A Traditional Chinese Medicine Master Program in a public university: education and research

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Abstract
Over more two thousand years Traditional Chinese Medicine (TCM) has been systematized, theorized and developed different methodologies to preserve and restore health. Many countries developed regulations on quality, and accreditation for Traditional and Complementar Medicine education and practice. Porto University has established the first TCM Master degree in a state University. The program is open to medical doctors, health-care professionals and life-sciences graduates. During 2015, this master program proceeded to a report of self-evaluation, required by National Agency for Assessment and Accreditation of Higher Education - A3ES. This paper reflects the results of this self-evaluation of this master program. To share the experience from a national university master degree in TCM; To create an opportunity to promote a deep and fruitful reflection on this educational process; To identify intervention areas, generating a stimulus to review the processes and mechanisms that ensure the improvement of the quality of the course.

Over the past 7 years, 101 students, aged between 24 and 67 years old, enrolled this master course; 73.3% female ; 26.7% male. 96% of the admitted students are non-medical doctors, 86.5% are health professionals and 13.5% are graduated on life sciences.

Regarding the academic success, 78.21% concluded the master thesis. We also verified that 100% of the students obtained employment in areas of activity related with this study program and 75% of the students obtained employment until one year after graduating.

As final conclusion, from the point of view of 96.43% of the students, the biomedical approach to TCM, according to the Heidelberg Model, is the main reason to the acceptance of health and life sciences professionals. This is the first TCM course approved by a public University in the history of Portuguese university level education, and to our knowledge, it was the first TCM master program in a public university, in the Europe. Our Master program demonstrates that a scientific model of TCM is needed and accepted by health professionals and by scientists.

Keywords: traditional Chinese medicine, Bologna education process, master degree, scientific research and education.

Introduction
Traditional Chinese Medicine (TCM) is one of the oldest medical systems in the world. Over more two thousand years this medicine has been systematized, theorized and developed different methodologies to preserve and restore health (1) TCM is becoming popular in many developed countries. Recently, some of this countries have developed regulations on the quality, quantity, accreditation and education structures for Traditional and Complementar Medicine practitioners, including practitioners of conventional medicine who use TCM in order to improve the safe and qualified practice of this medicines. (2,3). Thus in this countries universities, colleges, and institutes of TCM have been established. (2,3)

Currently, the Portuguese government is discussing national rules on the education and professional practice of TCM and others non-conventional therapies. Lack of accredited higher education on TCM addressed.

Porto University, in 2008, has established the first TCM Master in a state University. The program is open to medical doctors, other health-care and life-sciences graduates. It comprises four semesters, with 1800 hours each, for a total of 3600 hours where subjects such as: Acupuncture, Phytotherapy, Oigong, Dietetics, Psychotherapy and Tuina, are addressed.

The master program for TCM (TCMM) in Institute for Biomedical Science Abel Salazar of Porto University (ICBAS-UP), is the only master’s program in
TCM accredited by the Bologna process for higher education, and by the ministry of education of the Portuguese republic, therefore is a program that is distinct from its counterparts in Portugal, and satisfies high standards of scientific and pedagogical requirements.

During 2015, this master program proceeded to a report of self-evaluation, required by National Agency for Assessment and Accreditation of Higher Education - A3ES. This agency was created by the National Government, in 2007, by Decree-Law no. 369/2007, of 5th November, with the purpose of promoting and ensuring the quality of higher education, to address the development of quality assurance systems, in the European space (4). This paper reflects the results of this self-evaluation of this master program.

Objectives
To share the experience from a national University Master Degree in TCM following a scientific model of TCM known as the “Heidelberg Model” (HM); To identify intervention areas, generating a stimulus to review the processes and mechanisms that ensure the improvement of the quality of the course.

Methodology
Retrospective study based on: official data of academic services at the University of Porto, between 2008 and 2015; on data from the institute for employment and professional education of the ministry of social security of the Portuguese republic. Also a Global “SWOT” (Strengths, Weaknesses, Opportunities, Threats) analysis of the master program was performed, taking into consideration the point of view of students, Professors and scientific commission of the course.

Results: Over the past 7 years, 101 students enrolled this master course; 73.3% were female and 26.70% male (graphic I) aged between 24 and 67 years old.

The admitted students have different academic backgrounds: 96% are non-medical doctors, 86.5% are health professionals and 13.5% are graduated on life sciences. (graphic 1)

The TCMMMP has a total of hours of 3600. These includes 710 hours of contact classes divided into: 330 hours of theoretical classes, 270 hours of theoretical-practical classes and 110 hours of tutorial-oriented classes. During these classes the students can learn TCM concepts and technics like tuina, auriculotherapy, Qigong, korean hand acupuncture, “TCM-psicotherapy” (PTTCM) and phytotherapy, but also, TCM approach on different conventional medicine specialities like: gastroenterology, pediatrics, pain, ENT, cardiology, urology, neurology and ginecology.

If we analyze the success of the master program by the employment, we verified that 100% of the students obtained employment in areas of activity related with this study program and 75% of the students obtained employment until one year after graduating.

Our group published, until December 2015, 68 articles; 11 related to acupuncture effects, 22 on phytotherapy efficacy and safety, 4 on theory of TCM, 4 on the effects produced by qigong therapy, 1 study related to the physics concept of a conduit, 1 related to the effects of tuina and 25 studies that were related with more than one TCM technique (acupuncture, tuina, qigong and dietotherapy). 116 abstracts, 58 posters and 21 oral communications were accepted in international (Austria, Spain, Germany, Portugal, China, Holland, USA) scientific meetings of conventional medicine and TCM.

Until 2015, 8 students were conducted to PhD; 7 students received academic and scientific prizes. In the point of view of 96,43% of the students, the biomedical approach to TCM, according to the Heidelberg Model, is the main reason to the acceptance of health and life sciences professionals; 84% of the students said that the analogy to a cybernetic model of regulation and the explanation of the Chinese diagnosis, as a registration of: neurovegetative signs; humoro-vegetative signs; immunological defense signs which facilitates the understanding of the Chinese diagnosis and its concepts, as well as, of basic concepts like yin-yang, Qi, Xue and Shen, among others.

Discussion
This is the first TCM course approved by a public University in the history of Portuguese university level education and to our knowledge it was the first TCM master program in a public university, in the Europe.

Contemporary high-level education in TCM is incompatible with esoterical views of this ancient medical system. Our Master program demon-
strates that a scientific model of TCM is needed and accepted by health professionals and by scientists. In this way this model can provide scientific knowledge, as well as, to support high-level research on TCM knowledge and education. While reasons behind a low % of medical students must be cleared, we believe that TCM university education must be open to accept students from different backgrounds in order to improve research and clinical outcomes.

After analyzing the contents of the master program and check the academic background of the students who enrolled in it, it was possible to verify that the master program of TCM of ICBAS-UP has a high integrative character, being 81.27% of programmatic contents directly related to TCM.

Conclusion
For the future we aim to improve the establishment of institutional partnerships; Accomplish and promote Quality controlled research; to promote modular courses, Seminars and Workshops; to promote High Quality teaching programs; to educate High Quality TCM professionals and to integrate TCM professionals in different Health units in order to achieve a rational and understandable concept of TCM with scientific Proof and Quality control.

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Abreviations
TCM –Traditional Chinese medicine
T&CM – Traditional and Complementary Medicines
TCMMP – Traditional Chinese Medicine master’s program
ICBAS-UP – Institute for Biomedical Sciences Abel Salazar of Porto University
HM – Heidelberg Model
SWOT – Strengths, Weaknesses, Opportunities, Threats