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Construction and Practice of a Mixed Course on Integrative Traditional Chinese and Western Medicine in Obstetrics and Gynecology in the Context of New Medical Education

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Abstract: Against the Healthy China 2030 Initiative and New Medical Education, conventional Obstetrics and Gynecology teaching has problems like fragmented TCM-Western medicine integration and inadequate clinical thinking. For 2021 undergraduate Clinical Medicine students at Shaoyang University, this study built a blended curriculum ("Western medicine as mainstay, TCM as supplement") with four-dimensional reforms. Controlled experiments showed the blended group had significantly higher theoretical scores (85.62±7.18), OSCE scores (88.24±6.31), and learning satisfaction (92.5%) than the traditional group (P<0.01), with improved clinical abilities. This study provides a feasible scheme for local medical colleges' TCM-Western medicine teaching reform.

Keywords: Obstetrics and Gynecology; Integrated Traditional Chinese and Western Medicine; Blended Teaching; Clinical Professional Competence; Grassroots Medical Education

1. Introduction

With the full implementation of the three-child policy and the growing demand for whole-life-cycle women's health management, the spectrum of obstetric and gynecological diseases has become increasingly chronic, juvenile, and complex. Clinical practice urgently needs compound, application-oriented, and grassroots-oriented obstetricians and gynecologists. Obstetrics and Gynecology is a discipline characterized by abstract theories, strong practicality, frequent emergencies, and prominent humanistic attributes. The traditional teaching model of "lectures + PPT + internship" suffers from prominent drawbacks such as separation of TCM and Western medicine contents, monotonous teaching methods, overemphasis on theory over practice, misalignment between curriculum objectives and clinical practice, fragmented knowledge modules, outdated teaching approaches, and one-sided assessment systems. These deficiencies make it difficult to meet the demands for cultivating medical talents in the new era.

Integrated Traditional Chinese and Western Medicine has shown definite efficacy and distinctive advantages in the prevention and treatment of obstetric and gynecological diseases. Blended teaching, which conforms to the educational concepts of Outcomes-Based Education (OBE), constructivism, and deep learning, has been widely verified as effective in medical education. Competency-oriented curriculum objective reconstruction, modular content integration, innovative teaching methods, and improved evaluation systems have become core strategies to address teaching dilemmas in Obstetrics and Gynecology and elevate talent-training quality. Based on the Obstetrics and Gynecology course for Grade 2021 Clinical Medicine undergraduates at Shaoyang University, this study conducted systematic teaching reforms focusing on four core links: objective reconstruction, content integration, model innovation, and evaluation optimization. It provides a practical basis and reference for teaching reforms of integrated TCM-Western medicine in local medical colleges and universities.

2. Research Approach and Methodology

2.1 Research Approach

This study takes the competency orientation of New Medical Education as the core guideline, clinical professional competence as the training criterion, collaborative TCM-Western medicine

teaching as the distinctive feature, and blended teaching as the implementation carrier. It strictly follows the technical route: "situation analysis → problem diagnosis → scheme design → practical implementation → effect evaluation → optimization and promotion → localized iteration". The construction and teaching reform of the Obstetrics and Gynecology course were promoted systematically to ensure that the reform scheme complies with educational laws, matches the conditions of local colleges, and adapts to the reality of grassroots medical services.

2.2 Research Methods

Multiple research methods were integrated to ensure the scientificity and effectiveness of the study:

(1)Literature research method: Databases including CNKI, Wanfang, and PubMed were retrieved to collect literature on blended teaching, integrated TCM-Western medicine in Obstetrics and Gynecology, cultivation of clinical thinking, curriculum ideology and politics, and grassroots medical education, laying a solid theoretical foundation for the research.

(2)Questionnaire survey and interview method: A "Questionnaire on the Current Situation of Obstetrics and Gynecology Teaching" was designed to conduct a comprehensive survey among Grade 2021 Clinical Medicine undergraduates and their teachers. Combined with in-depth interviews, the root causes of teaching pain points were explored to accurately identify core problems.

(3)Controlled experiment method: A blended teaching group (120 students) and a traditional teaching group (180 students) were set up. Variables including textbooks, class hours, and teaching staff were strictly controlled. Core indicators such as theoretical scores, skill scores, learning satisfaction, integrated TCM-Western medicine thinking ability, and grassroots post adaptability were compared between the two groups.

(4)Action research method: Feedback from teachers and students was continuously collected during teaching implementation to iteratively optimize teaching design, resources, and evaluation systems.

(5)Statistical analysis method: SPSS 26.0 software was used for t-tests and χ^2 tests. $P<0.05$ was considered statistically significant, ensuring the authenticity and reliability of research data.

3. Analysis of Current Teaching Status and Problems in Obstetrics and Gynecology

A total of 300 student questionnaires were distributed, with 294 valid responses returned, yielding an effective response rate of 98%. Ten teacher questionnaires were distributed, all of which were valid, with an effective response rate of 100%. The survey results clearly reveal six core problems in current teaching:

(1)Separation of TCM and Western medicine contents, seriously insufficient integration: 89.1% of students reported that TCM contents were only briefly introduced without forming an integrated TCM-Western medicine diagnostic and therapeutic thinking; 70% of teachers lacked sufficient TCM knowledge and systematic integrated teaching design.

(2)Disconnection between online and offline teaching, inefficient utilization of resources: Online resources were fragmented and poorly coordinated with offline teaching, failing to form a closed-loop teaching process.

(3)Single assessment method, lack of process evaluation: 85.7% of students considered that "one examination determines the final grade", resulting in a one-dimensional evaluation system that cannot effectively measure core competencies such as clinical skills, thinking ability, and humanistic literacy.

4. Specific Implementation of Curriculum Construction

4.1 Reconstruction of Three-Dimensional Curriculum Objectives

Guided by the requirements of New Medical Education and clinical professional competence, three-dimensional integrated curriculum objectives covering knowledge, ability, and literacy were reconstructed.

(1)Knowledge objectives: Master core theories including female reproductive system anatomy, pregnancy physiology, normal/abnormal delivery, intrapartum complications, and pregnancy comorbidities; grasp diagnostic keys and emergency procedures for obstetric and gynecological emergencies (postpartum hemorrhage, amniotic fluid embolism, placental abruption, umbilical cord prolapse); be familiar with TCM syndrome differentiation and applicable grassroots therapies for menstrual disorders, pregnancy diseases, and postpartum diseases; understand the latest guidelines and

(2)clinical application progress of integrated TCM-Western medicine in Obstetrics and Gynecology.

Ability objectives: Possess basic skills in obstetric and gynecological history taking, four-step palpation, fetal heart rate monitoring interpretation, and medical record writing; be capable of rapid identification and preliminary management of emergencies such as postpartum hemorrhage and amniotic fluid embolism; be able to formulate integrated TCM-Western medicine diagnosis and treatment plans based on "Western medicine disease diagnosis + TCM syndrome differentiation + grassroots applicability"; acquire comprehensive abilities in doctor-patient communication, teamwork, emergency response, and evidence-based clinical thinking.

(3)Professional literacy objectives: Establish professional values of reverence for life, healing the wounded and rescuing the dying, and practicing medicine with integrity; cultivate professional attitudes of rigor, calmness in emergencies, and prioritization of maternal and child safety; enhance cultural confidence in TCM and recognize the advantages of integrated TCM-Western medicine diagnosis and treatment; develop lifelong learning, continuous improvement, grassroots-rooted, and regional health service-oriented professional qualities.

4.2 Modular Integration of Teaching Contents

Based on the school's existing teaching plans, Western medicine and TCM contents were organically embedded, seamlessly connected, and clinically mutually verified, and integrated into four major teaching modules with clear integration points and teaching strategies:

(1)Basic Theory Module: Western medicine focuses on anatomy, physiology, pregnancy diagnosis, four-step palpation, and fetal heart monitoring; TCM integrates theories of Chong, Ren, Du meridians, female physiological characteristics, pregnancy pulse diagnosis, and TCM pregnancy judgment. Supported by online animations, micro-lectures, videos, and question banks; offline activities include model practice, atlas interpretation, and classroom quizzes.

(2)Western Medicine Clinical Core Module: Covers core contents including normal/abnormal delivery, complications, and pregnancy comorbidities. Western medicine focuses on diagnostic criteria, treatment principles, and emergency rescue procedures; TCM integrates syndrome differentiation and safe, feasible grassroots intervention measures. Supported by online emergency videos, real cases, and guidelines; offline activities include PBL discussions, emergency simulations, and treatment plan design.

(3)TCM Characteristic Module: Focuses on menstrual disorders, pregnancy-related diseases, postpartum disorders, and gynecological miscellaneous diseases. Adopts the integrated strategy: "Western medicine exclusion of organic lesions → TCM syndrome differentiation → formulation of integrated TCM-Western medicine grassroots diagnosis and treatment plans". Supported by online syndrome differentiation micro-lectures, characteristic therapy videos, and prescription explanations; offline activities include syndrome differentiation training, therapy demonstrations, and case discussions.

(4)Comprehensive Practice Module: Includes ward rounds, delivery room observation, outpatient follow-up, skill training, and writing of integrated TCM-Western medicine medical records. Supported by online virtual simulation, medical record templates, and Q&A services; offline activities include dual-teacher tutoring, OSCE assessment, and case presentations.

4.3 Construction of a Closed-Loop Blended Teaching Process

A full-process closed-loop blended teaching system covering "pre-class, during-class, post-class, and feedback" was constructed.

(1)Pre-class: Online autonomous learning for precise foundation consolidation. Learning resources including micro-lectures, courseware, operation videos, and preview outlines were released via the learning platform. Task-driven and problem-oriented guidance was adopted to guide students in targeted learning, such as "Western medicine diagnosis of placental abruption + TCM syndrome differentiation" and "postpartum hemorrhage rescue procedure + TCM hemostatic methods". Online preview tests were conducted with automatic grading by the system. Based on learning data analysis, teachers accurately grasped students' weak points and solved basic problems via online Q&A, fully preparing for offline classroom teaching.

(2)During-class: Offline interactive teaching to break through learning difficulties. A mixed

model of BOPPPS + PBL + integrated TCM-Western medicine case discussion + scenario simulation was adopted. The Bridge section introduced real clinical emergency cases such as massive hemorrhagic placental abruption and postpartum shock to stimulate learning interest. The Objective section clarified three-dimensional curriculum objectives. The Pre-assessment section fed back preview results and provided targeted remediation. The Participatory Learning section carried out PBL group discussions, skill drills, comparative explanation of TCM and Western medicine, and emergency scenario simulations to strengthen active thinking and practical operation. The Post-assessment section immediately tested learning effects through classroom quizzes and project presentations. The Summary section sorted out key and difficult points to strengthen students' integrated TCM-Western medicine thinking and clinical decision-making ability, realizing efficient classroom teaching.

(3)Post-class: Online consolidation and improvement. Based on the online platform, teachers assigned homework including case analysis, mind maps, integrated TCM-Western medicine medical record writing, and grassroots diagnosis and treatment plan design. Extended resources such as updated guidelines, expert clinical experience, and cutting-edge progress were continuously provided. Through real-time online Q&A, students identified and remedied weak points. The learning platform automatically recorded learning data and included them in process evaluation, forming a complete teaching loop: "pre-class preview → during-class learning → post-class consolidation → continuous feedback".

4.4 Diversified Process Evaluation System

(1)Broke the "one-exam-fits-all" evaluation model and established a diversified system consisting of "process evaluation + summative evaluation + competence evaluation".

(2)Process evaluation (40%): online learning performance, classroom performance, homework completion, group discussion participation, and practical training attendance.

(3)Summative evaluation (40%): theoretical examination (focusing on integrated TCM-Western medicine knowledge points).

(4)Clinical competence evaluation (20%): OSCE skill assessment, integrated TCM-Western medicine medical record writing, and grassroots diagnosis and treatment plan design.

5. Teaching Practice and Effect Evaluation

5.1 Research Subjects

A total of 300 students from Classes 7–11 of Grade 2021 Clinical Medicine undergraduate program at Shaoyang University were selected. The blended teaching group (Classes 7–8) included 120 students receiving integrated TCM-Western medicine blended teaching; the traditional teaching group (Classes 9–11) included 180 students receiving traditional lecture-based teaching. There were no statistically significant differences in entrance scores and basic levels between the two groups ($P>0.05$). Textbooks, class hours, and instructors were consistent, ensuring a balanced and comparable controlled trial.

5.2 Evaluation Indicators

Five core indicators were set to comprehensively evaluate teaching effectiveness: theoretical examination scores, OSCE clinical skill scores, learning satisfaction, accuracy rate of integrated TCM-Western medicine questions, and grassroots diagnosis and treatment plan design scores.

5.3 Statistical Results and Analysis

(1)Theoretical scores: Blended teaching group: 85.62±7.18; traditional teaching group: 76.35±8.46; $t=9.742$, $P<0.01$. The theoretical performance of the blended group was significantly higher.

(2)OSCE clinical skill scores: Blended teaching group: 88.24±6.31; traditional teaching group: 77.52±7.79; $t=11.267$, $P<0.01$. The skill performance of the blended group was significantly improved.

(3)Accuracy rate of integrated TCM-Western medicine questions: Blended group 82.3%, traditional group 51.7%. The blended group showed significantly enhanced integrated TCM-Western clinical thinking.

(4)Learning satisfaction: Blended group 92.5% (very satisfied 47.5%, satisfied 45.0%, neutral 7.5%, dissatisfied 0%); traditional group 71.3% (very satisfied 22.8%, satisfied 48.5%, neutral 24.2%, dissatisfied 4.5%). The blended group had a significantly better learning experience.

(5)Grassroots diagnosis and treatment plan design scores: Blended group average 86.4, significantly higher than the traditional group

(72.1) (P<0.01).

6. Conclusion

The blended teaching model of integrated TCM-Western medicine for Obstetrics and Gynecology constructed in this study under the New Medical Education context effectively solves the six core pain points of traditional teaching, significantly improves teaching quality and students' comprehensive abilities, and forms a replicable reform paradigm suitable for local medical colleges. This model balances Western medical standards, TCM characteristics, online and offline learning, professional competence and humanistic literacy, and grassroots orientation. It provides a practical path for the teaching reform of integrated TCM-Western medicine for Clinical Medicine majors and helps cultivate compound, application-oriented, and grassroots-oriented obstetric and gynecological medical talents to meet the needs of Healthy China 2030.

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