

# Effect of “Four Passes” Training and Assessment of Nurse Specialty Knowledge on the Cultivation of Core Competence of Clinical Nurses

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## Abstract

**Background:** With the development of high quality nursing service, hospitals put forward higher requirements for nurses’ service level. In recent years, the number and quality of specialized nurses remain to be improved despite the remarkable achievements in the construction of specialized nurses. **Objective:** This study intended to explore a standardized training mode for nurses oriented by training and assessment of nursespecialty knowledge and to summarize the practical experience of this mode. **Methods:** The training and assessment program was formulated by starting from the objectives of training clinical front-line nursing staff in our hospital, and the standard training and assessment were carried out from four aspects: the specialized disease knowledge, the condition observation and reporting ability, emergency and severe disease nursing, and perioperative accelerated rehabilitation guidance. These four items are hereinafter referred to as “Four Passes” training and assessment, and it was practiced in the assessment and training of nurses in our hospital from 2020 to 2022. **Results:** A total of 915 front-line caregivers were surveyed in our study, including 772 nurses and 143 doctors. After two years of implementation, the self-evaluation of nurses increased from (2.96 ± 0.79) points to (3.64 ± 0.78) points, and the evaluation score by doctors increased from (3.94 ± 0.74) points to (4.26 ± 0.72) points. The core competence of specialty increased from (69.22 ± 16.53) points to (85.42 ± 14.44) points. The scores of all dimensions after training were higher than those before training, with statistical significances. **Conclusion:** The “Four Passes” training and assessment of nurse specialty knowledge can fully mobilize the enthusiasm of

managers and nurses in all departments, ensure solid specialty knowledge, improve nurses' core competence, improve nursing quality, and create a harmonious relationship between nurses and patients as well as between doctors and patients.

## **Keywords**

Clinical Nurse, Theoretical Knowledge, Skills, Nurses' Core Competence

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## **1. Introduction**

With the development of high-quality nursing service, higher requirements are put forward for nurses' service level in hospitals at all levels. Nursing work in medical institutions directly faces patients, involves medical quality and patient safety, and affects the people's health and subjective experience of medical treatment. The national policy proposes to promote the development of high-quality nursing, continuously improve nursing quality, innovate the nursing service model, strengthen the construction of nursing discipline, take effective measures to formulate targeted training content, improve the ability of nurses to observe, evaluate, rehabilitate and guide patients [1] [2]. The training of specialty knowledge and skills in nurse training in China was mainly conducted by national or provincial specialists. Although remarkable achievements have been made in the construction of the team of specialized nurses since the 11<sup>th</sup> Five-Year Plan, the number, field and service scope of specialized nurses need to be further expanded. The proportion of specialized nurses accounts only for 10%, which cannot meet the urgent needs of clinical nursing work [2]. In terms of the assessment of nurses' specialized knowledge and skills, although many aspects of training fields have been gradually established for nurses' specialized training in China, a system and related standards have not been established, and the training management system needs to be further improved and perfected [3]. Therefore, it is urgent to form a systematic and standardized system to improve nurse training and assessment. The "Four Passes" training and assessment of nurses' specialty knowledge included two aspects: training and assessment, specifically involving the cultivation of four abilities, including specialized disease knowledge, disease observation and reporting, emergency and severe disease nursing, and perioperative accelerated rehabilitation guidance. In this study, "Four Passes" training and assessment of nurse specialty knowledge was applied to the cultivation of clinical nurses' nursing ability, and good results have been achieved. The report is as follows.

## **2. Subjects and Methods**

### **2.1. Subjects**

The training and assessment program was formulated by starting from the ob-

jectives of training clinical front-line nursing staff in our hospital, and the standard training and assessment were carried out from four aspects: the specialized disease knowledge, the condition observation and reporting ability, emergency and severe disease nursing, and perioperative accelerated rehabilitation guidance. These four items are hereinafter referred to as “Four Passes” training and assessment, and it was practiced in the assessment and training of nurses in our hospital from 2020 to 2022.

Inclusion criteria: 1) On-the-job nurses in our hospital; 2) Working life  $\geq 1$  year; 3) Age  $\leq 45$  years old; 4) Informed consent and effective cooperation. Exclusion criteria: 1) Leave time  $\geq 5$  months within a year; 2) Nurses in nursing management positions; 3) Advanced nurses, interns and trainee nurses.

## 2.2. Methods

### 2.2.1. Formulation of the Contents of “Four Passes” Training and Assessment of Nurse Specialty Knowledge

#### 1) Pass of specialty knowledge

Nurses in clinical nursing post and nursing teaching post shall be proficient in all disease-related knowledge of their specialty based on the sixth edition of National Undergraduate Nursing Textbooks for General Higher Education. The nurses on the outpatient medical technology posts were organized by the outpatient medical technical nursing unit. On the basis of soliciting the opinions of the department director, each medical technical department sorted out the basic theoretical knowledge related to at least 10 kinds of diseases or examinations and operations, and submitted it to the outpatient medical technical nursing unit for review and summary, following by forming the “Manual of Specialized Nursing Essential Theoretical Knowledge of Outpatient Medical Technical Posts”. Nurses of all departments shall learn and master the contents.

#### 2) Pass of disease observation and reporting

Nurses shall be skilled in disease assessment, including observation of potential risk, causes and manifestations for disease development and aggravation. They should fully perform the duty of observation and nursing by timely patrol, observation, assessment, recording of the patients' condition, and report the condition according to the “Ten Knowledges for Responsible Nurse”. Reporting frequency: The responsible nurse works closely with the doctor to strictly implement the integration of medical care and patient management. The responsible nurse of each shift is required to report to the doctor at least 4 times a day in the morning, afternoon, middle shift and before leaving work in the morning, and report any changes or abnormalities in the disease condition at any time. Reporting methods: Face to face, phone, text message, WeChat and other forms of reporting can be adopted. Reporting contents: The nurse should focus on reporting the condition of patients with emergency and severe disease, first level nursing, operation, delivery, unstable condition, potential high risk, special treatment or examination, dispute tendency, and so on. Disease management: If the doctor needs to see and deal with the patient on site, the nurse should make an

effective report.

3) Pass of emergency and severe disease nursing

According to the “Quality Evaluation Standards of Nursing Work for Critically Ill Patients”, the assessment was conducted from the aspects of condition observation, basic nursing, diet, lying position, respiratory tract management, piping nursing, risk prevention, nursing measures, early rehabilitation, humanistic nursing, health guidance, nursing records, instrument and equipment use, and observation. “Staffing” (6 points) belongs to the department management factor, and the score is directly obtained in the personal assessment.

4) Pass of perioperative accelerated rehabilitation

The Nursing Department and the accelerated rehabilitation nursing team completed the special training of accelerated rehabilitation in the whole hospital, and developed the template of accelerated rehabilitation in the perioperative period. Under the guidance of the accelerated rehabilitation team, all departments developed trial programs for accelerated rehabilitation, including preoperative preparation, postoperative diet, activities, medication, nutrition and pain management in the perioperative period, by consulting literature, guidelines and other materials, using evidence-based methods, communicating with doctors, anesthesiologists and dietitians. Specific schedules were formulated, and accelerated rehabilitation processes and norms for various surgeries were improved.

### **2.2.2. Establishment of a “Four Passes” Assessment team for Training and Assessment of Nurse Specialty Knowledge**

The “Four Passes” assessment team was established, with the team leader being the director of Nursing Department, and the deputy team leader being four chief nurses of Clinical Management Department. The team members were head nurses with rich specialty knowledge and clinical experience and strong communication and coordination ability. Several personnel were selected randomly during the assessment. The group leader was responsible for guidance, quality control and supervision, and the team members were responsible for specific assessments.

### **2.2.3. Launching of “Four Passes” Training and Examination for Nurse Specialty Knowledge**

Under the guidance of the Nursing Department, all clinical management departments carried out training in a unified manner, and the head nurses of each specialty were in charge of the specific training. They established specialized disease learning groups, organized clinical front-line nurses to learn and clock in, and learn through online and offline communication. In the clinical practice training, the head nurse listened to the responsible nurse about the patients’ condition report and nursing measures taken, carried out a comprehensive and overall evaluation of critically ill patients according to patients’ disease characteristics and changes in the condition, and put forward nursing guidance for nurses with prominent focus, strong organization, special characteristics and foresight.

#### 2.2.4. Evaluation on the Effect of “Four Passes” Training and Assessment of Nurse Specialty Knowledge

1) Self-designed questionnaire was used to evaluate the effect before and after “Four Passes”, including two dimensions of nurses’ self-evaluation and doctors’ evaluation in five aspects: specialized disease knowledge, disease observation and reporting, emergency and severe disease nursing, perioperative accelerated rehabilitation guidance, and overall evaluation. A 5-point Likert scale was used for scoring, with 1 being very dissatisfied, 2 dissatisfied, 3 average, 4 satisfied and 5 very satisfied. The higher the total score, the higher the satisfaction of nurses and doctors. 2) Evaluation of nurses’ comprehensive ability: The core competence scale for specialist nurses developed by scholar Zhang Yulian [4] was adopted, which includes 45 items involving 8 dimensions: basic practical ability (includes 5 items), post specialized nursing ability (includes 9 items), ability to solve post problems (includes 4 items), learning ability (includes 5 items), organization and coordination ability (includes 4 items), critical thinking ability (includes 6 items), post practice and innovation ability (includes 5 items), and nursing scientific research ability (includes 7 items). The higher the score means the stronger the nurse’s core competence.

### 2.3. Statistical Approaches

SPSS 20.0 was used for data analysis. The measurement data conforming to normal distribution were expressed as mean  $\pm$  standard deviation, the paired t-test was used for the before and after comparisons. The rank sum test was used for those not conforming to normal distribution.  $P < 0.05$  was considered as statistically significant difference.

## 3. Results

### 3.1. General Information of the Subjects (Table 1)

There were 29 male and 743 female nurses in the 772 nurses who had passed the “Four Passes” in the training and assessment of nurse specialty knowledge. The number of people with bachelor’s degree or above was 616, accounting for 82.9% of the number of people assessed; 397 (51.4%) were staff with primary professional titles, 294 (38.1%) had worked for 6-10 years, and the main capability level was N1, accounting for 45.2% of the total number. Among them, the number of surgical and medical nurses was the largest, with surgical nurses accounting for 31.1% (240) and medical nurses (227) 29.4%. The “Four Passes” examination was mainly conducted for clinical nursing posts, with 753 people, accounting for 97.5%.

Among 143 doctors investigated, 72 (50.3%) were male and 71 (49.7%) were female. 142 (99.3%) with a bachelor’s degree or above; The number of attending physicians was the largest, with 66 accounting for 46.15%; There were 47 physicians (32.87%) in internal medicine and 55 (38.46%) in surgery. 46 people with 6-10 years of working experience accounted for 32.17%. Additional general information is shown in **Table 1**.

**Table 1.** General information questionnaire.

	Nurse			Doctor		
	Category	Number of people	Proportion	Category	Number of people	Proportion
<b>Gender</b>	Male	29	3.8%	Male	72	50.30%
	Female	743	96.2%	Female	71	49.70%
<b>Official academic credential</b>	Junior college	156	20.2%	Junior college	1	0.70%
	Bachelor	615	19.7%	Bachelor	31	21.68%
	Master	1	0.1%	Master	76	53.15%
	Doctor	0	0.0%	Doctor	34	23.78%
<b>Professional title</b>	Nurse	236	30.6%	Postdoctor	1	0.70%
	Senior nurse	397	51.4%	Resident doctor	23	16.08%
	Supervisor nurse	137	17.7%	Attending doctor	66	46.15%
	Co-chief superintendent nurse	1	0.1%	Associate chief physician	28	19.58%
	Chief superintendent nurse	1	0.1%	Chief physician	26	18.20%
<b>Capability level</b>	N0	46	6.0%	Director of department	5	3.50%
	N1	349	45.2%	Deputy director department	8	5.59%
	N2	326	42.2%	Other	14	9.79%
	N3	49	6.3%	No	116	81.12%
	N4	2	0.3%			0.00%
<b>Department</b>	Internal Medicine Department	240	31.1%	Internal Medicine Department	47	32.87%
	Surgery Department	227	29.4%	Surgery Department	55	38.46%
	Obstetrics and Gynecology Department	40	5.2%	Obstetrics and Gynecology Department	19	13.29%
	Pediatric Department	49	6.3%	Pediatric Department	9	6.29%
	Intensive care Department	50	6.5%	Intensive Care Department	2	1.40%
	Emergency Department	38	4.9%	Emergency Department	0	0.00%
	Operating room	76	9.8%	Operating room	2	1.40%
	Non-clinical department	1	0.1%	Non-clinical department	0	0.00%
Other	51	6.6%	Other	9	6.29%	
<b>Job category</b>	Clinical nursing post	753	97.5%			0.00%
	Nursing teaching post	17	2.2%			0.00%
	Outpatient medical technology post	2	0.3%			0.00%
<b>Age</b>	≤25	78	10.1%	≤25	1	0.70%
	26 - 30	384	49.7%	26 - 30	14	9.79%
	31 - 35	196	25.4%	31 - 35	46	32.17%
	36 - 40	76	9.8%	36 - 40	39	27.27%

## Continued

	≥41	38	4.9%	≥41	43	30.07%
	≤5	291	37.7%	≤5	30	20.98%
	6 - 10	294	38.1%	6 - 10	46	32.17%
<b>Working age</b>	11 - 15	118	15.3%	11 - 15	28	19.58%
	16 - 20	36	4.7%	16 - 20	7	4.90%
	≥21	33	4.3%	≥21	32	22.38%

**Table 2.** Nurses' self-evaluation and doctors' evaluation in "Four Passes".

	Evaluation method	Before implementation	After implementation	Z/T	P
Specialized disease knowledge	Nurse self-assessment	3.26 ± 0.76	4.05 ± 0.67	19.53	0.001
	Doctors' evaluation	3.94 ± 0.66	4.36 ± 0.61	-5.38	0.001
Observation and reporting	Nurse self-assessment	3.29 ± 0.79	4.06 ± 0.68	18.66	0.001
	Doctors' evaluation	3.80 ± 0.73	4.19 ± 0.73	-4.55	0.001
Emergency and severe disease care	Nurse self-assessment	3.27 ± 0.78	4.02 ± 0.67	18.68	0.001
	Doctors' evaluation	3.94 ± 0.70	4.43 ± 0.69	-5.05	0.001
Accelerated rehabilitation during perioperative period	Nurse self-assessment	2.07 ± 1.81	2.42 ± 2.07	6.01	0.001
	Doctors' evaluation	3.98 ± 0.74	4.43 ± 0.66	-4.14	0.001
Overall evaluation	Nurse self-assessment	2.96 ± 0.79	3.64 ± 0.78	-15.07	0.001
	Doctors' evaluation	3.94 ± 0.74	4.26 ± 0.72	-3.57*	0.001

Note: \*Denotes t-test.

### 3.2. Nurses' Self-Evaluation and Doctors' Evaluation before and after "Four Passes" (Table 2)

After the implementation of the "four Pass" training, the self-assessment of doctors and nurses in the four aspects of specialized disease knowledge, observation and reporting, emergency and severe disease care, and accelerated rehabilitation during perioperative period increased significantly. All the differences were statistically significant ( $P < 0.05$ ).

### 3.3. Core Competence of Nurses before and after "Four Passes" (Table 3)

After the implementation of the "four links" training, the core abilities of nurses were significantly improved. The difference was statistically significant ( $P < 0.05$ ).

## 4. Discussion

### 4.1. The "Four Passes" Training and Examination Promotes the Cultivation of Nurses' Systematic Clinical Thinking Ability

Systematic clinical thinking is the soul of clinical work [5]. Systematic clinical

**Table 3.** Core competence of nurses before and after “four passes”.

Item	Before implementation	After implementation	Z/T	P
Basic practical ability	15.27 ± 3.72	18.59 ± 3.45	-17.493	0.001
Professional post nursing ability	41.09 ± 9.58	50.50 ± 8.43	-18.562	0.001
Ability to solve post nursing problems	50.82 ± 11.90	62.51 ± 10.36	-18.592	0.001
Post practice and innovation ability	63.13 ± 14.98	77.75 ± 13.01	-18.419	0.001
Organization and coordination ability	72.84 ± 17.30	89.66 ± 15.01	-18.375	0.001
Nursing scientific research ability	89.53 ± 21.75	110.64 ± 19.11	-18.199	0.001
Critical thinking ability	104.46 ± 25.71	129.26 ± 22.66	-18.113	0.001
Learning ability	116.66 ± 28.86	144.40 ± 25.44	-18.006	0.001
Total score of core competence	69.22 ± 16.53	85.42 ± 14.44	20.501*	0.001

Note: \*Denotes t-test.

thinking ability of nurses is one of the important core competencies of nurses, which refers to the ability of nurses to solve problems through analysis, logical reasoning, clinical judgment and decision-making on diagnosis and treatment of diseases in clinical practice [6]. “Four Passes” for nurses changed the previous clinical routine training assessment based on project content, included the nursing work required in the full flow into the scope of training and assessment, including condition observation and reporting, which enriches and extended the content of nursing training and assessment. It really realizes the complete combination of training, assessment and clinical practice. The training and assessment covered the whole process of nursing, so that nurses’ passive executive consciousness was converted into active thinking, active participation, active work consciousness, and the nurses consciously combined practice, thinking and learning, which promotes the cultivation of nurses’ systematic clinical thinking.

#### 4.2. The “Four Passes” Training and Examination Enhances the Post Competency of Nurses

Post competency refers to the sum of knowledge, skills, abilities and characteristics that enable employees to be competent for their positions and produce excellent performance in a specific organization [7]. In the “four passes” training and assessment of nurses, post competency is the core, which is used to improve nursing quality and nursing skills. Oriented by the post needs of nurses, the project paid attention to the training of clinical practice application of nurses, so as to achieve the training purpose of “improving the ability of nurses to provide standardized nursing services independently for patients”. This is consistent with the research results of scholars such as Yu Hehua [8] [9] [10]. Post compe-



tency training, including solid professional knowledge, acute observation, efficient disease reporting and effective nursing training for critically ill patients, enables nursing staff to understand the changes of patients' conditions more comprehensively and quickly, and timely cooperate with doctors to provide more accurate nursing.

#### **4.3. The “Four Passes” Training and Examination Improves Doctors’ Evaluation on Nurses and Nurses’ Self-Evaluation**

The evaluation of nurses by doctors can objectively reflect the basic and advanced professional knowledge, nursing skills and first aid cooperation, nursing clinical thinking ability, communication and coordination ability, psychological quality and other levels of nurses. Nurses' self-evaluation is a basic evaluation of their own ability and value. As a major personality trait, it has positive promotion significance to nurses' positive coping style and work commitment [11]. Rich professional knowledge, effective disease observation and reporting are important conditions to ensure effective communication and coordination. The outcome of patients depends on the ability level of doctors and nurses, and more on the degree of cooperation between doctors and nurses [12]. This study showed that after the “Four Passes” training and assessment of nurses, the scores of both doctors' evaluation of nurses and nurses' self-evaluation in the specialized disease knowledge, condition observation and reporting, emergency and severe disease care, perioperative accelerated rehabilitation, and overall evaluation, were all higher than before the training, which is consistent with the research results of Bateman RM *et al.* [13] [14] by strengthening the training of specialty knowledge and paying attention to the observation of medical conditions, doctors' satisfaction and nursing quality can be further improved.

#### **4.4. The “Four Passes” Training and Examination Can Significantly Improve the Core Competence of Nurses**

The core competence of nursing is an important necessary competence of clinical nursing professionals, and also an important indicator of whether a nurse can timely and calmly respond to critical patients and emergency treatment. Through the “Four Passes” training and examination of nurses, the eight core abilities of nurses, including basic practical ability, specialized post nursing ability, and solving post nursing problems, have been improved, showing statistical differences. Through the assessment of nurses' comprehensive ability, the core competence of nurses can be improved, the quality of nursing service can be improved, and the satisfaction of patients to nurses' service can be improved. This is consistent with the findings of many scholars, such as Laurant M [15], who used Internet as the way to improve the clinical ability of nurses and received good results. The core competence of nursing staff can provide patients with good nursing services, build a harmonious nurse-patient relationship, improve patients' treatment and nursing compliance, and make patients recover early [16] [17].

Limitations in this study: 1) The single-center and small sample size study reduced the reliability of conclusions; 2) The practice experience of standardized training mode for nurses based on training and assessment of nursing professional knowledge has not been promoted in other hospitals. In summary, nurse professional knowledge “four” training and assessment, fully mobilize the enthusiasm of managers and nurses in all departments, ensure solid professional knowledge, help to improve the core competence of nurses, improve nursing quality, create harmonious nurse-patient relationship and improve doctor-patient relationship.

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### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

### References

- [1] Health Commission Notice of the National Health Commission on Printing and Distributing the National Nursing Development Plan (2021-2025). [http://www.gov.cn/zhengce/zhengceku/2022-05/09/content\\_5689354.htm](http://www.gov.cn/zhengce/zhengceku/2022-05/09/content_5689354.htm)
- [2] Medical Administration and Administration Bureau Notice on Further Deepening Quality Care and Improving Nursing Service. <http://www.nhc.gov.cn/yzygj/s3593/201503/7bfe482ac571419e9e901909180d9916.shtml>
- [3] Zhao, X.N. (2019) The Training Status and Needs of Specialized Nurses at Home and Abroad. *Medical Aesthetic Beauty*, **28**, 192.
- [4] Zhang, Y.L., Li, T. and Wang, D. (2018) Construction of the Evaluation Index System of Nurses’ Core Competence under the Mode of Specialized Nursing Team. *Chinese Journal of Modern Nursing*, **20**, 2466-2470.
- [5] Ma, C.W. and Li, G.H. (2022) Research Progress in the Use and Management of Specialist Nurses at Home and Abroad. *Chinese Journal of Modern Nursing*, **3**, 415-420.
- [6] Xue, D.D., Mou, S.Y. and Zhang, Y.M. (2020) Application Status and Enlightenment of Clinical Thinking Training System in Nursing Teaching. *General Nursing*, No. 19, 2342-2344.
- [7] Carbogim, F.C., Oliveira, L.B.D., et al. (2016) Critical Thinking: Concept Analysis from the Perspective of Rodger’s Evolutionary Method of Concept Analysis. *Revista Latino-Americana de Enfermagem*, **24**, e2785. <https://doi.org/10.1590/1518-8345.1191.2785>
- [8] Spencer, L.M. and Spencer, S.M. (1993) *Competence at Work: Models for Superior Performance*. Wiley, Hoboken, 99-220.
- [9] Yu, H.H., Jiang, Z.J., Ding, J., et al. (2019) The Application Effect of the Concept of

- Nurses' Competency in the Training of Nurses Who Rotate to Be Promoted as the Chief Nurse in ICU. *International Journal of Nursing*, **9**, 1163-1165.
- [10] Molipo and Zhan, C.X. (2018) Analysis on the Effect of Hierarchical Training of Nurses' Competency. *Chinese Urban and Rural Enterprise Students*, **11**, 110-111.
- [11] Gong, X.F. (2019) Discussion on the Effect of Post Competency Training of Nurses in Reproductive Medicine Center. *China Health Standards Management*, **20**, 16-18.
- [12] Yang, Y., Yan, X.F., Hao, F., et al. (2019) Correlation between Core Self-Evaluation, Positive Response and Work Engagement of Clinical Nurses. *Nursing Research*, **12**, 2003-2006.
- [13] Bateman, R.M., Sharpe, M.D., Jagger, J.E., et al. (2016) 36th International Symposium on Intensive Care and Emergency Medicine: Brussels, Belgium. 15-18 March 2016 [Published Correction Appears in Crit Care. 2016 Oct 24; 20: 347]. *Critical Care*, **20**, 94.
- [14] Song, Y.P., Guo, Y.M. and Zhang, Y. (2017) Relevant Factors and Countermeasures Affecting Doctors' Satisfaction with Nursing Work. *Health Vocational Education*, **14**, 145-146.
- [15] Laurant, M., van der Biezen, M., Wijers, N., et al. (2018) Nurses as Substitutes for Doctors in Primary Care. *Cochrane Database of Systematic Reviews*, **7**, CD001271.
- [16] Melin-Johansson, C., Palmqvist, R. and Rönnberg, L. (2017) Clinical Intuition in the Nursing Process and Decision-Making—A Mixed-Studies Review. *Journal of Clinical Nursing*, **26**, 3936-3949. <https://doi.org/10.1111/jocn.13814>
- [17] Jiang, L.L. and Li, Y.X. (2016) Research Progress of Nurses' Core Competence. *China Continuing Medical Education*, **8**, 263-264.