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Analysis of Problems and Countermeasures in Clinical Research among Master of Chinese Medicine (MCM) Students

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Abstract: *Objective*: To analyze the dilemmas in clinical research among Master of Chinese Medicine (MCM) students and to explore countermeasures for improving the quality of research training. *Methods*: A questionnaire survey was administered among MCM students at a university. The problems were analyzed from four dimensions: topic selection direction, research method, ethical consciousness, and process management. *Results*: A total of 40 questionnaires were distributed to MCM postgraduate students, with 36 valid responses returned, representing an effective recovery rate of 90.0%. Regarding the grade distribution of respondents: 12 (33.3%) were first-year students, 13 (36.1%) second-year, and 11 (30.6%) third-year. The survey results showed that students' research topics were mainly focused on basic and animal experimental research, accounting for 38.9%, and most topics were proposed by supervisors or derived from research projects (44.4%). In addition, 41.7% of students reported that pressure from SCI publication requirements significantly influenced their topic selection. Insufficient mastery of clinical research methods was a prominent problem: 77.8% of students were unable to estimate sample sizes, 80.6% could not use statistical analysis software, and 72.2% had an unclear understanding of randomization. Ethical awareness was also weak. Only 22.2% of students obtained ethical approval; 33.3% recognized its role in protecting human subjects, while 41.7% regarded it merely as a procedural requirement. Open-ended responses revealed the core difficulties mentioned: heavy clinical workload (15 mentions), methodological challenges (13 mentions), and inadequate supervisor guidance (9 mentions). Key demands included methodological training (12 mentions), guaranteed research time (10 mentions), enhanced supervisor guidance (8 mentions), statistical consultation, and a simplified ethical review process. *Conclusion:* The clinical research of MCM students of traditional Chinese medicine is faced with the dilemma of "basic" tendency of topic selection, insufficient mastery of research methods, weak ethical cognition, and prominent contradiction between clinical and scientific research. It is urgent to strengthen methodology training, optimize time guarantee, and perfect tutor guidance.

Keywords: Master of Chinese Medicine (MCM); Clinical subject research; Integration of medical education and clinical practice; Cultivation quality

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1. Introduction

Under the guidance of the policy of "Integration of Medical Education and Clinical Practice," a series of policies [1] with the program of "Program for the Establishment of Professional Degrees in Chinese Medicine" put forward compound ability requirements for Chinese medicine professional degree graduate students. While strengthening clinical capabilities, high-quality clinical research must be completed to ensure the simultaneous development of medical skills and scientific research thinking [2,3]. At present, the cultivation of Master of Chinese Medicine (MCM) has entered the stage of large-scale development. However, there is an obvious gap between scale expansion and quality improvement. Insufficient clinical scientific research ability and poor research quality have become the key shortcomings restricting the cultivation efficiency [4].

This study aims to conduct an in-depth analysis of the contradictions encountered by MCM students in clinical research based on the unique characteristics of Chinese medicine. It provides a supplementary theoretical perspective for the cultivation of clinical research competence in Chinese medicine education, deepens the theoretical foundation of Chinese medicine research methodology in the training of applied talents, and promotes the formation of an evidence-based research paradigm with distinctive Chinese medicine thinking and disciplinary characteristics [5].

2. Methods

2.1. Respondents

Forty MCM students were randomly selected from a university, covering the first, second, and third grades, to ensure the inclusion of students at different stages of clinical research projects.

2.2. Questionnaire design

A self-designed electronic questionnaire was used for data collection in this study. The survey was conducted from January 1, 2025 to March 1, 2026, with questionnaires distributed and collected via the "Wenjuanxing" platform. The questionnaire content was designed based on literature review and expert consultation, covering six dimensions.

The basic information section mainly collected demographic and academic background information, such as the respondents' grade, thesis proposal completion status, and project source. The topic selection dimension focused on investigating the types of dissertation topics, the main driving factors for topic selection, and the influence of the pressure to publish SCI papers on topic selection. The research method dimension examined students' mastery of relevant research methods, major problems encountered in project design, and their evaluation of methodology courses, focusing on clinical epidemiological design, medical statistical analysis methods, sample size estimation, data collection, and case report form development. The ethical awareness dimension focused on students' completion of ethical review before conducting projects, their cognitive level of informed consent, privacy protection, ethical principles, and review procedures, as well as their attitudes towards ethical review. The process management dimension mainly investigated students' time investment in scientific research, the degree of conflict between clinical rotation and scientific research, and the actual progress of projects. Open-ended questions were designed to collect students' core difficulties in clinical research projects and suggestions for improving the school's support system.

3. Results

A total of 40 questionnaires were distributed to MCM students in this survey, with 36 valid questionnaires recovered, resulting in an effective recovery rate of 90.0%. The grade distribution of the respondents was as follows: 12 first-year postgraduates (33.3%), 13 second-year postgraduates (36.1%), and 11 third-year postgraduates (30.6%). The survey results showed that MCM students faced practical difficulties in clinical scientific research, including a tendency towards "basic research-oriented" topic selection, insufficient mastery of research methods, weak ethical cognition, and prominent conflicts between clinical work and scientific research.

3.1. Topic selection

The results in Table 1 showed that the main type of topic selection for students was basic experiment and animal experiment research, accounting for 38.9%; followed by clinical observation and case analysis research, accounting for 30.6%; data mining and literature research, as well as experience inheritance research of renowned senior Chinese medicine physicians, accounted for a relatively low proportion, at 19.4% and 11.1% respectively.

In terms of driving factors for topic selection, supervisor arrangement or project requirements were the primary driving factors, accounting for 44.4%; followed by the practical consideration of "easy to publish papers and low graduation pressure," accounting for 33.3%; topic selection driven by personal interest or clinical problems only accounted for 19.4%.

Regarding the perception of SCI pressure, 41.7% of students believed that the pressure was extremely high and directly affected topic selection; 36.1% of students had certain pressure but still balanced clinical work; a small proportion of students had low pressure or a vague understanding of graduation requirements, accounting for 22.3%.

Table 1. Survey results on students' topic selection

	Research indicators	Number of respondents	Proportion (%)
Topic type distribution	Basic experiment/animal experiment research	14	38.9
	Clinical observation/case analysis research	11	30.6
	Data mining/literature research	7	19.4
	Experience inheritance research of renowned senior Chinese medicine physicians	4	11.1
Driving factors for topic selection	Arranged by supervisor/required by supervisor's project	16	44.4
	Easy to publish papers/low graduation pressure	12	33.3
	Personal interest/problems found in clinical practice	7	19.4
	Others	1	2.8
Perception of SCI pressure	Great pressure, directly affecting topic selection	15	41.7
	Certain pressure, but balancing clinical work	13	36.1
	Low pressure, selecting topics based on interest	6	16.7
	Unclear about graduation requirements	2	5.6

3.2. Research methods

The results showed that students' overall mastery of clinical research methods was low, with the average score of all indicators below 2.5 (on a 5-point scale). Among them, the sample size estimation method had the lowest score of 1.92, with 66.7% of students having no or basic mastery of it (**Table 2**).

In terms of research design (**Table 3**), the main problems were as follows: 77.8% of students were unable to estimate sample size, 80.6% were unable to use statistical analysis software, and 72.2% were unclear about randomization and grouping. The evaluation of methodology courses showed that only 11.1% of students thought the courses were of great help, 44.4% believed there was a disconnection between theory and practice, and 44.5% of students thought the courses were of little or no help, reflecting the gap between course teaching and practical needs.

Table 2. Survey results on students' mastery of clinical research methods

Research indicators	Mastery score (5-point scale)	Number of students with no/basic mastery	Proportion (%)
Clinical epidemiological design	2.33	16	44.4
Medical statistical analysis	2.19	19	52.8
Randomized controlled trial design	2.06	21	58.3
Sample size estimation method	1.92	24	66.7
Case Report Form (CRF)	2.44	15	41.7

Table 3. Survey results on research design problems and evaluation of relevant courses

Research indicators		Number of respondents	Proportion (%)
Problems in research design	Unsure how to set up control groups	25	69.4
	Unclear about randomization and grouping	26	72.2
	Unable to estimate sample size	28	77.8
	Unable to use statistical analysis software	29	80.6
	The data was collected in an irregular manner, rendering it unusable	20	55.6
	No above problems encountered	2	5.6
Evaluation of methodology courses	Great help, applicable immediately after learning	4	11.1
	Certain help, but disconnection between theory and practice	16	44.4
	Little help, focusing on theoretical indoctrination	11	30.6
	No help at all	5	13.9

3.3. Ethical awareness

The results showed that students' overall understanding of ethics-related knowledge in clinical research was low, with the average score of all indicators below 2.5 (on a 5-point scale). Among them, the application procedures for ethical review had the lowest score of 1.97 (**Table 4)**.

In terms of the completion of ethical review, 22.2% of students had obtained ethical approval, 19.4% were under application, 30.6% had not applied yet, and 27.8% were unclear about the need for ethical review (**Table 5**).

Regarding attitudes towards ethical review, 33.3% of students recognized it as an important line of

defense for protecting research subjects, 41.7% regarded it as a formal requirement in the graduation process, and 16.7% thought it was an obstacle to delaying research progress, reflecting students' insufficient ethical cognition and the need to improve their attention to ethics.

Table 4. Results of students' understanding of ethics (5-point scale)

Research indicators	Understanding score (5-point scale)
Requirements for signing informed consent	2.17
Requirements for patient privacy protection	2.33
Application procedures for ethical review	1.97

Table 5. Survey results on students' attitudes towards ethical review

Research indicators		Number of respondents	Proportion (%)
Completion of ethical review	Ethical approval obtained	8	22.2
	Under application	7	19.4
	Not applied yet, to be supplemented	11	30.6
	Unclear about the need for ethical review	10	27.8
Attitudes towards ethical review	An important line of defense for protecting research subjects, must be abided by	12	33.3
	A formal requirement in the graduation process, just a routine	15	41.7
	An obstacle to delaying research progress	6	16.7
	Never thought about this issue	3	8.3

3.4. Process management

The results in **Table 6** showed that students' daily scientific research time was generally short: 41.7% of students spent less than 1 hour on scientific research every day, and only 5.6% could guarantee more than 4 hours of scientific research time. Clinical rotation had a significant impact on scientific research time: 58.3% of students believed that it seriously squeezed continuous scientific research time, and only 8.3% could balance clinical work and scientific research well.

In terms of project progress, only 19.4% of students' projects progressed as planned, 44.4% had slow project progress, and 27.8% had basically stagnant projects, reflecting that the conflict between clinical tasks and scientific research time was the core factor restricting project progress.

Table 6. Survey results on students' research process management

Research indicators		Number of respondents	Proportion (%)
Daily scientific research time	Less than 1 hour	15	41.7
	1–2 hours	13	36.1
	2–4 hours	6	16.7
	More than 4 hours	2	5.6
Influence of clinical rotation on scientific research time	Severely affected, almost no continuous time	21	58.3
	Certain influence, only able to use fragmented time	11	30.6
	Slightly affected, able to balance well	3	8.3
	Clinical rotation is helpful for scientific research	1	2.8

Project progress status	Progressing as planned, smooth communication with supervisors	7	19.4
	Intermittent progress, slow development	16	44.4
	Basically stagnant, to be handled intensively after rotation	10	27.8
	Not started yet	3	8.3

3.5. Open-ended questions

The survey of open-ended questions showed that the core difficulties of students in clinical research projects were in the following order (**Table 7**): no time or heavy clinical work (mentioned 15 times); unable to do statistics or difficult methodology (mentioned 13 times); insufficient supervisor guidance (mentioned 9 times). In addition, difficult data collection and confusion about topic selection were also prominent problems.

In terms of suggestions for improving the support system, students' demands focused on: increasing methodology training or practical courses (mentioned 12 times); guaranteeing scientific research time or reducing clinical burden (mentioned 10 times); strengthening supervisor guidance (mentioned 8 times). At the same time, the demands for statistical consultation, data analysis support, and simplification of ethical procedures were also clear.

Table 7. Survey results on students' open-ended questions

Questions	Key words	Frequency
What are the biggest difficulties you encounter in clinical research projects?	No time/heavy clinical work	15
	Unable to do statistics/difficult methodology	13
	Supervisors have no time/ lack of guidance	9
	Difficult data collection	7
	Confused about topic selection	6
What suggestions do you have for the school to improve the support system for clinical research projects?	Increase methodology training/practical courses	12
	Guarantee scientific research time/reduce clinical burden	10
	Strengthen supervisor guidance	8
	Provide statistical consultation/data analysis support	6
	Simplify ethical procedures/provide guidance	3

4. Discussion

4.1. Current situation and problems of clinical research projects for MCM professional degree

In terms of topic selection, there was a tendency towards "basic research-oriented" and "de-clinical-oriented." Driven by the pressure to publish SCI papers, a large number of professional degree postgraduates flocked to the field of basic medicine such as molecular biology, alienating the projects that should be based on clinical practice into "mechanism verification of a certain signaling pathway in animal models" or "animal experiment research of a certain intervention measure." This approach not only occupied the limited energy

for clinical rotation training, but also fundamentally deviated from the training orientation of a professional degree that focuses on solving practical clinical problems.

In terms of research methods, there was insufficient application of Evidence-Based Medicine (EBM) and a weak scientific research design. The weak literacy in research methodology restricted the standardization of clinical research. The specific manifestations were as follows: the poor mastery of the core principles of clinical epidemiology and medical statistics led to inherent defects in the research design stage, such as the lack of rigorous randomization grouping in case-control studies and the failure to set up reasonable control groups in prospective observations; in addition, the lack of standardized operating procedures in the data collection process, unclear traceability and incomplete records, ultimately resulted in the uneven quality of original data, which seriously weakened the reliability of research conclusions and their clinical guiding value.

In terms of ethical awareness, MCM students generally had weak ethical awareness in clinical research, which was specifically manifested in the lack of due reverence for scientific research norms. Many students simply regarded ethical review as a "formality" or administrative burden that had to be completed in the graduation process, rather than a core bottom line for protecting research subjects and ensuring the quality of scientific research. They often failed to take ethical approval into consideration in the project design stage, and even had irregular operations such as conducting research first and supplementing ethical materials later. At the same time, students knew little about the basic ethical principles that should be followed in clinical research involving human subjects, and lacked sensitivity to key links such as how to sign informed consent, how to protect patient privacy, and how to desensitize data collection, failing to establish the academic consciousness of "ethical review first for all research." This cognitive deviation and behavioral anomie exposed the lack of their basic professional ethical literacy as clinical researchers.

In terms of process management, there was a structural imbalance in the allocation of time resources. The rigid requirement of 33 months of clinical rotation as part of professional degree training has objectively formed a "crowding-out effect" on scientific research time. Under the pressure of heavy medical documentation work and three-shift rotation, students found it difficult to obtain continuous time for in-depth thinking, leading to the forced fragmentation of scientific research work. This time allocation mechanism of "emphasizing clinical output and neglecting scientific research input" is the institutional root cause of the common dilemma of "no time for work and rushing to write papers for graduation" [6].

4.2. Analysis of the causes of the problems

The formation of problems in topic selection is the result of the interweaving of multiple factors. The root cause lies in the alienation of the evaluation system, which over-relies on quantitative indicators such as SCI papers. Basic research papers have more advantages in publication cycle and difficulty, forcing students to utilitarianly abandon clinical research with a long cycle and high publication difficulty. Against this background, the drift of training objectives has further aggravated the dilemma: some training institutions confuse the boundaries between professional and academic degree postgraduates, and incorporate MCM students into basic research projects, leading to an "academic-oriented" deviation in training orientation. In addition, students themselves have shortcomings in clinical transformation ability, lacking the ability to refine vivid clinical phenomena into scientific

problems, thus being more inclined to choose the "stereotyped" basic research paradigm.

The deep-seated root cause of problems in research methods is the serious disconnection between curriculum setting and clinical practice. The teaching of clinical epidemiology and medical statistics focuses on the derivation of theoretical formulas, lacking combination with the real clinical scenarios of Chinese medicine, resulting in students still being unable to apply what they have learned in practice. More importantly, methodology training is missing the complete chain of "theory + case + actual combat." Students' understanding of core elements such as randomization and control only stays at the conceptual level, and it is difficult to transform it into the ability to independently design research. At the same time, affected by the inertia of traditional Chinese medicine thinking, students lack the awareness of data retention in clinical rotation, and fail to record diagnosis and treatment information in a structured manner in accordance with scientific research norms. When data is needed, they often fall into a dilemma of unclear traceability and incomplete records.

The formation of ethical awareness problems is the result of the superposition of multiple factors. First of all, the marginalization of ethical education leads to cognitive deficiencies of students at the source: ethical courses are mostly interspersed in the form of lectures and not included in the core curriculum system, resulting in students' lack of systematic cognition of basic principles such as informed consent and research subject protection. Against this background, the "desensitization effect" of the standardized training environment has further aggravated the severity of the problem: 33 months of high-intensity clinical work have gradually blunted students' perception of the boundary of patients' rights and interests, and it is difficult to arouse the due ethical consciousness when switching roles from "doctor" to "researcher." Secondly, the low cost of irregularities has formed a negative incentive: due to the lax implementation of the system, irregular behaviors such as conducting research first and supplementing ethics later are rarely investigated. This loose environment of "no one is punished for a common violation" has encouraged students' fluke psychology and collective indifference, and ultimately made ethical norms generally marginalized in scientific research practice.

The root cause of process management problems lies in the rigid conflict of system design [7]: it is difficult to reconcile the rigid requirement of 33 months of clinical standardized training with the continuity required for scientific research. The two systems operate independently, lacking a coordination mechanism for time allocation. Against this institutional background, the crowding-out effect of clinical work on scientific research has become increasingly prominent: standardized training bases position students as "labor force" rather than "postgraduates," and this environment of "emphasizing use and neglecting training" constantly occupies the already limited energy for scientific research. In addition, students themselves face the dilemma of time management, lacking methodological guidance on effectively integrating fragmented time for scientific research, resulting in the inability to produce substantial progress in daily work, and ultimately having to make up for it by rushing before graduation, forming a vicious circle of "no time for work and rushing to write papers for graduation."

4.3. Countermeasures and suggestions for improving the quality of clinical research for MCM professional degree

4.3.1. Topic selection

For topic selection, it is recommended to establish a "clinical value-oriented" topic selection guidance mechanism. All affiliated hospitals and training bases should systematically sort out the difficulties, doubts

and academic gaps in the diagnosis and treatment process of advantageous diseases, form an annual "list of clinical problems" and release it to students, guide students to carry out topic selection based on real clinical scenarios around the excavation of experience of renowned senior Chinese medicine physicians, optimization of diagnosis and treatment plans for advantageous diseases, and exploration of integration points of integrated traditional Chinese and Western medicine, so as to ensure the clinical attribute of topic selection sources. On this basis, add a "professional degree adaptability review" in the thesis proposal link, and the teaching steering committee shall check whether the topic selection belongs to the category of clinical research, and return the basic research topics that deviate from the clinical orientation and require revision, thus eliminating the "academic-oriented" deviation of professional degree projects from the source.

In addition, colleges and universities at the institutional and departmental levels should set up a "Special Fund for Characteristic Clinical Research of Chinese Medicine," encourage students to carry out research around cutting-edge directions reflecting Chinese medicine thinking such as the law of syndrome differentiation and treatment, the mechanism of formula-syndrome correspondence, and the objectification of Chinese medicine syndromes, and guide students to return to the clinical standard of Chinese medicine and deepen the exploration of characteristic scientific research of Chinese medicine through funding inclination and achievement recognition inclination.

4.3.2. Research methods

For research methods, it is recommended to construct a "hierarchical and progressive" methodology training system. In terms of curriculum system construction, implement "basic + advanced" modular teaching. Split the courses of clinical epidemiology and medical statistics into basic modules and advanced modules, in which the basic modules cover the core concepts of scientific research design and require all students to master them; the advanced modules are for students with in-depth research needs, offering cutting-edge courses such as Real-World Research (RWR), mixed methods research, and complex intervention evaluation, so as to achieve the goal of teaching students in accordance with their aptitude and hierarchical training.

In terms of teaching mode, promote immersive teaching of "case workshop + actual combat drill." Change the simple theoretical indoctrination mode, introduce typical clinical research cases for disassembly teaching, organize students to complete the whole process drill from research design, sample size estimation to case report form development in groups, and invite methodology experts to comment on the spot. At the same time, it is recommended that colleges and universities regularly hold a "Clinical Scientific Research Scheme Design Competition," set competition questions around real clinical problems of Chinese medicine, and require students to complete the whole process from research topic selection, scheme design to case report form development in teams within a specified time.

In addition, provide continuous scientific research support for students by building a "Clinical Scientific Research Methodology Consultation Platform" and improving the competition incentive mechanism. The consultation platform consists of an expert database composed of statistics, epidemiology experts, and senior supervisors, who regularly provide free methodological guidance for students on duty. The school includes the consultation workload into the supervisor's performance appraisal and gives corresponding labor remuneration, forming a two-way mechanism of "experts are motivated and students get guidance." The clinical scientific research scheme design competition sets up preliminary, semi-final and final links, inviting clinical experts and methodology experts to serve as judges together, conducting on-site comments and defense inquiries on the innovation, scientificity, and feasibility of the schemes; awarding university-level honorary certificates, scientific

research start-up bonuses, and recognized credits included in the postgraduate training system to the winning teams, and recommending excellent schemes to apply for departmental or university-level projects, thus effectively stimulating students' enthusiasm for scientific research and innovative practical ability.

4.3.3. Ethical awareness

For ethical awareness, it is recommended to strengthen the "whole-process" ethical education and supervision. In terms of the construction of scientific research ethics education system, scientific research ethics and research subject protection should be included as an independent module in the core curriculum of postgraduates, systematically teaching the Declaration of Helsinki, informed consent norms, and privacy protection principles, and ensuring that students establish a complete ethical cognitive framework through ethical case analysis and assessment [8]. At the same time, set a mandatory node for ethical review in the project application system, clarify the principle of "no project approval without ethical review," and require students to upload ethical approval materials or acceptance certificates simultaneously when submitting project applications, thus eliminating irregular operations such as conducting research first and supplementing ethical materials later from the source of the process.

In addition, in the clinical standardized training stage, conduct on-site ethical guidance combined with specific cases, such as demonstrating how to explain informed consent to patients and how to handle research involving vulnerable groups, helping students internalize ethical norms in real scenarios. In response to students' important demands for the simplification of ethical procedures and statistical consultation, it is recommended to optimize the ethical review process and set up a special statistical consultation channel to realize the coordinated support of ethical norms and research design.

4.3.4. Process management

For process management, it is recommended to establish a "flexible and collaborative" time guarantee mechanism. In terms of time system guarantee, establish a "sabbatical month for scientific research" system, allowing students to apply for 1–2 months of sabbatical time for scientific research according to project progress during the 33 months of clinical rotation, focusing on scientific research links that require continuous time such as data analysis and paper writing, and suspending clinical scheduling during the sabbatical period to ensure the purity of scientific research time. At the same time, a phased assessment system shall be implemented to break down the research project into distinct stages, including proposal defense, mid-term review, data collection, and thesis writing. Clear timelines and deliverables shall be defined for each stage, enabling students to flexibly arrange research tasks according to the workload fluctuations of their rotating departments, thereby effectively integrating fragmented time.

In terms of platform and collaborative mechanism construction, build an integrated information system for clinical and scientific research, connect the electronic medical record system with the scientific research data collection system, realize the automatic capture and structured storage of clinical data, enable students to complete the accumulation of scientific research data synchronously in daily clinical work, and greatly reduce the time cost of manual entry. In addition, establish a collaborative management mechanism between standardized training bases and colleges, set up a "MCM Training Coordination Group" jointly composed of the teaching management department of standardized training bases and the postgraduate management department of colleges, hold regular meetings to discuss and solve students' time conflict problems, and

clarify the responsibilities of clinical tutors in protecting students' scientific research time.

4.3.5. Systematic guarantee

For systematic guarantee, it is recommended to construct a trinity training ecology of "clinical practice–scientific research–teaching." In terms of training guarantee mechanism, through strengthening the top-level design at the university level, include the quality of clinical research projects in the annual assessment indicators of each training unit and affiliated hospital, and set up a "Special Fund for the Improvement of Clinical Research Quality" to support teaching reform, platform construction and teacher training, promoting the formation of a consensus on attaching importance to the scientific research training of MCM students at all levels. At the same time, establish an inter-departmental collaborative mechanism involving the Graduate School, Clinical Medical College, and standardized training base, set up a "Joint Committee for MCM Training" to comprehensively solve systematic problems such as the connection of training programs, time allocation conflicts, and resource allocation. On this basis, actively create a scientific research culture of "clinical problem-oriented," publicize and commend excellent research results based on clinical practice by holding clinical research forums, excellent project case displays and teacher-student experience exchange meetings, guide students to establish the values that "solving clinical problems is the fundamental principle," and gradually reverse the utilitarian tendency of "paper-only." Finally, promote the reform of the evaluation system, explore the establishment of a diversified achievement recognition standard, include high-quality case analysis reports, evidence-based case reports, interpretation of clinical practice guidelines, and effective experience summaries in the scope of graduation achievements, fundamentally reduce the excessive dependence on SCI papers, and effectively release students' enthusiasm for carrying out clinical research.

5. Conclusion

To sum up, the improvement of the quality of clinical scientific research for MCM professional degree is by no means a patch for a single link, but a systematic project involving training philosophy, system design, resource allocation, and cultural reshaping. By strengthening clinical-oriented topic selection, constructing a hierarchical and progressive methodology training system, building a solid defense line of ethical awareness, and optimizing the flexible mechanism of rotation and scientific research, we can break the dilemma of "emphasizing clinical practice and neglecting scientific research," realize the coordinated development of clinical ability and scientific research literacy, and ultimately cultivate high-level applied talents who are truly "able to treat diseases, good at treating diseases and knowledgeable in scientific research" for the cause of traditional Chinese medicine.

Disclosure statement

The authors declare no conflict of interest.

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