

## **THE INTEGRATION AND PRACTICE OF MEDICAL EDUCATION STANDARD OF CHINESE UNDERGRADUATES IN THE CULTIVATION OF MEDICAL STUDENTS IN KUNMING MEDICAL UNIVERSITY**

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### **Abstract**

*The school integrates and practices Chinese standards of medical education continuously in the process of cultivating medical students, through remodeling the training objectives and curriculum systems, researching the teaching reform and construction of quality guarantee system, to make the cultivation of the medical students in this university more in line with the requirements of China and the world. And the existing problems and the direction of the future development of the medical school students are discussed.*

### **Key words**

*Medical education standards; cultivation of medical students*

Since the beginning of this century, with The World Federation for Medical Education developing the "global standards of undergraduate medical education" and with International Institute of Medical Education, American Chinese Medical Fund releasing "the minimum essential requirements in global medical education", the globalization trend of medical education standard has become increasingly prominent, prompting the research of Chinese local medical education standard. After 6 years' research, the Ministry of Education formulated and promulgated the "Medical Education Standard of Chinese Undergraduates" <sup>(1)</sup> (here in after referred to as the "standard") in 2008 with the connotation of fully integrating into the standards of medical education in the region and the world, combining with China's medical education evaluation experience. "Chinese undergraduate medical education standards" determines the medical students' 35 basic training requirements from the three dimensions of moral and occupation quality, knowledge and skills, defining 10 professional medical education standards and so becomes the basis of China medical colleges reform and development and the ground of teaching quality evaluation.

### **1. The cultivation of medical students under the Medical Education Standard of Chinese Undergraduates**

#### **1.1 Remodeling the training objectives of medical students**

In order to make the school medical students match the medical education standard, in order to promote the reform of medical education, this university began to re-examine the training objectives, basing on the training concept of the Education Ministry since the second year of the promulgation of the standard. Through the interpretation of the substantive standard, we put forward the general target of this university which is to cultivate students of all-round development, good occupation quality, consciousness of medical safety and cost, clinical ability, innovation ability, basic scientific research ability and development potential and other three sub-objectives that are: to develop students' ideological, moral and professional quality; to develop knowledge; to develop skills.

The ideological and moral quality and occupation quality education is an important part of Chinese medical students' general knowledge education and the purpose of the ideological education is to cultivate medical students' attitudes, behavior, emotions and values. Through in-depth analysis of the essence of the standard, this university set the medical students' socialist citizen quality, occupation quality and development potential as an important part of training objectives. In the process of rebuilding the knowledge goal, as response to the weak points in previous general knowledge education, the school put forward more specific development goals for some fields, such as humanities, natural sciences and innovation and entrepreneurship in medical education. In the field of professional education, we pay more attention to the knowledge acquisition of general medicine, health education, disease prevention and screening, epidemiological investigation and re-

search. For the first time we put forward skill objectives independently, formulating the requirements of the ability training in such fields as illness-history collection, physical examination, diagnosis and treatment of common diseases, clinical thinking, communication, independent learning, foreign language, computer application, innovation, entrepreneurship and scientific exercise skills.

**1.2 Reconstruction of medical curriculum system**

The training goal and ability quality request must be supported by the complete curriculum system, and the school reconstructs the curriculum system with the aim of achieving the training goal. First, we construct the framework of the course system, set up two sets of credit system: in-class and after-class. In-class credit system includes compulsory and elective courses, and compulsory courses are divided into three sections: public basics, professional basics and professional courses. Elective courses system is divided into public elective courses and professional elective courses. Public elective courses aim to nurture medical students' comprehensive quality such as aesthetic, humanistic and spirit of innovation while professional elective courses aim to broaden students' professional knowledge and skills of medical. The after-class credit system includes extra-curricular classes, social practice, scientific research activities and community activities. The credits should be no less than 7 credits before graduation and the practice in and investigation of primary hospitals should be no less than 4 credits. Second, about study hours, we reduced 327 hours of compulsory theory study under the circumstance of guaranteeing practice hours (see Table 1), at the same time, elective credits requirements for graduation increased from 8 to 40 credits (see Table 2). Thirdly, in the aspect of available courses, through integration and reorganization, we have set up four compulsory courses groups for college students, such as innovation and entrepreneurship curriculum group, preventive medicine curriculum group, basic medical curriculum group and clinical skills curriculum group. The number of available courses increased from 70 to 400, involving natural sciences, social sciences, humanities, physical life, innovation, entrepreneurship etc. Finally, in the aspect of practice, the clinical practice was extended for 2 weeks, and the credits in the practical sessions of the compulsory courses were increased by 32%. The test OSCE was also added in.

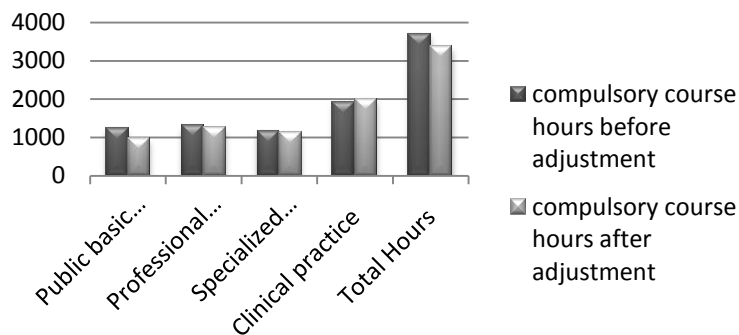


Table 1. structural changes of compulsory courses in clinical medicine major (requiring 5 years of study) of Kunming Medical University

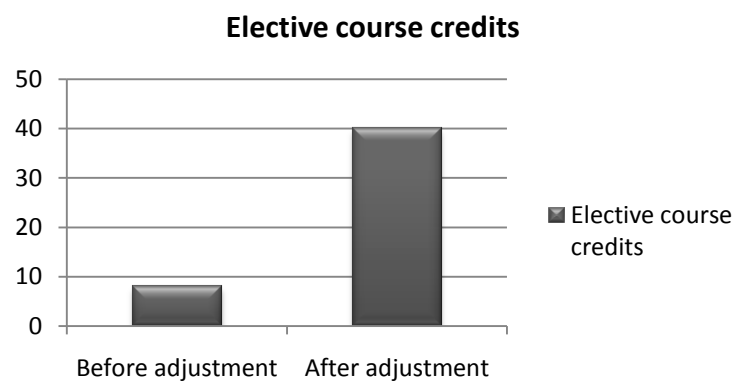


Table 2. credits changes of elective courses for clinical medicine major of Kunming Medical University

### **1.3 The research of medical teaching reform**

In order to further practice the Chinese medical education standard and deepen the reform of medical education, after resetting the training goals and curriculum system, the university has set up the innovation experimental class in 2015, whose 50 students were chosen from the clinical major every year as a kind of pilot training. Depending on this, the research on the integration of the curriculum centered on the organ system has been carried out. Furthermore, the student-centered PBL\CBL teaching method has been studied. Through the network curriculum platform the university also carries out online testing, answering questions, and discussions so as to make the curriculum assessment method more suitable for the requirements of the three dimensions of medical students' quality, knowledge and skills. In 2017, the school will join the first phase empirical research of national medical examination centered on the qualification examination of doctors in order to seek the academic assessment ways which fit the quality requirement of medical education more.

### **2. The construction of quality assurance system under the integration of Chinese medical education standards**

China medical education standard is not only the compass of the reform of medical education but also the measuring ruler of the quality of medical education. So while the university is exploring into the education reform, it is also actively exploring the construction of medical quality assurance system under the standard. Adhering to the principle that combines external evaluation with internal monitoring, in 2016, the university accepted the audit of the Education Ministry of undergraduate teaching, during which, it improved the construction of the quality standard, forming the three grades of teaching quality standard, which are: quality standards in key teaching sectors, curriculum quality standards and teaching quality standard of clinical medicine education. This is to promote internal quality construction of the university through external evaluation. The university adheres to the construction of quality control under the medical education standard, so in the training process, the standards are supplemented and improved and the teaching process monitoring system is increasingly perfect and the information utilization of teaching evaluation is increasing year by year. After years of efforts the university has established the quality control system.

### **3. Achievements and problems**

#### **3.1 Achievements**

The standard of Chinese medical education has set up a bridge between Chinese medical education and international medical education. Since it was promulgated 7 years ago, the university has been exploring ways to connect students nurture with that of the era. Fully injecting the thoughts and concepts of Chinese medical education standard into target customization process through in-depth thinking, rational analysis, the university makes the training goal orientation more diversified and specific, reflecting that the modern medical education pays more attention to the developmental potential of medical students such as the citizen quality, professional quality, post competency and innovation ability

The school remodeled and reconstructed the curriculum system that covered the range from in-class to after-class, from elective to compulsory, from theory to practice, from the foundation to the clinical, setting up a set of curriculum system which suit the requirements of the modern medical model. The students gained more learning time and space, so the student-centered education teaching thought is prominent and the number of available elective courses and credits has been greatly improved. Furthermore, the general knowledge education has been strengthened and the practice proportion increases. And the practical ability of medical students has been consolidated. For the first time, social practice is required if a medical student wants to graduate. Also, post competency training of medical students gets intensified. In addition, the reform of teaching research is also continuing and the quality assurance system of medical students training is also improving.

#### **3.2 Problems**

However, the school is also aware that, due to historical, economic and geographical reasons, there is a gap between the standard of our medical students and that of the national and the world medical education. To transform from the traditional pure bio-medical model to bio psycho social

environmental medical model, the education process of the university needs great change. So we need trials and hardships, tempering forward.

#### **4. Efforts and prospects**

In 2017, the school will officially launch the preparation of clinical medical professional certification, when the medical education will be assessed and identified by China's medical education standard for medical education and personnel training comprehensively. As an eighty-four year old medical university, in the inheritance and development, the university will integrate and practice Chinese medical education standard with a positive attitude continuously, undertaking the task of training medical personnel in the southwest China .

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