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# Competence of clinical teachers: A survey on perception of masters of nursing specialist postgraduates, their clinical teachers, and head nurses

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## ABSTRACT

**Objectives:** To explore the current admittance situation of clinical teachers for masters of nursing specialist (MNS) postgraduates and to test the competence of clinical teachers in self-evaluation and other evaluations.

**Methods:** In this cross-sectional study, using a random number table, we chose 80 MNS postgraduates under clinical practice, their clinical teachers, and head nurses each from six hospitals in Hunan and Guangdong. The participants were tested on the basis of the *Clinical Teachers' Competence Inventory of MNS Postgraduates*. The competences of clinical teachers were evaluated by the three groups of participants.

**Results:** The aggregated scores of teacher competence as evaluated by the MNS postgraduates ( $181.33 \pm 24.95$ ) were lower than those assigned by both clinical teachers ( $190.75 \pm 24.30$ ) and their head nurses ( $198.53 \pm 18.90$ ), with significant differences in all dimensions except for clinical managing ability. The five highest rated items from all participants focused on the teachers' clinical nursing ability, and the five lowest rated items were mainly about their clinical research ability.

**Conclusion:** The evaluation from MNS postgraduates is obviously lower than the self-evaluation of clinical teachers, and all participants are aware of the deficiency in research ability of the teachers. Thus, the admittance and examination of clinical teachers should be controlled strictly. Training should be carried out immediately to strengthen their comprehensive abilities, especially their research ability.

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## 1. Introduction

Nursing postgraduate education has changed greatly in recent years, and relevant curricula have increased in flexibility and dynamics [1]. In general, the changes exactly cater to the social needs for advanced clinical nurses. Considering the healthcare developments that have raised the requirements for nursing, many countries are actively developing nursing postgraduate curricula and cultivating advanced nursing practices that are directly engaged in clinical work [2]. However, the strategies in China

remain unchanged. Increasing students have become masters of nursing specialist (MNS) candidates when it was offered in China in 2010 [3]. Meanwhile, more clinical nurses have been chosen to be clinical teachers of MNS postgraduates.

Clinical teaching as a bridge between theory and practice is the most important part of MNS postgraduate cultivation. Clinical teachers are vital in this process [4] because their comprehensive abilities decide the quality of clinical practice of MNS postgraduates [5]. The United States of America has established a strict and relatively perfect admission and evaluation system for clinical teachers of nursing postgraduates. The system states that clinical teachers should be at least masters or doctors from their own professional fields and should perform as clinical practice nurse practitioners or specialists with rich clinical experience and strong educational guidance [2]. The abilities of clinical teachers are evaluated from several aspects by using many mature scales, such as Clinical

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Teacher Competence Inventory (CTCI) [6], Nursing Clinical Teacher Effectiveness Inventory (NCTEI) [7], and NCTEI-based Ideal Teacher Competence Inventory [8].

China starts MNS late and it is still in the exploratory stage [9] because the tutors of MNS postgraduates are nursing professors or senior clinical nursing managers who are too busy to practice postgraduate guidelines. In addition, clinical teachers are only sourced from clinical nurses [10]. However, the abilities of clinical teachers differ largely because of nonexistent mature teacher admissions and examination criteria; moreover, those with insufficient experience do not know how to instruct MNS postgraduates, thereby preventing MNS postgraduates from achieving their learning goals [11,12]. In the past few months, our research group has built a qualification and examination system for clinical teachers of MNS postgraduates, followed by a competence evaluation inventory, by using Delphi's method [13]. The purposes of this study are to explore the current situation of clinical teacher qualification and to analyze the clinical teacher competences, as evaluated by teachers, MNS postgraduates, and head nurses. This way, we can understand the current situation, teaching abilities, and disadvantages of clinical teachers. Therefore, we could provide a gist for choosing, training, and testing clinical teachers of MNS postgraduates in the future.

## 2. Methods

### 2.1. Participants

This is a pilot survey involving 170 clinical teachers of MNS postgraduate as a general sample. They work in six hospitals affiliated with three colleges in Hunan and Guangdong. We obtained the sample using a random number table. The total number of MNS postgraduate clinical teachers is limited; therefore, we set the extraction ratio to 50%, considering the difficulty of full extraction. The specific steps are as follows:

First, we acquired the names of all teachers from the hospital nursing department and numbered the names, arranged in alphabetical order, from 01 to 170. Second, a random number table that was automatically generated by a computer was used to read. We followed a reading rule: start from the third row in the fourth column, from left to right and from top to bottom. Every number we read was recorded, except for those repeated or not in the specified range. We obtained 85 numbers. To compare the self-evaluation and other evaluations of clinical teachers, we required that the data of MNS postgraduates, their clinical teachers, and teachers' head nurses were in a one-to-one correspondence. Therefore, the sample of head nurses was directly chosen from the list of definite teachers without repeated sampling. A total of 190 MNS postgraduates experienced or are currently experiencing guidance from those 170 teachers. Following the one-to-one correspondence principle, the list of MNS postgraduates was directly chosen according to the teachers' list. If a teacher guides more than one MNS

postgraduate, we would select one of them through the random number table method. Questionnaires were distributed to 85 sets of clinical teacher, MNS postgraduate and the teacher's head nurse, and 80 sets of questionnaires were returned.

The teachers, MNS postgraduates, and head nurses were all volunteers. The teachers had been teaching MNS postgraduates for more than 6 months, and 79 (98.75%) were females aged 28–47 years. The MNS postgraduates, aged 22–32 years, had at least 6 months of clinical practice. The head nurses, aged 29–48 years, were all females with 1–23 years of management experience. Among the head nurses, 56 (70.00%) were supervisor nurses, and 33 (41.25%) were chief superintendent nurses.

### 2.2. Instruments and measurements

- 1) Demographics of these three groups included age and gender. On the basis of the admission criteria for clinical teachers of MNS postgraduates (Table 1) [14], the teachers were asked to answer a questionnaire about their admission situations, including clinical working experience, clinical teaching experience, clinical research competence, computer technology, and English level.
- 2) The *Clinical Teachers' Competence Inventory of MNS Postgraduates* (CTCIMNSG) [14] was developed based on the training objectives of MNS postgraduates and the core competence of nurse specialists [3,15]. The inventory (Appendix file) consists of 51 items from five categories: clinical nursing ability, clinical teaching ability, clinical managing ability, clinical research ability, and interpersonal skills. Moreover, a satisfaction survey was added. We used a five-point Likert scale (each item with a score ranging from 1 to 5). A high score indicates a strong ability of the clinical teacher. The Cronbach's  $\alpha$  of CTCIMNSG was 0.96, with each domain ranging from 0.89 to 0.92. The content validity index was 0.93 across the full scale and ranged from 0.86 to 1.00 in each subscale and from 0.72 to 1.00 in each item. The factor analysis identified five common factors, each explaining more than 50% of total variance.

### 2.3. Procedures

Data were collected from six hospitals in Hunan and Guangdong. The hospitals were mainly affiliated with universities, including the University of South China, Central South University, and Southern Medical University. The CTCIMNSG checklists, demographic forms, and informed consent forms were sent to MNS postgraduates, their clinical teachers, and head nurses separately. The participants were asked to evaluate the clinical teachers' abilities by using scores from 1 to 5. Two investigators were responsible for distributing the questionnaires on the spot, and the electronic version was used in some places. The questionnaires were numbered after completion, and any questionnaire with less than

**Table 1**

Admission criteria for clinical teachers of MNS postgraduates.

Admission Criteria
1. Registered nurse
2. Bachelor's degree, senior vice title or higher. Graduate's degree, intermediate title or higher
3. Clinical working experience (Bachelor's degree > 10 years, graduate's degree > 5 years)
4. Clinical teaching experience (Bachelor's degree > 5 years, graduate's degree > 3 years)
5. Grade A at the National Professional and Technical Foreign Language Test
6. Adept at using basic computer programs (e.g. word, office, PPT) and network resource
7. Having hosted or taken part in at least 1 scientific project of province or department level or above in recent 5 years
8. Having published at least 2 first-author papers on province-level core journals or above in recent 3 years
9. Specialist Nurse Qualification Certificate

**Table 2**  
Present admission situation of clinical teachers of MNS postgraduates.

Variable	Statistics (n = 80)
Highest level of education completed (%)	
Junior college	9 (11.3)
Undergraduate	65 (81.3)
Master's degree or above	6 (7.5)
Professional title (%)	
Primary nurse	30 (37.5)
Supervisor nurse	38 (47.5)
Co-chief superintendent nurse or above	12 (15.0)
Clinical working experience (%)	
≤5 years	8 (10.0)
5-10 years	25 (31.3)
≥10 years	47 (58.8)
Clinical teaching experiences (%)	
≤5 years	16 (20.0)
5-10 years	34 (42.5)
≥10 years	30 (37.5)
English level (Multiselect) (%)	
Title English grade A	45 (56.3)
CET4	19 (23.8)
CET6	9 (11.3)
Computer level (Multiselect) (%)	
Skilled of making PPT and using internet resources	77 (96.3)
At least 3 professional computer module tests	43 (53.8)
Provincial and national computer test grade 2	21 (26.3)
Research project in recent 5years (Multiselect) (%)	
No project	39 (48.8)
Having hosted or taken part in municipal project	34 (42.5)
Having hosted or taken part in provincial project or above	22 (27.5)
Publish papers as first author in recent 3 years (Multiselect) (%)	
No	36 (45.0)
Having published papers in provincial core journal	38 (47.5)
Having published papers in national core journal or above	25 (31.2)
Have a specialist nurse qualification certificate (%)	
Yes	43 (53.8)
No	37 (46.3)
Approach to be clinical teacher of MNS postgraduates (%)	
Self-recommendation	3 (3.8)
Peer recommendation	6 (7.5)
Passing tests	0
Manager appointment	71 (88.8)

95% completion was excluded. For each group, 85 questionnaires were sent out and 80 valid questionnaires were taken back.

#### 2.4. Ethical considerations

The study was approved by the Ethics Committees of all six hospitals. Informed consent was obtained from all participants, and data from each participant were anonymous.

#### 2.5. Data analysis

The scores of items in each category were summed as the score of the category, such as clinical nursing ability, clinical teaching ability, clinical managing ability, clinical research ability, and interpersonal skills. The total score of a teacher was summed from

the scores of all five categories. The data were analyzed using SPSS 18.0. Demographic data were analyzed using descriptive statistics, whereas ANOVA was used on the five scales and satisfaction to test the differences among the three groups.  $P < 0.05$  was considered to indicate statistical significance.

### 3. Results

3.1 The current admission situations of clinical teachers of MNS postgraduates are shown in [Table 2](#)

3.2 The evaluation differences between teachers and others are shown in [Table 3](#)

The score of scales (including total scale and five subscales) and satisfaction assigned by MNS postgraduates were all lower than

**Table 3**  
Evaluation differences of clinical teachers' abilities from three groups.

Subscale	MNS postgraduates (n = 80)	Clinical teachers (n = 80)	Head nurses (n = 80)	F	P
Clinical nursing ability	39.38 ± 5.01	41.04 ± 4.23	43.13 ± 3.11	16.083	< 0.01
Clinical teaching ability	37.49 ± 6.53	40.04 ± 5.86	42.11 ± 5.89	11.532	< 0.01
Clinical managing ability	30.48 ± 4.30	31.35 ± 5.13	32.08 ± 4.26	2.447	> 0.05
Clinical research ability	28.09 ± 6.62	30.23 ± 6.61	30.78 ± 6.09	3.885	< 0.05
Interpersonal ability	45.90 ± 7.10	48.10 ± 7.55	50.44 ± 5.35	9.078	< 0.01
Total scores	181.33 ± 24.95	190.75 ± 24.30	198.53 ± 18.90	11.294	< 0.01
Satisfaction for clinical teachers	3.09 ± 0.86	3.46 ± 0.62	3.75 ± 0.74	15.940	< 0.01

Values are expressed as means of three replicates with standard deviations (Mean ± SD).

**Table 4**  
Five highest-rated items of clinical teachers' abilities from three groups.

Rank	Items	Affiliated subscale	Score
<i>MNS postgraduates</i>			
	Mastering nursing operation in the specialist field and the critically ill patients rescue techniques	Clinical nursing ability	4.39 ± 0.65
	Mastering the theoretical knowledge of the specialist field	Clinical nursing ability	4.35 ± 0.66
	High sense of responsibility, self-discipline	Clinical nursing ability	4.21 ± 0.69
	Being willing to help managers develop their own regular teaching and nursing work plan	Clinical managing ability	4.13 ± 0.79
	Being able to organize nursing rounds independently	Clinical teaching ability	4.06 ± 0.75
<i>Clinical teachers</i>			
	Mastering the theoretical knowledge of the specialist field	Clinical nursing ability	4.41 ± 0.63
	High sense of responsibility, self-discipline	Clinical nursing ability	4.39 ± 0.67
	Mastering nursing operation in the specialist field and the critically ill patients rescue techniques	Clinical nursing ability	4.34 ± 0.67
	Enjoying nursing, and full of enthusiasm for nursing work	Clinical nursing ability	4.27 ± 0.68
	Having a strong sense of teamwork and ability	Interpersonal ability	4.25 ± 0.68
<i>Head nurses</i>			
	Mastering the theoretical knowledge of the specialist field	Clinical nursing ability	4.59 ± 0.50
	High sense of responsibility, self-discipline	Clinical nursing ability	4.59 ± 0.52
	Mastering nursing operation in the specialist field and the critically ill patients rescue techniques	Clinical nursing ability	4.55 ± 0.55
	Having a strong sense of teamwork and ability	Interpersonal ability	4.46 ± 0.64
	Enjoying nursing teaching work	Clinical teaching ability	4.45 ± 0.57

Values are expressed as means of three replicates with standard deviations (Mean ± SD).

those evaluated by teachers or head nurses. All dimensions, except clinical managing ability, were significantly different among the three groups ( $P < 0.05$ ).

3.3 The five highest- and five lowest-rated items from three groups are shown in Tables 4 and 5, respectively

## 4. Discussion

### 4.1. Present admission situation of clinical teachers of MNS postgraduates

Many present clinical teachers of MNS postgraduates did not meet the general admission criteria (Tables 1 and 2). In the educational background, for example, only 6 (7.5%) teachers have master's degrees. As for professional titles, 30 (37.5%) teachers have primary titles, and only 12 (15.0%) teachers have the vice-senior titles or above. As for scientific research, 39 (48.8%) teachers have never partaken in any project, and 36 (45.0%) teachers have never published papers. These results indicate that, currently, clinical teachers are largely unqualified in many aspects, such as educational background, teaching experience toward postgraduates, and research ability. Moreover, most clinical teachers are computer and

English literate, and 43 (53.8%) have a specialist nurse certificate. However, we should not ignore the subjective randomness of managers because 71 (88.7%) teachers were nominated directly by their head nurses without tests. As direct instructors of MNS postgraduates, clinical teachers must have rich experience in clinical nursing, education, management, and research, and should at least have bachelor's degrees and co-chief superintendent nurse titles [16,17]. Therefore, clinical managers should raise the clinical teacher admission standards and strictly enforce them as pre-conditions to ensure the quality of clinical practice for MNS postgraduates.

### 4.2. Differences among the three groups in evaluation of clinical teacher abilities

The scores of all items evaluated by MNS postgraduates were lower than those assessed by either clinical teachers or their head nurses (Table 3). These findings are similar to our earlier study [18]. The first reason might be the lack of experience of clinical teachers in teaching MNS postgraduates, as well as the lack of regular training, because they had no intensive understanding of the training objectives and cultivation patterns of MNS postgraduates [19]. Second, the teaching methods were so timeworn and simple that the teachers instructed MNS postgraduates as if they were

**Table 5**  
Five lowest-rated items of clinical teachers' abilities from three groups.

Rank	Items	Affiliated subscale	Score
<i>MNS postgraduates</i>			
	Being able to use basic statistical software such as SPSS statistical software	Clinical research ability	4.39 ± 0.65
	Being able to apply scientific research into clinical practice and promoting the improvement of care service quality	Clinical research ability	4.35 ± 0.66
	Generally understanding English literatures and proficiency in writing English abstracts of research papers	Clinical research ability	4.21 ± 0.69
	Being able to carry out project declaration and research independently	Clinical research ability	4.13 ± 0.79
	Being able to guide MNS postgraduates in clinical research	Clinical research ability	4.06 ± 0.75
<i>Clinical teachers</i>			
	Being able to analyze and judge the data based on the statistical results	Clinical research ability	4.41 ± 0.63
	Being able to use basic statistical software such as SPSS	Clinical research ability	4.39 ± 0.67
	Being able to guide MNS postgraduates in clinical research	Clinical research ability	4.34 ± 0.67
	Generally understanding English literatures and proficiency in writing English abstracts of research papers	Clinical research ability	4.27 ± 0.68
	Being able to carry out project declaration and research independently	Clinical research ability	4.25 ± 0.68
<i>Head nurses</i>			
	Being able to analyze and judge the data based on the statistical results	Clinical research ability	4.59 ± 0.50
	Being able to guide MNS postgraduates in clinical research	Clinical research ability	4.59 ± 0.52
	Being able to use basic statistical software such as SPSS	Clinical research ability	4.55 ± 0.55
	Being able to carry out project declaration and research independently	Clinical research ability	4.46 ± 0.64
	Generally understanding English literatures and proficiency in writing English abstracts of research papers	Clinical research ability	4.45 ± 0.57

Values are expressed as means of three replicates with standard deviations (Mean ± SD).

**Table 6**  
Items of the clinical teachers' competence inventory of MNS postgraduates.

Factors	Items
Clinical nursing ability	Enjoying nursing, and full of enthusiasm for nursing work
	High sense of responsibility, self-discipline
	Mastering the theoretical knowledge of the specialist field
	Mastering the new expertise and cutting-edge technology of the specialist field
	Mastering nursing operation in the specialist field and the critically ill patients rescue techniques
	Being able to use nursing procedures to take holistic care of patients
	Being able to targeted provide patients with comprehensive health education
	Being able to actively participate in professional academic activities
	Being able to concentrate on subject construction and professional development and put forward reasonable proposals
	Being able to clear their career positioning and develop specific career planning
Clinical teaching ability	Enjoying nursing teaching work
	Having good language skills
	Being able to clarify the training objectives of MNS postgraduates and the specific responsibilities of teachers
	Being able to develop the corresponding teaching plan of the department by combining with the MNS graduate clinical practice program
	Being able to teach postgraduates in accordance with their aptitude, and use various teaching methods flexibly
	Being able to organize nursing rounds independently
	Being able to organize specialized skills training independently
	Being able to guide MNS postgraduates in evidence-based nursing practice
	Being able to train MNS postgraduates in ponder over practical ability and critical thinking
	Being able to objectively and timely evaluate MNS postgraduates clinical practice and give rationalization recommendations
Clinical managing ability	Being willing to actively follow the teaching feedback from MNS postgraduates and adjust teaching strategies accordingly
	Being willing to help managers develop their own regular teaching and nursing work plan
	Being able to work out teaching and work objectives at all stages of development according to the actual situation
	Being proficient and effective at organization of clinical teaching activities
	Being able to reasonably allocate human and material resources required
	Being able to motivate and coordinate the study and work enthusiasm of MNS postgraduates and department staff and helping them achieve teaching and work objectives
	Being able to give advices for existing teaching and work plans and analyze their cons and pros comprehensively and select the best advice
	Being able to properly handle emergencies in teaching and nursing work
	Being able to deal with problems in teaching and nursing work and to assist decision-making by appropriately and effectively using management tools.
	Being good at discovering problems in nursing practice and taking measures to find evidence
Clinical research ability	Being able to summarize the values of scientific research in the process of nursing and teaching
	Mastering the basic Chinese and English document retrieval methods
	Generally understanding English literatures and proficiency in writing English abstracts of research papers
	Being able to use basic statistical software such as SPSS
	Being able to analyze and judge the data based on the statistical results
	Being able to carry out project declaration and research independently
	Being able to publish a research paper as the first author at provincial core journal or above
	Being able to apply scientific research into clinical practice and promoting the improvement of care service quality
	Being able to guide MNS postgraduates in clinical research
	Being positive and optimistic
Interpersonal ability	Being able at controlling emotions and relieving pressure
	Being willing to help MNS postgraduates in controlling their emotions and guide them correct their self-positioning
	Respecting and trusting MNS postgraduates
	Paying attention to the learning and psychological needs of MNS postgraduates and providing necessary help
	Being willing to treat MNS postgraduates equally without prejudice or merit ranking
	Having strong empathy, being able to initiatively care about the pains of medical services
	Being able to skillfully use communication tools and skills
	Being able to communicate effectively with MNS postgraduates, patients and colleagues and maintain harmonious relations
	Being able to effectively handle contradictions between doctors and patients, and reduce disputes and conflicts
	Being willing to respect the views and opinions of others
Having a strong sense of teamwork and ability	

undergraduates or even junior college students. Thus, the needs of MNS postgraduates could not be met adequately [20]. Third, the MNS postgraduates could not have a proper self-position because they expected too much from their clinical teachers. Instead of getting diverse trivial matters from their teachers' instruction, the MNS postgraduates wanted to directly engage in clinical management or advanced nursing work, which made them discontent.

Moreover, the scores assigned by the head nurses were the highest among the three groups probably because most clinical teachers were directly nominated by their head nurses, who were deemed to possess the highest degrees or richest experiences in their departments. Therefore, the head nurses were fully confident in their choices and gave the highest scores. However, their subjective assumptions without objective bases usually lead to ignorance of teachers' comprehensive abilities, which were unfavorable for the competition and improvement of other clinical teachers.

Thus, the head nurses need to perform a comprehensive clinical ability test or a competition system for clinical teachers. Moreover, both administrators and clinical teachers should provide MNS postgraduates with psychological guidance so they can enjoy clinical practice and improve their learning performances with the right frame of mind.

#### 4.3. Cons and pros of clinical teachers of MNS postgraduates

The five highest-rated items from all participants are related to the clinical nursing abilities of teachers (Table 4). In general, present clinical teachers have theoretical bases, strong specialist abilities, and high professional ethics that help MNS postgraduates realize their learning goals [18]. However, the five lowest-rated items were mainly associated with the clinical research ability of teachers (Table 5). Clearly, the greatest weakness of clinical

teachers is their lack of research experience. We previously found that most experts think one of the most important traits of clinical teachers is their research ability [14], which is a prerequisite for clinical teachers to improve themselves and stimulate nursing research development. Moreover, the two lowest-rated items in the clinical teaching ability subscale were “Being able to clarify the training objectives of MNS postgraduates and the specific responsibilities of teachers” and “Being able to teach postgraduates in accordance with their aptitude, and use various teaching methods flexibly.” Therefore, to meet the needs of MNS postgraduates, clinical managers need assistance in their training programs to strengthen the teaching and research abilities of teachers (see Table 6).

Moreover, the three groups were not significantly different in evaluating the clinical managing abilities of teachers. This result might be due to the small sample sizes of the three groups. Thus, further research involving an extensive scope and increased sample size is needed. As Onishi [21] reported, MNS postgraduates do not necessarily need high management abilities because of their shortage of working experience; therefore, the appraisal for their clinical teachers should not be too strict.

## 5. Conclusion

The present clinical teacher admissions criteria are insufficient. Clinical teachers have strong professional abilities, but their research ability is weak and does not meet the requirements of MNS postgraduates. Therefore, clinical administrators should improve the admissions criteria and enforce them. Meanwhile, relevant trainings for clinical teachers are needed to enhance their comprehensive abilities, especially research ability. Moreover, clinical teachers should improve their sense of crisis and enhance their strengths to offset their weaknesses. Furthermore, MNS postgraduates ought to correct their own state of mind according to clinical work and seek improvement, instead of constantly complaining about their clinical teachers.

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Xiao-fen Wang conceived the study and designed the research programmed. Li Liao supervised the conduct of the survey and data collection. Gao-wen Ou undertook recruitment of participates and managed the data, including quality control. Hu and Zhao provided statistical advice on study design and analyzed the data; Xiao-fen Wang drafted the manuscript, and all authors contributed substantially to its revision. Li Liao takes responsibility for the paper as a whole.

## Conflicts of interest statement

The authors declare no conflict of interest.

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## Appendix A. Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.ijnss.2017.03.005>.

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