Problems and Measures of Majors of Chinese Independent Medical University

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Abstract: Objective: By studying the status and problems of the undergraduate major setting of independent medical universities, explore the suitable mode for independent medical universities under the new medicine in China. Results: This paper finds that these majors are set freely, update speed is slow, the subject coverage is too large, and the school features are weakened. Conclusion: Independent medical schools should improve school-running strength from their own side, seize the opportunity of new medical construction, and achieve coordinated development according to their own ability.

Key words: Medical education, undergraduate major, new medicine.

1. Introduction

Most medical schools in the world are set up in comprehensive universities, but independent medical universities are the main channels to train doctors in Chinese medical education system [1]. The reform of higher education management system since the end of 1990s promoted the merger of independent medical colleges and universities, thus formed two types of medical schools in China: Independent medical university and medical school of comprehensive university. Compared with comprehensive university, which mainly focuses on elite education, cultivating research-oriented medical students, the number of enrollment scale of independent medical schools is large, which has made an important contribution to meeting the diversity demand of local medical and health services for doctors. So this research focuses on the operation of independent medical schools in China.

2. Materials and Methods

There are 51 independent medical schools of 137 western medical schools nationwide based on the Guide to Chinese Medical Colleges [2]. Among them, Peking Union Medical College and Tibet Medical College have a simple enrollment scale, so they are not included in the scope of research. This article finally selected 49 universities with a long history and stable running scale as research objects.

Through collection of the data of undergraduate education of various independent medical universities and the Ministry of Education of the People’s Republic of China, established with EpiData 3.1 and Excel 2017 software, we analyzed major setting of independent medical schools.

3. Results

3.1 The Disciplines Are Large and Comprehensive, and the Specialty Is Lacking

The Chinese government divides major that universities can offer into 12 broad categories. Table 1 shows the number of majors and points in each discipline of independent medical schools. We can see, 10 disciplines are covered in 49 independent medical universities. Each school has an average of 4.63 disciplines, and 27 independent medical schools are higher than the average. It can be seen that the disciplines set up by the independent medical schools
are generally wide.

Not only the discipline is wide, but also there are a large number of all kinds of majors in independent medical universities. Among the 49 research subjects, Shandong First Medical University has 44 majors. Sorting out and analyzing the number and the proportion of majors, we can find that there are many non-medical majors, and the scale is small.

After the founding of the People’s Republic of China, the undergraduate professional catalogue of Chinese universities has been revised four times. The biggest difference between the new version and the first three editions is that the majors are divided into basic majors and special majors [3], which aims to release restrictions on universities and encourage them to set special or integrated majors. In addition, for the first time, the new version of the catalog implements an examination and approval and filing system for major settings, further liberalizing the autonomy of college, and encouraging the development of college characteristics. However, a statistical analysis of the major types of independent medical schools in China found that among the 100 majors offered by 49 independent medical schools, 71 are basic and 29 are special. And 71 basic majors include basic majors in each discipline. As we all know, the strength of independent medical schools is relatively simple, only good at medical disciplines, establishing basic majors in other disciplines is irresponsible and may cause their students not accepted by society.

3.2 The Structure of Majors Are Outdated, Major Settings Are Driven by Interests

From Table 2, it can be seen that independent medical schools are more enthusiastic about organizing majors with lower investment costs in culture, economics and management. There are few interdisciplinary majors cooperated with medicine. In the context of the Global Industrial Revolution 4.0 and the Life Science Revolution 3.0, profound changes have taken place in the disease spectrum, ecological environment, and lifestyle of people, and the model of medical discipline has changed to the environmental-social-psychological-engineering-biological model [4]. Under this model, the major structure of independent medical schools is slightly outdated.

This situation occurs because for a long time, local governments in China have adopted a method of “comprehensive quota plus special subsidies” for higher education funding. The standard for determining “comprehensive quota” is basically based on the number of students in the school. The amount of funds that are critical to the survival and development of colleges and universities is tied to the scale of school running and the number of students [1]. The government’s performance in resource allocation is more based on the scale and quantity as an important basis for resource allocation. As a result, universities are eager to expand the scale of schooling by adding new majors to obtain more resources and driven by benefits. In the case of non-medical majors that have relatively low requirements for medical education, they lack the support of similar disciplines, and it is difficult to guarantee the quality of these majors.

3.3 Lack of Dynamic Adjustment Mechanism

Table 3 shows the number of newly established and withdrawn majors in the 49 medical schools in the past five years. It can be seen that a large number of newly-added majors in 49 independent medical colleges did not promptly withdraw old ones. The adjustment of majors can reflect the vitality and flexibility of the school. Statistics found that among the newly-added majors of independent medical schools in the past five years, the number of pediatrics has increased the most, and a total of 30 independent medical schools have been established in the past five years. Psychiatry and midwifery have 26 additional medical schools each. Health services and management were added by 19 schools.
Popular majors have high repetition rates. In addition, some schools, such as social work, information and systems, and international economics and trade, which have been gradually canceled by some schools in recent years, are still being added by other medical schools. Translation, financial management and other basic majors that are not related to medicine and have no interdisciplinary disciplines are still being added. The new major data show that the medical schools’ response to the changing times is lagging behind, and they are still blindly adding majors with lower costs, lower requirements for internship bases, lower employment rates, and majors that have been canceled by other colleges. Medical data processing, smart medicine, and other medical information talents that require deep integration with medicine have fewer additions. This is a manifestation of the lack of a dynamic adjustment mechanism in the major setting of independent medical schools.

Among the canceled majors, only nine medical universities have voluntarily canceled 13 majors in the past five years. Forensic medicine, biomedical engineering, biotechnology, biological sciences, and other interdisciplinary specialties have been withdrawn by some schools; a large number of majors that have little to do with medical disciplines, have no longer met the needs of social development, and have continued to decline in employment have not been promptly withdrawn. For example, in the past five years, a total of 38 schools in the country have withdrawn their majors in fashion design, but there are still independent medical schools setting up this major. This is another manifestation of the lack of a dynamic adjustment mechanism for the professional setting of independent medical schools.

4. Discussion

4.1 Try to Set Majors That Is in Line with China’s Medical Education Policies

The current China’s education policy is to broaden the scope of students training, and cultivate cross-disciplinary compound students. This is a difficult point for independent medical schools with a weak multidisciplinary foundation. But the principles of classified guidance also give independent medical schools the opportunity to explore. Independent medical schools with medium should identify four to five specialty majors, increase their policy focus on specialty majors, and focus on the output of scientific research instead of pursuing a large and
comprehensive professional layout. Big data, cloud computing and scientific algorithms provide the basis for the rapid and accurate judgment of artificial intelligence medicine. It has the possibility of replacing most clinicians in the field of pathological diagnosis. So what is needed in the medical field in the future is high-level interdisciplinary talents and general practitioners who can improve the situation of first-level consultation at the community level. Independent medical schools should weaken major boundaries in the early stages of training. In the middle and late stages of training, schools should focus on the condensing of subject characteristics, and through the exams to divert students after completing the preliminary basic education, promote major integration and revoke outdated majors.

4.2 Establish a Dynamic Major Adjustment Mechanism and Continuously Optimize the Major Structure

In the major setting, independent medical schools should combine the conditions of teachers, teaching equipment, and practice bases, regularly invite government departments, internal and external experts, and third-party non-profit organizations to evaluate the majors. Based on the reference to training schedule, we shall establish a quality feedback mechanism for the evaluation of medical talents, such as whether the goals are accurate, and whether the set goals are consistent with the development of modern medicine. Through real-time evaluation and dynamic adjustment, we can improve the quality of students training and schools’ strength and competitiveness.

4.3 Play the Role of Academic Power

The system that major catalogue is issued by the state has been in operation in China for decades, and the corresponding management institutions and systems have been finalized [5]. As a result, even the government keeps liberalizing the autonomy of universities, in practice, the academic committee’s professional review of major settings is often in a formal way. The Regulations on Academic Committees of Colleges and Universities announced in 2014 provide a policy basis for the transition of academic power from “dependence” to “independence”. However, the current contradiction between higher education policies and regulations and the unreasonable organizational structure of academic committees have led to disability [6]. So independent medical universities should clarify the boundaries of academic powers and redistribute the powers and responsibilities of different departments to ensure that the affairs are not overlapped, repeated or omitted. For matters that obviously do not require the intervention of administrative power, such as the discussion of major creation and revocation, clear regulations can be formulated to prevent it from penetrating administrative power into academic power.

4.4 Government Departments Improve the Early Warning Mechanism for Talent Demand, and Guide the Major Adjustment of Universities

Healthy China 2030 requires medical schools at different levels to maintain a balanced supply and demand for medical talent. To this end, governments at all levels need to coordinate the demand for medical and health personnel, formulate talent training plans, update the enrollment data at different levels in different regions in real time, reduce the gap between the actual enrollment and the planned enrollment, and grasp the scale of schooling based on regional differences and schooling levels. We should encourage medical schools to establish specialty programs based on domestic and foreign experience, thus achieving simultaneous development of medical schools at different levels in different regions.

5. Conclusion

According to the above research, the major structure of independent medical schools is unreasonable. How to enhance the ability to serve
local medical needs is a problem that they must face in their future development. Therefore, independent medical schools need to establish interdisciplinary specialties, focus on building own specialties, and establish a dynamic professional adjustment mechanism, ensure that academic committees play a full role in professional settings, and conduct rational discussions based on the government’s directive.

References


