
10. Bryan CS, Longo LD. Teaching and mentoring the history of medicine: an Oslerian approach *Acad Med* 2013; 88: 97–101.
11. Gazzaniga V. The historical relationship between ethics and medicine *Med Secoli* 2003; 15(3): 441–58.
12. Patuzzo S, Ciliberti R. Medical humanities. Recognition and reorganization within the Italian university. *Acta Biomed* 2018; 88(4): 512–3.
13. Armocida G. Un secolo di congressi della Società Italiana di Storia della Medicina, in "Atti 46° Congresso della Società Italiana di Storia della Medicina (1097-2007)", S. Colucci (Ed), Siena, 24-27 ottobre 2007. Edizioni Cantagalli, pp. 13–5.
14. Armocida G. Human Sciences? *Med Histor* 2019; 3(1): 3–4.
15. Gulino M, Patuzzo S, Baldelli I, Gazzaniga V, Merlo DF, Maiorana L, Murialdo G, Picozzi M, Armocida G, Cattorini P, Montaguti E, Bonometti S, Grossi AA, De Stefano F, Ciliberti R. Bioethics in italian medical and healthcare education. A pilot study. *Acta Biomed* 2018; 89(4): 519–31.
16. Oreficea C, Pérezb J, Bañosb JE. The presence of humanities in the curricula of medical students in Italy and Spain *Educ Med* 2019; 20(S1):79–86.
17. Bârsu C. History of Medicine between tradition and modernity *Clujul Med* 2017; 90(2): 243–5.
18. Armocida G. Storia interna e storia esterna?. *Med Histor* 2017; 1(3): 137.
19. Goldman L, Schafer AI. Internal Medicine, F. De Rosa, E. Durante, M. Falcone (Eds.) Edra, 2018.
20. Licata M, Gorini I, Iorio S. An Osteological Museum inside the Varese Medical School? A proposal from the Medical, Antropological and Paleopatological point of view. *Acta Biomed* 2018 16; 88(4): 510–1.
21. Licata M, Monza F. Ethical issues in paleopathological and anthropological research experiences. *Acta Biomed*. 2017 Oct 23;88(3):315-318.
22. Secord J, Crislip A, Langford A, Llewellyn Ihssen B, Marx H, Wright J. Approaches to Teaching the History of Medicine in Late Antiquity. *Stud Late Ant* 2019; 3(4): 475–507.
23. Jones DS. A complete medical education includes the arts and humanities. *Virt Ment* 2014; 16: 636–41.
24. Kollmer Horton ME. The orphan child: humanities in modern medical education. *Philos Ethics Humanit Med* 2019; 14: 1.
25. Hopia H, Lottes I, Kanne M. Ethical concerns and dilemmas of Finnish and Dutch health professionals, *Nurs Ethics* 2015; 23 (6): 659–73.
26. Armocida G, Zanobio B. *Storia della Medicina*. Milano: Edra-Masson, 2002, p. 8.
27. Weizsacker V. Die Schmerzen, in *Die Kreatur* (1926), I, 315–35 (Italian translation). Bottani L. *Filosofia della medicina*. Milan: Guerrini e Associati, 1990, 97-117.
28. Cosmacini G. *Medicine is not a science*. Milan: Cortina, 2008.

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