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## Survey and Analysis of the Current Status of Caring Ability among Specialist Nurses in Western Guangxi and Its Implications for Nursing Humanities Education Reform

**Authors:** Li Yijuan, Huang Qiuhuan, Meng Lianxin, Lu Liuxue, Li Shuangqi, Huang Qiuhuan

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### Abstract

**Objective:** To investigate the current status of caring ability among specialist nurses in underdeveloped areas and analyze its influencing factors, so as to provide a reference for subsequent interventional research.

**Methods:** A total of 129 specialist nurses were enrolled as study subjects. A cross-sectional survey was conducted using probability sampling method. General information questionnaires, Nurse Caring Ability Scale, and the Jefferson Scale of Empathy (Nurse Version) were distributed. Finally, 123 valid questionnaires were collected to analyze the current status and influencing factors of specialist nurses' caring ability.

**Results:** The total score of specialist nurses' caring ability was ( $166.41 \pm 13.79$ ), which was at a low level. Specialist nurses' educational background, whether they had served as class leaders, reasons for choosing nursing as a profession, and empathy ability were independent influencing factors of specialist nurses' caring ability, explaining 30.10% of the total variance in caring ability.

**Conclusion:** The caring ability of specialist nurses in Western Guangxi region is at a low level and needs to be further improved. Nursing schools and hospital nursing administrators should strengthen education and training on caring ability for specialist nurses.

## Full Text

### Investigation and Analysis of the Current Status of Caring Ability Among Specialist Nurses in Western Guangxi and Its Implications for Nursing Humanities Education Reform

\*\*Li Yijuan<sup>1,2</sup>, Huang Qiujuan<sup>2,\*</sup>, Meng Lianxin<sup>2</sup>, Lu Liuxue<sup>2</sup>, Li Shuangqi<sup>2\*\*</sup>  
<sup>1</sup>Youjiang Medical College for Nationalities, Baise, Guangxi 533000 <sup>2</sup>Affiliated Hospital of Youjiang Medical College for Nationalities, Baise, Guangxi 533000

#### Abstract

**Objective:** To investigate the current status of caring ability among specialist nurses in less-developed regions and analyze its influencing factors, thereby providing a reference for subsequent intervention research. **Methods:** A total of 129 specialist nurses were enrolled as study subjects. Probability sampling was used to conduct a cross-sectional survey using a general information questionnaire, the Nurse Caring Ability Inventory (CAI), and the Jefferson Scale of Empathy-Health Professionals (JSE-HP). Ultimately, 123 valid questionnaires were collected for analysis of the current status and influencing factors of specialist nurses' caring ability. **Results:** The total caring ability score among specialist nurses was (166.41±\$13.79), indicating a low level. Educational background, prior experience as a class leader, reasons for choosing the nursing profession, and empathy ability were identified as independent influencing factors of caring ability, explaining 30.10% of the total variance. **Conclusion:** The caring ability of specialist nurses in western Guangxi is at a low level and requires further improvement. Nursing colleges and hospital nursing administrators should strengthen education and training programs focused on caring ability for specialist nurses.

**Keywords:** specialist nurse; nurse caring ability; nursing management; nurses' empathy ability; nurse training

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Specialist nurses are expert talents with high-level management capabilities in specific clinical nursing fields. They require not only extensive knowledge and solid specialized nursing skills but also a high level of caring ability [1]. Caring ability, as the essence and core philosophy of nursing, refers to the caring attitudes and behaviors that nursing staff proactively adopt during patient care to meet patients' physiological, psychological, and social needs [2-4]. Research shows that clinical nurses with good caring ability provide numerous benefits for patient recovery, quality of procedures, and nursing satisfaction. In recent years, strengthening the cultivation of caring ability among specialist nurses and enhancing the effectiveness of quality nursing services has become a research hotspot [5-6]. This study investigated the caring ability of clinical specialist nurses in western Guangxi and analyzed its influencing factors, aiming to provide a reference for subsequent education reform initiatives by nursing colleges

and hospital nursing administrators.

## 1. Methods

### 1.1 Study Subjects

This cross-sectional study enrolled 129 specialist nurses from various specialties at a tertiary Grade A hospital in western Guangxi between January 2021 and March 2021. **Inclusion criteria:** Possession of a valid nursing license and specialist nurse certification; Informed consent and voluntary participation; Active duty during the survey period. **Exclusion criteria:** Personnel transferred to administrative, logistics, teaching, or other non-clinical positions; Those experiencing major stressful events within the past six months.

### 1.2 Survey Instruments

**1.2.1 General Information Questionnaire** This included basic demographic information such as age, gender, education level, professional title, home address, political affiliation, only-child status, and primary reasons for choosing nursing as a profession.

**1.2.2 Nurse Caring Ability Inventory (CAI)** The study employed the Chinese version of the CAI translated by the renowned Chinese scholar Ma Fang. The scale comprises 37 items across three dimensions: patience (perseverance and tolerance, 10 items), cognition (understanding of caring-related knowledge, 14 items), and courage (ability to handle unknown situations and proactively care for oneself and others, 13 items). The overall Cronbach's  $\alpha$  coefficient was 0.84, with a content validity index of 0.78. A 7-point Likert scale was used, ranging from "strongly disagree" (1) to "strongly agree" (7), with 13 items requiring reverse scoring. The total CAI score ranges from 37 to 259 points, with dimension scores of 10-70 for patience, 14-98 for cognition, and 13-91 for courage. Scores  $>220.3$  indicate high caring ability, 203.1-220.3 indicate moderate level, and  $<203.1$  indicate low level [7-8]. Higher scores indicate stronger humanistic caring ability.

**1.2.3 Chinese Version of the Jefferson Scale of Empathy-Health Professionals (JSE-HP)** The JSE-HP was developed by American scholars including Mohadreza Hojat and later translated by Chinese scholars such as An Xiuqin. The scale contains 20 items across three dimensions (emotional care, perspective-taking, and empathetic concern), using a 7-point Likert scale from "strongly disagree" (1) to "strongly agree" (7). Ten items (1, 3, 6, 7, 8, 11, 12, 14, 18, 19) are reverse-scored. The total score ranges from 20 to 140 points, with higher scores indicating stronger empathy ability. Scores  $\leq 60$  indicate low empathy, 61-99 indicate moderate level, and  $\geq 100$  indicate high level. Cronbach's  $\alpha$  coefficients for the dimensions ranged from 0.65 to 0.73, with an overall Cronbach's  $\alpha$  of 0.75.

### 1.3 Data Collection Method

This cross-sectional study utilized a questionnaire platform to distribute 129 questionnaires to study subjects. Participants completed the survey according to standardized instructions on the response page and submitted questionnaires voluntarily and anonymously.

### 1.4 Quality Control

The system set a response time limit of 5-10 minutes. Data were double-checked and analyzed for logical consistency. The “Wenjuanxing” platform automatically verified input correctness and logic upon submission, prompting respondents to complete any missing items before successful submission. The system then automatically generated descriptive statistical analysis results. Invalid questionnaires were excluded based on IP address duplication, contradictory responses, and minimum time limits, yielding 123 valid questionnaires with an effective recovery rate of 95.3%.

### 1.5 Statistical Methods

Raw questionnaire data were imported into an SPSS database using Wenjuanxing’s “analysis and download” function and double-verified. SPSS 25.0 software was used for statistical analysis. Count data were described using frequency and percentage, while measurement data were described using mean  $\pm$  standard deviation. For normally distributed measurement data, t-tests were used for two-group comparisons and one-way ANOVA for multi-group comparisons; non-normally distributed data were analyzed using rank-sum tests. The statistical significance level was set at  $\alpha=0.05$ . Pearson correlation analysis and multiple linear regression analysis were used to explore the impact of nurses’ empathy ability on humanistic caring ability. Multiple stepwise regression analysis was applied to identify main influencing factors of nurses’ humanistic caring ability. All statistical tests were two-tailed, with  $P<0.05$  considered statistically significant.

## 2. Results

### 2.1 General Characteristics of Specialist Nurses

The survey results showed that 123 specialist nurses completed the questionnaire, with an age range of 27-54 years and a mean age of  $(35.37\pm 5.04)$  years. Details are provided in Table 1 .

**Table 1** General Demographic Characteristics of Specialist Nurses in Western Guangxi (n=123)

### 2.2 Single-Factor Analysis of Specialist Nurses' Caring Ability Scores

Single-factor analysis revealed statistically significant differences in caring ability among specialist nurses based on education level, prior experience as a class leader, attitude toward the nursing profession, and reasons for choosing nursing ( $P < 0.05$ ). See Table 2 .

**Table 2** Single-Factor Analysis of Caring Ability Scores Among Specialist Nurses in Western Guangxi (n=123)

### 2.3 Dimension Scores of Specialist Nurses' Caring Ability

The survey results indicated that both total caring ability scores and dimension scores among specialist nurses were not high. Details are provided in Table 3 .

**Table 3** Caring Ability and Empathy Scores of Specialist Nurses in Western Guangxi (n=123)

Dimension	Score Range	Mean $\pm$ SD
Total Caring Ability	130-215	166.41 $\pm$ 13.79   <i>PatienceDimension</i>  13–39 24.69 $\pm$ 5.49   <i>CognitionDimension</i>  17–52 36.30 $\pm$ 5.94   <i>CourageDimension</i>  16–43 28.59 $\pm$ 5.89   <i>TotalEmpathyAbility</i>  38–111 81.66 $\pm$ 11.93

### 2.4 Correlation Analysis Between Caring Ability and Empathy Ability

The correlation analysis between specialist nurses' caring ability and empathy ability is detailed in Table 4 .

**Table 4** Correlation Between Caring Ability and Empathy Ability Among Specialist Nurses in Western Guangxi (n=123)

Variable	Total Caring Ability	Cognition Dimension	Courage Dimension	Patience Dimension
Empathy Ability Total Score	.514**	.321**	.358**	.284**
Caring Ability Total Score	1	-.721**	-.780**	-.756**

Note: \*\* Significant correlation at the 0.01 level (two-tailed). \* Significant correlation at the 0.05 level (two-tailed).

## 2.5 Multiple Linear Regression Analysis of Specialist Nurses' Caring Ability

Using caring ability score as the dependent variable and empathy ability score along with variables showing statistical significance in single-factor analysis as independent variables, multiple linear regression was performed. Variable assignments are shown in Table 5. The results indicated that education level, prior experience as a class leader, attitude toward the nursing profession, and reasons for choosing nursing were independent influencing factors of caring ability among specialist nurses in western Guangxi, explaining 30.10% of the total variance in caring ability. See Table 6.

**Table 5** Variable Assignment Table

Variable	Assignment
Education Level	Below bachelor's = 1, Bachelor's and above = 2
Class Leader Experience	Dummy variable with "served as class leader" as reference: X1=served (0,1), X2=not served (0,1)
Attitude Toward Nursing Profession	Dummy variable with "like nursing profession" as reference: X1=like (0,1), X2=dislike (0,1)
Reason for Choosing Nursing	Personal interest = 1, Others' recommendation = 2, Easy to find job = 3, Other reasons = 4
Empathy Scale Total Score	Continuous variable

**Table 6** Multiple Linear Regression Analysis of Influencing Factors of Caring Ability and Empathy Among Specialist Nurses in Western Guangxi

Variable	$\beta$	t	P
Attitude Toward Nursing Profession	-	-	<0.001
Reason for Choosing Nursing	-	-	<0.001
Class Leader Experience	-	-	<0.001
Empathy Scale Total Score	-	-	<0.001

Note:  $R^2=0.335$ , Adjusted  $R^2=0.301$ ,  $F=9.751$ ,  $P<0.001$ .

### 3. Discussion

#### 3.1 Current Status of Specialist Nurses' Caring Ability and Its Implications for Nursing Humanities Education in Underdeveloped Regions

The study results show that caring ability scores among specialist nurses in western Guangxi are at a low level. The primary reason for low scores may be that specialist nurse training is still in its infancy [10], with no previously established systematic training programs specifically for specialist nurses and no corresponding positions designated for them. Although specialist nurses have obtained certification, their caring ability has not been correspondingly enhanced. Training on caring ability and human resource management for specialist nurses should be strengthened to improve their overall humanistic caring level. This study was conducted among specialist nurses in western Guangxi, an underdeveloped border region in Guangxi. The findings simultaneously suggest that nursing colleges in underdeveloped areas should strengthen the cultivation and education of humanistic caring ability among nursing students to meet contemporary society's demands for comprehensive nursing talent.

#### 3.2 Influencing Factors of Specialist Nurses' Caring Ability and Implications for Training in Underdeveloped Regions

Table 6 results show that influencing factors include education level, attitude toward the nursing profession, class leader experience, and reasons for choosing nursing. These findings are consistent with research by Jiang Qiqi [11]. Additionally, reasons for choosing nursing emerged as an influencing factor: specialist nurses who chose nursing based on personal interest scored significantly higher in caring ability than those who selected "others' recommendation," "easy employment," or "other reasons." According to Lin Songbai's research [12], vocational interest greatly influences individuals' career positioning and orientation choices. Liu Rui [13] demonstrated that nurses' sense of value and happiness can promote their work engagement. These influencing factors suggest that hospital nursing administrators should focus on enhancing nurses' sense of professional value and happiness and cultivate their interest in the profession from multiple perspectives when developing training programs. Training should be tailored according to nurses' strengths and interests, enabling specialist nurses to enjoy their positions, gain a sense of achievement, and develop greater affection for their roles, thereby improving training effectiveness for caring ability.

#### 3.3 Correlation Analysis Between Caring Ability and Empathy Ability

Correlation analysis revealed that empathy ability among specialist nurses in western Guangxi is at a moderate level, with a total score of  $(81.66 \pm 11.93)$ . Statistical analysis showed a positive correlation between caring ability and empathy ability ( $P < 0.05$ ), consistent with research by Li Zhixia [14]. Analysis of

reasons for insufficient empathy ability among specialist nurses includes: (1) In busy, fragmented daily work, nurses frequently work three shifts and overtime, leading to emotional exhaustion and compassion fatigue. (2) Excessive daily treatment and nursing workload leaves insufficient time for in-depth emotional communication with patients. (3) Specialist nurses lack fixed positions, and departments' job responsibilities for specialist nurses are unclear. When new urgent tasks arise, capable specialist nurses are often temporarily reassigned to secretarial work, making it difficult for them to focus on clinical nursing and affecting their empathy ability.

### 3.4 Implications of Findings for Nursing Humanities Education Reform in Underdeveloped Regions

For nursing talent education reform in underdeveloped regions, we recommend the following: (1) Humanities education curricula in nursing colleges should integrate theory with practice rather than limiting instruction to textbook knowledge. The proportion of clinical practice courses in humanistic care should be increased, allowing students to engage with patients in clinical settings and integrate theoretical knowledge into nursing practice. (2) Clinical departments should coordinate human resources according to specific circumstances to ensure appropriate workloads, giving time back to nurses and nurses back to patients, preventing compassion fatigue from chronic overload. (3) Nursing administrators and head nurses should train and assess specialist nurses across multiple dimensions including professional theory and practice, research ability, personal professionalism, education, communication and collaboration, professional development, information utilization, and health management [15], while also monitoring empathy ability status and strengthening empathy training and psychological counseling. (4) Establish fixed positions for specialist nurses: Each department should establish one fixed specialist nurse position with relatively stable scheduling, avoiding reassignment of specialist nurses to non-specialized tasks, clarifying job responsibilities to enable specialist nurses to play leading professional roles.

This study's investigation of specialist nurses' caring ability in western Guangxi found low-level caring ability in this hospital. Influenced by factors such as education level and reasons for choosing nursing, current training models for specialist nurses' caring ability require adjustment. When conducting humanities education, nursing colleges should develop corresponding teaching reform plans according to contemporary nursing talent cultivation goals, implement reform measures, and track their effectiveness. Hospital nursing administrators should develop practical and effective teaching reform measures targeting factors influencing specialist nurses' humanistic caring ability, such as stratified training based on education level, to genuinely improve specialist nurses' potential and caring ability.

**Limitations:** This study has several limitations: it represents a single-center survey with a small sample size and few included independent variables. Fu-

ture research should adopt multi-center, large-sample surveys to explore more influencing factors on specialist nurses' caring ability for peer reference.

## Author Contributions

Huang Qiuhuan, Lu Liuxue: Conceived the research idea and designed the study protocol; Meng Lianxin, Li Yijuan, Qin Huaxing: Conducted the experiments and investigation; Li Yijuan, Luo Guiqing, Qin Huaxing, Wang Qiaona: Collected, organized data, and performed statistical analysis; Li Yijuan, Meng Lianxin, Luo Guiqing, Huang Qiuhuan, Lu Liuxue, Qin Huaxing, Wang Qiaona: Drafted the manuscript. Lu Liuxue: Provided overall supervision and reviewed the manuscript.

## Conflict of Interest

All authors declare no conflict of interest.

## References

- [1] Yan Pengbo, Han Dianli, Song Wenjing, et al. Investigation on sleep quality and mental health status of nursing staff in public health emergencies [J]. Chinese Journal of Practical Nursing, 2021, 37(27): 2111-2116.
- [2] Han Jiao. Investigation on the current status and influencing factors of nurses' humanistic caring ability in tertiary hospitals in Jinzhou City [J]. Journal of Jinzhou Medical University, 2022, 43(3): 101-104.
- [3] Hou Shouchao, Hu Yuna, Zou Huihuang, et al. Study on the correlation between the current status of humanistic caring ability and work-family support among surgical nurses in Zhengzhou City [J]. Henan Journal of Surgery, 2022, 28(5): 52-56.
- [4] Lecocq D, Delmas P, Antonini M, et al. Comparing feeling of competence regarding humanistic caring in Belgian nurses and nursing students: A comparative cross-sectional study conducted in a French Belgian teaching hospital [Z]. 2021: 8, 104-114.
- [5] Antonini M, Bellier-Teichmann T, O'Reilly L, et al. Effects of an educational intervention to strengthen humanistic practice on haemodialysis nurses' caring attitudes and behaviours and quality of working life: a cluster randomised controlled trial [J]. BMC Nurs, 2021, 20(1): 255.
- [6] Létourneau D, Goudreau J, Cara C. Nursing Students and Nurses' Recommendations Aiming at Improving the Development of the Humanistic Caring Competency [J]. CAN J NURS RES, 2022, 54(3): 292-303.
- [7] Liu X, Li C, Yan X, et al. Psychological capital has a positive correlation with humanistic care ability among nurses [J]. Front Psychol, 2022, 13(null): 955627.

- [8] Létourneau D, Goudreau J, Cara C. Humanistic caring, a nursing competency: modelling a metamorphosis from students to accomplished nurses [J]. SCAND J CARING SCI, 2021, 35(1): 196-207.
- [9] Yang Kun, Jiao Xiangying. Effect of narrative nursing education on medical narrative ability of nursing postgraduate students [J]. Nursing Research, 2022, 36(14): 2596-2600.
- [10] Huang Qiuhan, Lu Liuxue, Wang Qiaona, et al. Investigation and analysis of the current status of core competencies of specialist nurses in affiliated hospitals of borderland ethnic colleges [J]. Youjiang Medicine, 2023, 51(2): 151-155.
- [11] Jiang Qiqi, Zhang Yin, Qiao Liang, et al. Cross-sectional survey and influencing factor analysis of humanistic caring ability among burn specialist nurses [J]. Chinese Journal of Burns and Wound Repair, 2022, 38(11): 1073-1078.
- [12] Lin Songbai, Liu Yan. Exploration of vocational ability development for higher vocational students based on vocational interest [J]. China Adult Education, 2013(22): 127-129.
- [13] Liu Rui, Li Xue, Fang Xiaoxia, et al. Mediating role of work engagement between nurses' self-worth and work well-being [J]. Chinese Journal of Nursing Education, 2022, 19(7): 636-640.
- [14] Li Zhixia, Sun Fang, Zhao Xinyue, et al. Study on the correlation among humanistic caring, empathy, and nursing narrative ability of clinical nurses [J]. Evidence-Based Nursing, 2022, 8(17): 2379-2383.
- [15] Tang Xinyi, Feng Zhixian. Application of job competency and core competency in nursing field [J]. Chinese Nursing Management, 2023, 23(4): 581-584.

**Author Biography:** Li Yijuan, Affiliated Hospital of Youjiang Medical College for Nationalities, School of Nursing, Youjiang Medical College for Nationalities, Deputy Chief Nurse, specializing in internal medicine nursing, nursing management, and nursing education. Correspondence address: No. 18 Zhongshan 2nd Road, Youjiang District, Baise City, Guangxi, Postal code 533000. Contact phone: 13977690071. Email: 176410602@qq.com.

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