

Practice and Experience of Clinical Teaching of Endocrine and Metabolic Diseases

Xiaoli Ma Hui Guo

Southern Medical University, Guangzhou, Guangdong, 510515, China

[Abstract] Clinical teaching work is an important part of the comprehensive development of hospitals' medical, teaching and research. Endocrine clinical teaching can improve the teaching management, rationally set the curriculum, deepen theoretical knowledge teaching, and improve teaching methods. Strengthen communication between doctors and patients; establish a reasonable assessment system, etc. Improve the quality of teaching and improve students' basic theory, basic knowledge, clinical skills and other aspects.

[Keywords] Clinical teaching: Endocrine and metabolic diseases; Medical education

1. Introduction

With the rapid increase in the prevalence of endocrine and metabolic diseases, and the close penetration of many disciplines, the endocrinology discipline has received more and more attention.

The Department of Endocrinology of our hospital teaches about 20 doctors each year. In order to standardize clinical teaching and ensure the quality of students' learning, the author has been serving as the teaching secretary of the department since 2015. The author is responsible for the "four kinds of students" teaching work arrangement for interns, postgraduates, rotation students, and advanced students. Now talk about my own understanding and experience in teaching practice in recent years.

2. Improve Teachers' Awareness of Teaching and Education, and Strengthen the Management of Teaching Responsibility System

The rewards of teaching investment are social and there is no direct benefit. In the medical, teaching and research work, teaching work has generally not received due attention. However, the teaching awareness and teaching ability of the teacher directly affects the training of the students' basic clinical skills.^[1] In order to improve the enthusiasm and teaching ability of the teacher, the department takes the following methods:

2.1 Intensive Training Once a Year

The endocrinology professors who hired well-known teaching hospitals gave concentrated guidance to teachers, enhanced the sense of responsibility of teaching teachers, improved the teaching awareness of teachers, and learned about the teaching situation of other hospitals and found their own gaps.

2.2 Teacher Competition for Posts

The contents of the teacher assessment include the basic knowledge of the specialist, the operation of the examination, the teaching rounds, and the mastery of the syllabus and the doctor's examination program for the endocrine students at different stages. Because of the difference in employment, teachers create a healthy competition in teaching ability.

2.3 Clarify Teachers' Responsibility

The teaching teacher establishes a clear responsibility relationship with the "four kinds of students", and is responsible for guiding the theoretical teaching and clinical skills training of the students. The teaching quality of the teaching teachers directly enters the doctor's performance management system, and is linked to the year-end evaluation award.

3. Define the Purpose of the Lesson and Carry out Individualized Curriculum Setting

"Four kinds of students" have different levels of mastery of medical knowledge, different time for clinical study, and different purposes for learning. Therefore, before the official start of the teaching, a teacher-student meeting will be arranged for the students and teachers. Teachers will systematically explain the basic situation of the subject, so that students have a general understanding of the key content of the major, the meaning of the course and the help of future work, and can focus on their own learning. At the same time, the teacher grasps the basic situation of the students, understands the students' learning needs, and formulates corresponding teaching plans according to the specific conditions of the students. For example, for the intern who is in the postgraduate preparation stage, the part of the test center in the graduate student examination can be interspersed in the clinical teaching rounds. And the physiological and biochemical parts that are closely related to endocrine and metabolic diseases are summarized and explained, so that students can more easily understand the test sites after clinical study;

For interns who are looking for work, they should highlight their clinical treatment ideas and clinical resilience to common diseases and multiple diseases in clinical work and teaching rounds, and pay attention to the smooth and accurate communication and expression of students. For clinical training for graduate and rotation students, in order to understand the professionalism of the students in the future, in addition to requiring students to master the contents of the syllabus, emphasis should be placed on the interdisciplinary and interpenetrating content of the professions. For example, students majoring in cardiology can focus on secondary hypertension, and students in the digestive program can emphasize the endocrine diseases with clinical symptoms of digestive system as the first clinical manifestation, such as hyperthyroidism, diabetic ketoacidosis, hypercalcemia and so on. Through the setting of individualized courses, students can have more competitive advantages in the exams, applications and future work in addition to the relevant content in the syllabus, and can further stimulate students' interest in clinical learning.

4. Study Theoretical Knowledge in Depth and Strengthen Basic Skills Training

There are fewer classes in the endocrinology theory class at school, and lots of the knowledge is difficult to explain thoroughly in the classroom. In clinical teaching, important concepts should be further clarified. Endocrinology is complex and abstract, with more content, more micro than macro, more functions than structure, and infiltrate and connect with many disciplines. For example, feedback regulation is the main regulatory mechanism of the endocrine system, which exists between each endocrine gland and body fluid metabolites.

Teachers need to help students build spatial thinking, explain the regulatory mechanism clearly, and enable students to form a dynamic and perfect endocrine knowledge system, which is easy to understand when analyzing the condition. Metabolic diseases are relatively easy to understand, but because their prevalence is increasing year by year, the guidelines for diagnosis and treatment are frequently updated. In the clinical teaching, the updated knowledge should be explained in detail, so that students can understand the reasons for the update of the guide and have a more precise grasp in clinical treatment.

5. Introduce a Variety of Teaching Methods to Improve the Training Effects of Clinical Diagnosis and Treatment Skills

In clinical teaching, the most important part is the training of clinical diagnosis and treatment skills. Guide students to participate in the diagnosis and treatment of diseases, cultivate students' ability to analyze, infer and summarize clinical problems, and introduce various teaching methods to improve clinical teaching effects.

5.1 Problem-based Learning Pedagogy

Problem-Based Learning (PBL) pedagogy, which is under the guidance of teachers, the students is the main body, and the problem is the carrier. The core knowledge contained in each question is actively learned, and the teaching methods of knowledge are obtained through the logical process of asking questions, establishing hypotheses, and demonstrating hypotheses.^[2] Apply problem-based learning in clinical ward rounding and case writing. For example, why do Addison patients have skin pigmentation, and patients with secondary adrenal insufficiency do not have this phenomenon? Students in the process of finding answers have further studied the relationship between the hypothalamic-pituitary-adrenal axis and hormones, and the deep knowledge of the students also makes students more comfortable in the writing of medical records.

5.2 Case-Based Study

Case-Based Study (CBS) is a kind of teaching purpose. The teacher chooses typical cases to study, and develops case theory, so that students can think, analyze, diagnose and propose treatment opinions. Then the teacher conducts according to the case content. Summarize and lead to more abstract basic theories, guiding students to combine theory and practice organically.^[3] Case-Based Study can enhance students' ability to think and solve problems independently. The incidence of many diseases of endocrine is not high, and students have limited time in the department. Many typical cases may not be met during the study period, and can be taught using Stimulated Patients (SP). Stimulated patients, also called simulated patients, refer to the systematic training of patients to realistically imitate the situation of clinical patients, play a role in clinical teaching and skills examinations, in the strict sense of the SP is a normal person engaged in non-medical skills to play patients, However, since the selection and training of SP is a standardized and systematic process, which is time consuming and costly, the SP currently in teaching is usually played by doctors or teachers who are in the profession. Through the teacher's role in SP-assisted instruction, the problem of insufficient cases in the hospital is overcome. And through the interaction between teachers and students, it is more conducive to teachers to guide students to pay attention to the humanistic care of patients in the collection of medical history and physical examination, and to close the distance between teachers and students, the teaching effect is good.^[4]

5.3 Multimedia Teaching

In the teaching of endocrinology, complex and abstract knowledge can be presented to students through multimedia in the form of pictures, animations, etc. For positive feedback and negative feedback regulation of the hypothalamic-pituitary-target gland axis, the secretion of hormones and their relationship can be seen at a glance through animation effects, so that students have an image and vivid understanding, which is

conducive to understanding and memory. In addition, many endocrine diseases have their typical appearance and signs, such as giant disease, acromegaly, Cushing's syndrome, hyperthyroidism, hypothyroidism, etc. The relevant pictures can be displayed in multimedia, so that students have a perceptual understanding.

6. Strengthen Cooperation between Disciplines and Pay Attention to Resource Sharing

With the development of medicine, the professional sub-discipline is more and more detailed, and the disciplines are infiltrated with each other. For example, primary aldosteronism and pheochromocytoma may be encountered in cardiovascular medicine and urology, and patients with pituitary tumors such as acromegaly and prolactinoma may be treated in neurology. Because these cases are few, teachers need to communicate with each other and lead students to relevant departments to study, so that students have the opportunity to learn more typical cases within a limited learning time.

7. Strengthen Doctor-patient Communication Training

The communication between doctors and patients is the exchange of information between the doctors and patients on the health problems of patients and the diagnosis and treatment. It is the key to medical treatment between the two sides. Good communication between doctors and patients is conducive to building patients' trust in doctors, increasing patient compliance with treatment, and achieving better therapeutic results.^[5] Therefore, in clinical teaching, in addition to cultivating students' clinical learning ability, it is necessary to consciously demonstrate to students how to communicate properly with patients in clinical teaching. In particular, some diseases in the endocrine specialty involve sensitive privacy such as secondary sexual characteristics changes, so it is more necessary to obtain patient trust and cooperation in medical history collection and physical examination. Students can be specially organized to conduct drills for doctor-patient communication, to guide students in communicating with patients, to notice and avoid blind spots and misunderstandings that are prone to occur in clinical work, and to avoid inadvertently causing resentment and rejection of patients. Help students establish a respected and trusted doctor image and establish a good medical ethics.

8. Establish a Reasonable Assessment System

Assessment is the last level of clinical learning. It is an important means to test the effectiveness of teaching. It is the pressure of students and the motivation of students. A reasonable assessment method can improve the learning effect of students. In order to be fair and reasonable, and to pass certain restrictions on teaching teachers and students through examinations, it is necessary to achieve "separation of teaching and

learning.” The traditional assessment system usually includes both theoretical knowledge and clinical skills. The examination content of clinical skills includes the ability of doctors and patients to communicate, whether the medical history is comprehensive, whether the physical examination is standardized, whether the condition is reasonable, whether the differential diagnosis is clear, and whether the treatment plan is appropriate. In addition to the traditional assessment mode, students should also pay attention to the comprehensive ability acceptance of students, and promote students to find ways to acquire knowledge and improve themselves. For example, if students choose a topic in their major, they can read a book or literature through a study of clinical cases, write a review or make a special report. This kind of assessment can invite a number of teachers who have rich experience in thesis writing and topical presentations to participate in the review, report on the students’ review or report, and explain the writing methods. Comment on the students’ academic content, typhoon, body language expression, PPT production and other advantages and disadvantages in the special report, after the students have had a physical experience, there will be more benefits.

9. Conclusion

In short, with the changes in the medical situation and the development of medicine, clinical medical education is constantly facing new challenges. Teachers are required to focus on the syllabus, adhere to the teaching principles, correct the teaching attitude, establish a scientific education model, rationally improve teaching methods, adopt a multi-method comprehensive teaching method, and cultivate high-quality medical talents conscientiously and responsibly.

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