

# Clinical Internship Teaching Management During the COVID-19 Epidemic

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**Abstract:** Against the backdrop of the global COVID-19 pandemic, the teaching and management of clinical medical interns have been facing tremendous challenges. When interns majoring in clinical medicine enter the internship position, they lack self-protection awareness and have limited ability to respond to unexpected public health events. This article explores the cognitive situation, existing problems, and improvement measures of clinical medical interns in the post-epidemic era. Therefore, this article proposes a series of improvement measures, including strengthening epidemic training and education for interns, enhancing personal protective awareness, and lastly achieving the role transition from intern to doctor.

**Keywords:** COVID-19; Clinical medicine; Internship; Teaching management

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## 1. Introduction

New coronavirus pneumonia (COVID-19) is a contagious respiratory disease during incubation and after onset. It has strong transmissibility, and the population is generally susceptible. The main transmission routes are respiratory droplets and close contact <sup>[1]</sup>. Since the outbreak of COVID-19 in 2019, medical systems and epidemic prevention measures worldwide have faced severe challenges. Over 3,000 medical staff in China have been infected in this epidemic <sup>[2]</sup>. In this epidemic, the lack of hospital infection prevention and control knowledge and capabilities of frontline medical staff was further amplified in the agitated emergency of epidemic prevention and control. It became a factor that led to the high incidence of hospital infections among medical staff during the epidemic <sup>[3]</sup>. As the backbone of the future medical industry, clinical medicine interns are vital in their understanding of and response to the epidemic. Every year, major hospitals in the country accept many clinical interns as an essential part of the medical staff, reserve talents for medical care and nursing, and participate in daily medical and nursing work. As the future clinical frontline medical staff, if the cultivation of hospital infection prevention and control capabilities is ignored, it will inevitably cause safety

hazards to the hospital and individuals<sup>[4]</sup>. Therefore, in the new coronavirus epidemic, teaching hospitals should pay more attention to clinical medical interns' standardized training on epidemic safety protection knowledge to reduce the risk of health and safety accidents<sup>[5]</sup>. This article explores the methods to improve clinical medicine interns' awareness and response capabilities of the epidemic and optimize teaching management in the post-epidemic era.

## **2. Clinical medicine interns' understanding of the epidemic and existing problems**

### **2.1. Relatively low awareness of the epidemic**

Currently, in the compulsory courses of medical colleges and universities in China, the teaching content and related systems for novel coronavirus pneumonia need to be improved<sup>[6]</sup>. Clinical medicine interns require more understanding of the epidemic and more knowledge reserves, which include basic knowledge of infectious diseases, the routes and methods of epidemic transmission, the degree of harm caused by the epidemic, and the basic principles and methods of prevention and control. With the reserve of this basic knowledge, interns may be able to accurately judge the actual epidemic situation and effectively take preventive and control measures. At the same time, clinical medical interns lack sensitivity and alertness to the epidemic. Due to a lack of practical experience, interns may not notice the early signs of the epidemic or realize its severity. This may lead to them making mistakes or omissions in epidemic prevention and control work, thereby increasing the risk of epidemic spread.

### **2.2. Lack of internship training for responding to public health emergencies**

The early spread of the new coronavirus pneumonia epidemic revealed that China's emergency response system and mechanism for major public health emergencies must be urgently improved. The operability and pertinence of relevant emergency plans need to be enhanced. The reserve of public health talents needs to be increased. There needs to be more emergency response in terms of medical talent education. The emergency response plan should be completed in the internship training related to public health incidents<sup>[7]</sup>. When the supporting emergency plans are incomplete, interns may lack specific response measures and cannot effectively control the epidemic. Due to a lack of professional training and practical experience, interns may need to effectively organize and implement epidemic prevention and control work or provide appropriate medical services and guidance. This will increase the burden on medical resources, and affect the control of the epidemic and the treatment effects of patients.

### **2.3. Lack of self-protection awareness**

Some clinical medical interns may have misunderstandings and believe that the epidemic is far away from them or that only doctors need to pay attention to epidemic prevention and control. These misconceptions may have caused them to pay inadequate attention to the epidemic and thus may not take necessary protective measures. They may not know how to wear masks correctly, wash hands frequently, maintain social distance, and other basic protective knowledge, and they may be unable to apply this knowledge to protect themselves and others. This results in them not being able to effectively reduce the risk of infection when facing the epidemic, thereby increasing the possibility of their infection.

## **3. Improvement measures for epidemic prevention for clinical medical interns**

The COVID-19 epidemic has brought unprecedented challenges to the teaching and management of clinical

medical interns. A series of improvement measures have been proposed to address various problems.

### **3.1. Adjusting the internship plan**

The COVID-19 epidemic has caused many medical institutions and schools to make emergency adjustments to their internship programs. Adjusting internship time and content is significant to ensure students' safety and improve their ability to adapt to the new environment. Some medical institutions have adopted internship rotation systems to control students' infection risks. Students are divided into several groups and take turns entering the hospital for internship. Each group usually lasts 2–3 months and then rotates. This can reduce students' infection risks while ensuring internship quality and time.

However, the adjustment of the internship program also brought some issues that could have been improved. Some students reported that changes in internship content and time caused their study plans to be disrupted and the internship results could have been better. In addition, due to the increased workload in hospitals during the epidemic, teachers are often unable to give students sufficient attention and guidance, which affects the effectiveness and quality of internships to a certain extent.

### **3.2. Strengthening epidemic prevention training before internship**

The theory of knowledge, belief, and action believes that the change of lousy behavior patterns and the formation of healthy behavioral habits must be based on knowledge, and knowledge is the decisive factor among the three <sup>[8]</sup>. Therefore, before the start of the internship, the school or internship unit should provide comprehensive epidemic prevention training to medical students who are about to enter clinical internship to improve their epidemic prevention awareness and self-protection ability, specifically including the following aspects.

- (1) Developing a detailed epidemic prevention training plan: Before the internship begins, the school or internship unit should develop a detailed epidemic prevention training plan, including training content, time arrangement, and training methods. The training should cover all aspects that require attention during the epidemic and how to take the correct protective measures.
- (2) Combination of online and offline training methods: To expand the coverage of epidemic prevention training, online and offline training methods can be combined. Online training methods can include video tutorials and online lectures, while offline training methods can include on-site explanations and simulation exercises. Medical schools should focus on the construction of nosocomial infection disciplines, offer nosocomial infection courses, and pay equal attention to theory and practical operations. Most universities nationwide do not offer “hospital infectiology” or “occupational protection” class courses <sup>[2]</sup>. At the same time, the survey showed that interns have poor knowledge of hospital infections. Hospital infection prevention and control should be developed as a discipline. We cannot wait for such an epidemic to remember the importance of hospital infection prevention and control <sup>[9]</sup>.
- (3) Emphasis on personal protection measures: Personal protection measures should be emphasized in training, such as wearing masks correctly, washing hands frequently, and maintaining social distance. At the same time, some basic disinfection knowledge also needs to be taught, such as how to use disinfectant correctly and disinfect the environment.
- (4) Adding practical operation sections: To ensure that interns can correctly master protective measures, practical operation sections can be added, such as simulation exercises on how to wear masks and use disinfectants correctly. This can help interns to better apply the knowledge they have learned in actual

work.

- (5) Assessment and feedback: After the training, interns should be assessed to ensure that they have mastered epidemic prevention knowledge and protective measures. Furthermore, the goals and responsibility system should be implemented, the assessment goals for hospital infection content should be clarified, and the reward and punishment system should be improved<sup>[10]</sup>. At the same time, a feedback mechanism should also be established to collect opinions and suggestions from interns, and continuously improve and optimize the training content and methods. At the same time, attention needs to be paid to the selection of course teachers and the establishment of full-time course teachers based on the theoretical and practical qualities of teachers<sup>[11]</sup>. Medical schools and teaching hospitals should increase public health emergency teaching training based on actual conditions and assess relevant knowledge and skills so that students have the confidence and ability to join the fight against the epidemic<sup>[12]</sup>.

### **3.3. Application of online teaching**

During the epidemic, online teaching has become one of the leading teaching methods. The application of this teaching method poses many challenges for interns. First of all, students need to master online learning skills, such as using online teaching platforms and participating in online discussions. Secondly, online teaching requires students to have specific independent learning skills, such as self-discipline and time management skills. However, some students may need help with issues, such as their network connectivity and lack of learning environment, which may affect the effectiveness of online teaching.

In addition, online teaching also brings some new opportunities. For example, through online learning platforms, students can obtain the latest knowledge and information anytime and anywhere. At the same time, teachers can also use online educational resources to enrich teaching content and forms.

At the same time, the author suggests that attention should be paid to teachers' network technology training, and teacher information technology training activities should be held regularly to strengthen teachers' ability to skillfully apply online teaching platforms so that information technology issues do not affect the implementation and effectiveness of the classroom. Secondly, relevant online teaching activities should be held regularly. A teacher skills competition on teaching and information technology skills was held to consciously guide teachers to improve their information technology skills<sup>[13]</sup>. Online teaching is also conducive to promoting the digital transformation of medical education and laying the foundation for future development.

### **3.4. Focusing on mental health issues**

During the COVID-19 epidemic, interns are facing multiple pressures and challenges, and prone to psychological problems such as anxiety and panic. On the one hand, the workload of hospitals increases during the epidemic, and teachers are often unable to give students sufficient attention and guidance. On the other hand, students' living and learning environments have undergone tremendous changes, which can easily lead to discomfort. Foreign research results show that the detection rate of psychological sub-health among college students who participate in moderate physical activities every week is significantly lower than that of college students who do not regularly engage in physical activities. Due to the busy daily work and the pressure of study, medical interns participate in fewer physical activities during breaks<sup>[14,15]</sup>. Therefore, teaching management needs to strengthen the attention and management of the mental health of interns.

The following measures should be taken in teaching management. Firstly, a psychological counseling mechanism is established to provide students with professional psychological counseling services. Secondly,

communication and exchanges between teachers and students is strengthened, and students' psychological conditions is understood promptly. Thirdly, a good learning and living atmosphere is created to make students feel cared for and supported.

## 4. Conclusion

In conclusion, this article discussed the cognitive situation, existing problems, and improvement measures of interns specializing in clinical medicine in the post-epidemic era. By strengthening pre-internship epidemic prevention training, adjusting internship plans, applying online teaching, and establishing a mental health counseling mechanism, interns can improve their epidemic knowledge and develop their professional abilities and strategies to deal with the epidemic. These are of great significance for ensuring medical safety and controlling the spread of the epidemic.

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## Disclosure statement

The authors declare no conflict of interest.

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