

# Discussion on the Standardized Training Process of Professional Degree Postgraduate of Clinical Medicine under the Dual-Track Integration Mode

Qiong Liang<sup>1#</sup>, Guanghao Li<sup>2#</sup>, Haige Huang<sup>1,2\*</sup>, Chongchan Bao<sup>1</sup>, Yuanyun Luo<sup>2</sup>, Yi Zhao<sup>2</sup>, Yao Chen<sup>2</sup>, Qiu hao Li<sup>2</sup>, Li Zhou<sup>1</sup>, Chaochao Lin<sup>1</sup>, Chaosheng Su<sup>1</sup>, Jihua Wei<sup>1</sup>

<sup>1</sup>The Affiliated Hospital of Youjiang Medical University for Nationality, Baise, China

<sup>2</sup>Youjiang Medical University for Nationalities, Baise, China

Email: \*hhgliusha@163.com

**How to cite this paper:** Liang, Q., Li, G. H., Huang, H. G., Bao, C. C., Luo, Y. Y., Zhao, Y., Chen, Y., Li, Q. H., Zhou, L., Lin, C. C., Su, C. S., & Wei, J. H. (2022). Discussion on the Standardized Training Process of Professional Degree Postgraduate of Clinical Medicine under the Dual-Track Integration Mode. *Creative Education*, 13, 2921-2928.

<https://doi.org/10.4236/ce.2022.139184>

**Received:** July 12, 2022

**Accepted:** September 20, 2022

**Published:** September 23, 2022

Copyright © 2022 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

## Abstract

The standardized training of residents is the only way for medical students to start clinical medical work and is also an important measure for the Chinese education department to foster clinicians with good professional ethics, solid medical knowledge, and clinical skills. Through standardized training of residents, a resident physician can diagnose and treat the common diseases independently and normatively in his related major. As a group of people who intend to engage in clinical medical work, postgraduate students in clinical medicine need to receive standardized training for resident physicians while receiving postgraduate education. Now, we will discuss that problems existing in the training process of postgraduates of clinical medicine master's degree about course schedule are scattered, training of skill operation isn't comprehensive, training of residents' first diagnosis is not consummate, pressure in life and spirit is really high. And through optimizing course settings, improving procedures in the standardized training of residents, improving the role of tutors, and letting students learn and summarize on their own, we can improve the training process in our school.

## Keywords

Standardized Training for Residents, "Dual-Track Integration" Mode, Professional Postgraduates of Clinical Medicine

\*Corresponding author.

#These authors contributed equally to this study.

## 1. Requirements for Professional Masters in Dual-Track Integration

In 1998, the Chinese education department issued the “Trail Measures for Professional Masters of Clinical Medicine”, and piloted the postgraduate education of clinical medical professional degrees in some regions, with a view to cultivating and improving high-quality skilled talents who combine job competency and clinical ability, so as to accelerate the training of high-level talents of clinical medicine, improve the professional quality of clinical medical team and clinical research level, promote the development of health cause, and meet the needs of the society for high-level clinicians (Ministry of Education the People’s Republic China, 1998). The clinical training standards of resident standardized training are made according to “Standardized Training Content and Standards for Resident Physicians (Trial)” formulated by the Chinese education department. It aims to train doctors for medical institutions who can independently diagnose and treat common and multiple diseases with good professional ethics, solid theoretical knowledge and clinical skills. Because the standardized training process of resident physicians does not conflict with the training process of professional degree masters, since 2015, all newly recruited postgraduates with professional degrees of master of clinical medicine have been required to complete postgraduate academic courses and standardized resident training at the same time. Therefore, professional degree postgraduates not only need to complete postgraduate academic courses and improve their scientific research ability, but also need to complete the standardized training of resident physicians in the clinical environment of the hospital.

## 2. Problems in the “Dual-Track Integration” Mode

### 2.1. Theoretical Course Schedule Is Scattered

During the training process of professional degree postgraduates under the “dual-track integration” mode, the theoretical courses they learn in school such as medical English, medical statistics, medical paper writing, etc., are carried out at the same time as the standardized training of residents. After finishing the daily clinical work, the students need to attend class at night. Due to the complicated daily work and many unexpected situations, students need to pay more attention to clinical work. And some students also need to do scientific research after completing the standardized residency training and the required theoretical courses, these may let students have less flexible time, let teaching and learning are lack coherence and students can not balance the study and work well.

### 2.2. Training of Skill Operation Isn’t Comprehensive

According to the training standards of professional degree postgraduates during the training period, students need to master several basic clinical operations: CPR, lumbar puncture, jugular vein puncture, etc. Surgery students also need to master basic surgical skills. But in actual rotation, many postgraduates take the

rotation of their major seriously and do not invest too much time in other majors. It makes the residents diagnose and treat diseases not comprehensive enough. Due to many limitations, the postgraduates' medical theoretical knowledge and clinical skills are not solid and they don't know well about other majors which can not satisfy the requirements of standardized training for residents.

### **2.3. Training of Residents' First Diagnosis Is Not Consummate**

During the clinical rotation process, to improve residents' first diagnosis ability, some teachers let the physicians carry on medical history collection, physical examination, and first diagnosis treatment independently, and then guide the students. In the actual situation, because they have just been transferred to a new clinical department, they are not familiar with the diagnosis and treatment of the new diseases. It is possible that some senior doctors already have certain clinical experience and can completely consultation work independently. But for the junior doctors and young doctors who have not obtained the qualification certification of practicing doctors, due to the lack of corresponding clinical experience, it is difficult to complete the consultation successfully. It is also difficult for them to make the first diagnosis and treatment plans for a newly admitted patient. These may make the diagnosis and treatments not perfect without the teacher's guide. And because of the diagnosis and treatment errors, the young physicians' confidence and clinical ability may be overwhelmed.

### **2.4. Pressure in Life and Spirit Is Really High**

Professional degree postgraduates have two identities of clinician and scientific researcher at the same time, and the work content of these two identities is different. And compare with other occupations, it needs a long period to study medicine, and the age to start work and get a salary is relatively older. After comparing with other peers, some postgraduates may feel confused about their professional identity and hard to clarify their future development direction and strengthen their professional identity.

During their studies, professional postgraduates must face the pressure from scientific research tasks and clinical work at the same time when they complete their studies and standardized residency training. And it is really hard for some students who can not deal well with these pressures to resolve pressures. And as time goes on, there will be some problems with students' mental health and affect their learning and work.

In life, the age of postgraduates with a professional degree is generally 25 to 29 years old, in recent years, which accounted for the largest proportion of the age group distribution of marriage in China. So some of the postgraduate students have already married and given birth during the standardized resident training period. The financial pressure, heavy family burden, and many psychological and emotional problems affect the quality of the training (Tian et al., 2021).

## **2.5. Professional Degree Graduate Students Lack Communication with Their Tutors**

The guidance of tutors is very important in the training process of postgraduate. Under the dual-track professional degree postgraduate training mode, the postgraduates are always in the other departments in rotation and the ways to communicate with their tutors are often through chat software. The tutors' main workforce is on clinical work, and they have little time to solve the students' questions in time.

## **3. Countermeasures to the Problems in the Course of Cultivating Professional Degree Postgraduates**

### **3.1. Improve Course Arrangement and Optimize Course Setting**

The difference between professional degree postgraduate training and resident standardized training is curriculum training. The postgraduates need to enter the school earlier and work in clinical two months then back to school to study medical English, medical statistics, medical paper writing, and other courses. The clinical ability training is finished during resident standardized training in the hospital (Zeng et al., 2017). Intensive teaching can enable students to concentrate on completing theoretical courses, ensure the continuing of the learning process, and make students have independent time for theoretical practice to reduce students' learning pressure in theoretical learning, and avoid the impact of clinical work that reduces students' theoretical and scientific research learning efficiency. The school teaching department also needs to pay attention to the cultivation of students' scientific research awareness, and pay attention to the individual development of each professional degree graduate student (Huang et al., 2021).

After completing the necessary theoretical learning, the school can give the students some courses about clinical work, to let them know what they can do and what they can't and how to deal with the questions they will meet in work before entering the hospital. Courses related to medical activities such as clinical rules and regulations can also be appropriately added.

### **3.2. Improve Procedure in the Standardized Training of Residents**

Clinical skills are an indispensable ability of residents in clinical activities. Due to the differences in the level and teaching methods of teachers, some professional postgraduates will lack standardization in clinical operation. Therefore, it is necessary for teachers to form unified and standardized clinical technical operation standards. Not only postgraduate students should be trained in standardized training, but also teachers should pass irregular and systematic training to make postgraduates' skills fit the requirement of standardized training for residents.

In the clinical rotation, the diseases in each department are different, and students of different majors have different understandings of related diseases' di-

agnosis and treatment. Launch lectures and case discussions, and let the residents speak out about what they think about these related diseases. Through the discussion, they can know their shortcomings and improve their clinical thought. At the same time, standardized patients can be introduced to make up for the lack of some kind of diseases. Standardized patients are normal people or patients who are engaged in no-medical work. After training, they can play the role of patients. They can record and evaluate doctors' operations on a specially designed table according to their feelings, and act as evaluators and teachers. The study by Sommer et al. (Sommer et al., 2019), shows that the application of standardized patients in the standardized training of residents can not only deal with the problem caused by incomplete disease but also improve the residents' learning interest in clinical work, enhance basic knowledge and the ability to communicate with patients.

For newly admitted residents, the teacher should show the first diagnosis process to them, and tell them the operation standard, details, and matters that need attention, to let the newly resident quickly integrate into the daily work in the department. Appropriately strengthening the role of senior physicians in clinical teaching, we can draw into the "Neer-peer learning" mode (Thomas et al., 2021) in clinical teaching. The senior physician leads the junior physician to make the rounds of the wards and the junior physician conducts a physical examination or clinical operation on the patients he manages, then the senior physician gives the juniors evaluates and corrects, which is beneficial to improve the accuracy of the operation of the junior and improve the knowledge they mastered.

In the skill assessment of resident standardized training, the old assessment methods only focused on scores, and students didn't know the actual problems in their operation and could not correct their mistakes in time. Direct Observation of Procedural Skills (DOPS) is an important method to assess the clinical skills of residents (Dabir et al., 2021). Compared with the traditional assessment method, the introduction of DOPS adds the feedback procedure between the examiner and the examinee. The addition of the feedback procedure enables students to know the problems during the operation and correct them quickly. This can rapidly improve the students' clinical skills level, to achieve teaching and learning in the clinical skills assessment (Anderson et al., 2020).

Due to the particularity of the medical, doctors need to have a lot of communication with patients, so doctor-patient communication skill is also one of the indispensable skills the residents need to have. Because postgraduates are recruited nationwide, many non-local students do not understand the local culture, customs, language, and habits. Carrying out doctor-patient communication training will help students to better complete their clinical work. After completing the training, it is necessary to actively apply the learned communication skills to clinical practice. Communicate effectively with real patients, ensure medical ethics (such as consideration of sensitive topics) at the same time, and obtain a complete medical history without using extensive medical jargon. By

entering the ward for practical teaching, some clinical skills of medical students and residents can be well improved (Kassutto et al., 2020).

### **3.3. Improve the Role of Tutors in the Training Process of Professional Degree Graduate Students**

As the direct person in charge of postgraduate training, postgraduate tutors play a high guiding role in students' daily work, study, and ideological construction. At the same time, they also have a great influence on students' future career choices and employee attitudes, they are the key part of postgraduate training. Under the guidance of tutors, graduate students can complete literature reading, topic selection, and the research design more quickly and efficiently. However, since postgraduate tutors often have multiple roles and need to deal with many affairs, it is difficult for a single tutor responsibility system to meet the needs of postgraduate training work. Referring to the foreign tutor guidance group system, the tutor and 2 - 3 middle-aged doctors form a tutor guidance group. The tutor is responsible for the clinical and scientific research training of postgraduates as the core. The mentor assists the tutor to carry out the work and provides guidance and assistance to the specific implementation of the project and the problems of postgraduate study and life (Dong & Chen, 2019). After the establishment of the tutor group, students can be regularly arranged to report on their studies, then guide students on literature reading, project progress, thesis writing, and solving problems existing in their current learning. Forming a tutor group to guide students not only reduces the burden of tutors but also improves the research ability of postgraduates and accelerates the growth of professional degree postgraduates.

After the students complete the clinical work, the postgraduate tutor can arrange for 1 or 2 exchange activities per month, which can be held in the form of tea parties, allowing students and tutors to communicate in a relaxing environment, to explore the latest research directions of the major, and to understand the students' current problems faced during the experiment and answers. Understand the students' career plans and give certain suggestions based on the current employment prospects in the medical industry. Teach students how to balance study, work, and life, and form a healthy lifestyle and living habits.

The postgraduate tutors also need to pay attention to the psychological construction of the students while guiding the scientific research work of the professional degree postgraduates. Help them clarify the work characteristics of their occupations and enhance their professional identity with doctors, to complete the study and work during the postgraduate study with a better psychological state (Leep et al., 2022).

### **3.4. Professional Degree Graduate Students Should Be Good at Self-Learning and Summary**

Postgraduate students should summarize and record the problems encountered during the clinical work, find the reasons and corresponding treatment methods,

such as consulting the relevant literature to understand the current expert consensus recommendations for the latest disease diagnosis and treatment, and regularly consulting teachers and superior physicians to check whether the previous diagnosis and treatment protocol is correct. Through repeated study and summary of a disease, the understanding of the disease can be deepened. Through this kind of autonomous learning, students' clinical thinking ability and disease diagnosis and treatment ability can be improved.

Postgraduate students in clinical medicine, after summarizing and analyzing the cases encountered in clinical work, can use them as research materials for clinical research work, and select cases related to their subjects for clinical research to complete the writing of a master's thesis. This can reduce the pressure on professional degree postgraduates in scientific research work, and can also apply the theory they learned in school to practice, and deepen their understanding of their major through practice.

#### 4. Conclusion

There are still many problems such as weak doctor-patient communication skills, slow clinical technical updates, and insufficient scientific research thinking that need to be solved in the training process of professional degree graduate students under the dual-track integration mode. As the problems are gradually discovered and solved, the standardized training of residents system and the professional degree graduate student training system are effectively combined, the internal conflict between the two systems is reduced, and the professional degree graduate training process is optimized. The Dual-Track integration mode allows the professional degree graduate students to become qualified clinicians while completing postgraduate training.

#### Funding

Innovation Project of Guangxi Graduate Education (JGY2022282, JGY2022276, JGY2022273).

#### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

#### References

- Anderson, M. J., Ofshteyn, A., Miller, M., Ammori, J., & Steinhagen, E. (2020). Residents as Teachers Workshop Improves Knowledge, Confidence, and Feedback Skills for General Surgery Residents. *Journal of Surgical Education*, 77, 757-764. <http://doi.org/10.1016/j.jsurg.2020.01.010>
- Dabir, S., Hoseinzadeh, M., Mosaffa, F., Hosseini, B., Dahi, M., Vosoughian, M., Moshari, M., Tabashi, S., & Dabbagh, A. (2021). The Effect of Repeated Direct Observation of Procedural Skills (R-DOPS) Assessment Method on the Clinical Skills of Anesthesiology Residents. *Anesthesia and Pain Medicine*, 11, Article ID: e111074.

<http://doi.org/10.5812/aapm.111074>

- Dong, H., & Chen, J. (2019). Research Status of Scientific Research Ability of Professional Surgical Postgraduates under the Standardized Training Mode of Residents. *International Journal of Surgery, 10*, 678-681.
- Huang, H., Wei, J., Liang, Q., Huang, X., Bao, C., Jiang, Y., Ge, B., Lan, H., Zhou, L., Li, Q., Zhao, J., Chen, Y., Li, Z., Luo, F., Xie, K., Wang, Z., Liu, F., Tang, Q., & Meng, L. (2021). Problems and Countermeasures of Training Professional Masters of Clinical Medicine in the “Two-Track Integration” Mode. *Creative Education, 12*, 486-493. <http://doi.org/10.4236/ce.2021.123034>
- Kassutto, S., Seam, N., Carlos, W. G., Kelm, D., Kaul, V., Stewart, N. H., & Hinkle, L. (2020). Twelve Tips for Conducting Successful Interprofessional Teaching Rounds. *Medical Teacher, 42*, 24-29. <http://doi.org/10.1080/0142159X.2018.1545086>
- Leep, H. A., Kumbamu, A., O'Brien, B. C., Starr, S. R., Dekhtyar, M., Gonzalo, J. D., Rennke, S., Ridinger, H., & Chang, A. (2022). Finding My Piece in That Puzzle: A Qualitative Study Exploring How Medical Students at Four U.S. Schools Envision Their Future Professional Identity in Relation to Health Systems. *Academic Medicine. http://doi.org/10.1097/ACM.0000000000004799*
- Ministry of Education The People's Republic China (1998). Trial Method of Clinical Medicine Professional Degree. *Education of Chinese Medicine, 5*, 3-4.
- Sommer, M., Fritz, A. H., Thrien, C., Kursch, A., & Peters, T. (2019). Simulated Patients in Medical Education—A Survey on the Current Status in Germany, Austria and Switzerland. *GMS Journal for Medical Education, 36*, c27. <http://doi.org/10.3205/zma001235>
- Thomas, C., Plumblee, L., Dieffenbaugher, S., & Talley, C. (2021). Teaching on Rounds and in Small Groups. *Surgical Clinics of North America, 101*, 555-563. <http://doi.org/10.1016/j.suc.2021.05.003>
- Tian, W., Song, H., Ren, H., Zhao, H., Lian, J., Zhao, W., Wang, X., Zhang, C., Gao, H., & Cao, L. (2021). Discussion on the Problems in the Combination of Clinical Medical Professional Postgraduate Training and Resident Standardized Training. *Journal of Baotou Medical College, 37*, 104-107.
- Zeng, L., Zhong L., Xie, X., & Qian, J. (2017). Discussion on the Train of Thought of Dual Track Integration Clinical Medical Postgraduates. *China Continuing Medical Education, 9*, 11-13.