

A Study on the Beliefs and Attitudes of Nurses in Yunnan Province Towards Nurse Prescriptive Authority

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Abstract: *Objective:* To investigate the current beliefs and attitudes of nurses in Yunnan Province toward prescriptive authority, analyze the influencing factors, and provide evidence for future research and policy formulation to support the establishment of nurses' prescriptive authority in China. *Method:* A cross-sectional survey was conducted among 937 nurses in Yunnan Province using the Beliefs and Attitudes Scale on Nurses' Prescriptive Authority. The scale assessed four dimensions: perceived need, self-efficacy, perceived benefits, and perceived barriers. Multiple linear regression analysis was used to identify factors influencing the overall score and each dimension. *Results:* The total score of the Beliefs and Attitudes Scale was 89.17 ± 17.69 , indicating a moderate level of awareness and positive attitude among nurses. The highest-scoring dimension was perceived benefits (34.94 ± 8.04), while the lowest was perceived barriers (15.23 ± 3.5). Age was identified as a significant factor influencing the overall score and self-efficacy dimension ($P < 0.05$). Years of practice influenced the perceived benefits dimension ($P = 0.051$), while gender, age, and professional title were key factors affecting the perceived barriers dimension ($P < 0.05$). Male nurses and senior nurses demonstrated more caution toward potential risks associated with prescriptive authority. *Conclusion:* Nurses in Yunnan Province exhibit moderate levels of belief in and attitudes toward prescriptive authority, with age being the most significant influencing factor. Tailored training programs, policy promotion, and practical guidance are recommended to enhance nurses' understanding and support for prescriptive authority, thereby improving nursing practices and addressing regional healthcare challenges.

Keywords: Nurses' prescriptive authority; Beliefs and attitudes; Influencing factors; Yunnan Province; Nursing policy

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1. Introduction

Nurse prescriptive authority refers to the rights granted to nurses in clinical practice to prescribe medications and

order related tests^[1]. The *International Council of Nurses Guidelines on Nurse Prescriptive Authority*^[2,3] classifies nurse prescribing into categories such as medications, treatments, diagnostic tests, medical devices, instruments, dressings, and specific therapeutic diets. Facing challenges such as the increased disease burden brought by an aging population, imbalances in the supply and demand of medical resources, and growing demand for quality nursing care, many countries and regions have attempted to grant nurses prescriptive authority to improve the quality and efficiency of nursing care and to address the rising costs of healthcare. These efforts have yielded positive results^[4]. Some domestic scholars have also advocated for granting nurses appropriate prescriptive authority to meet the current and future healthcare service needs of China^[2-6].

As a border province in southwestern China with many mountainous areas and a shortage of healthcare resources and highly skilled health professionals, the establishment of nurse prescriptive authority in Yunnan Province could significantly alleviate medical challenges in the southwestern region. However, the successful implementation of nurse prescriptive authority depends on the awareness, acceptance, and support of nursing professionals. At present, there is a lack of detailed and in-depth research on this topic in China. This study aims to investigate the current beliefs and attitudes of nurses in Yunnan Province regarding nurse prescriptive authority, analyze the current state and influencing factors, and provide a basis for further research and policy formulation.

2. Materials and methods

2.1. Survey subjects

Using a convenience sampling method, a questionnaire survey was conducted from May to November 2024, targeting registered nurses in four regions of Yunnan Province: Central Yunnan, Western Yunnan, Eastern Yunnan, and Southern Yunnan. Inclusion criteria: (1) possession of a nursing license; (2) at least three years of clinical work experience; (3) willingness to participate in the survey. Exclusion criteria: (1) nurses on leave; (2) trainee nurses; (3) nurses not directly involved in clinical nursing work.

The sample size was determined based on 10-20 times the maximum number of items for the independent variables. This study included 42 independent variables (15 items in the general survey and 27 items in the scale dimensions). Considering a 15% questionnaire loss rate, the final sample size was set at 800 participants. All survey subjects provided informed consent and voluntarily participated in the study.

2.2. Research methods

2.2.1. Survey tools

2.2.1.1. General information questionnaire

The researchers designed a general information questionnaire, which included 15 items on sociodemographic information such as age, gender, professional title, position, years of practice, educational background, region, and type of workplace.

2.2.1.2. Beliefs and attitudes towards nurse prescriptive authority scale

Ling *et al.*^[7] developed the scale by referencing the attitude questionnaire toward nurse prescriptive authority by and through literature review, localization, improvement, expert consultation, and a preliminary survey. The final scale consists of 27 items across four dimensions, with a total score ranging from 27 to 135. Higher scores indicate stronger beliefs and intentions regarding nurse prescriptive authority implementation.

The scale demonstrated good reliability and validity (correlation coefficients between the total scale and each dimension ranged from 0.62 to 0.83, the content validity index (S-CVI) was 0.921, test-retest reliability was 0.808, and Cronbach's α coefficient was 0.902). A 5-point Likert scoring method was used, with the questionnaire taking approximately 5–8 minutes to complete [8].

2.2.2. Survey methods

Before the survey, permission was obtained from relevant hospitals and departments. The questionnaire was distributed and collected by trained project team members. An online platform (Wenjuanxing) was used for distribution. Survey participants were informed about the confidentiality and anonymity of the questionnaire and were provided with instructions and precautions for completing it.

Upon completion, the surveyors reviewed the questionnaires on-site, addressing any omissions or errors immediately. Completion time was controlled between 10–15 minutes. To ensure completeness and accuracy, mandatory items, logical jumps, and time/attempt controls were applied.

A total of 950 questionnaires were distributed and collected, achieving a 100% response rate. However, seven questionnaires that took over 40 minutes to complete and six questionnaires where the same option was selected for all items were deemed invalid and excluded.

2.3. Statistical analysis

The collected questionnaires were verified by two individuals before statistical analysis using SPSS 26. For quantitative data, the mean \pm standard deviation (SD) was used if normally distributed; otherwise, non-parametric statistical methods were applied. Frequency and proportions were used for categorical data. Single-factor analysis was conducted to explore factors influencing beliefs and attitudes toward nurse prescriptive authority, and multiple linear regression analysis was performed for statistically significant factors identified in the single-factor analysis. The significance level was set at $\alpha = 0.05$.

3. Results

3.1. Basic characteristics of the study population

A total of 937 nurses from Yunnan Province participated in the survey, with their basic characteristics shown in **Table 1**. Chi-squared tests were used to analyze the basic characteristics of the study population. Significant statistical differences were found in gender, age composition, professional titles, years of practice, education level, region, type of institution, institution level, and department composition (all $P < 0.001$).

Table 1. Basic characteristics of the study population and univariate analysis of nurses' beliefs and attitudes toward nurse prescriptive authority ($n = 937$)

Characteristics	<i>n</i> (%)	Nurse prescriptive authority beliefs and attitudes score	<i>F</i>	<i>P</i>
Gender			0.055	0.814
Female	819 (87.4)	89.22 \pm 17.75		
Male	118 (12.6)	88.81 \pm 17.35		
Age			5.170	0.002
≤ 29 years	651 (69.5)	88.14 \pm 16.56		

Table 1 (Continued)

Characteristics	<i>n</i> (%)	Nurse prescriptive authority beliefs and attitudes score	<i>F</i>	<i>P</i>
30–39 years	179 (19.1)	89.44 ± 20.96		
40–49 years	76 (8.1)	93.66 ± 18.94		
50–59 years	31 (3.3)	98.26 ± 12.63		
Professional title			4.235	0.002
None	470 (50.2)	88.39 ± 15.53		
Junior	224 (23.9)	88.24 ± 18.73		
Intermediate	199 (21.2)	89.90 ± 21.22		
Associate Senior	32 (3.4)	97.25 ± 12.65		
Senior	12 (1.3)	103.75 ± 14.40		
Years of practice			4.465	0.012
3–5 years	618 (66.0)	88.61 ± 15.82		
5–10 years	190 (20.3)	88.11 ± 20.63		
> 10 years	129 (13.8)	93.45 ± 20.78		
Education level			1.078	0.366
Secondary school	55 (5.9)	89.93 ± 17.88		
College	592 (63.2)	88.43 ± 16.32		
Bachelor's	252 (26.9)	90.07 ± 20.76		
Master's	28 (3.0)	94.04 ± 14.64		
Doctoral	10 (1.1)	92.70 ± 18.33		
Region			0.547	0.650
Central Yunnan	453 (48.3)	89.42 ± 18.35		
Southern Yunnan	104 (11.1)	90.80 ± 16.55		
Western Yunnan	159 (17.0)	88.50 ± 17.22		
Eastern Yunnan	221 (23.6)	88.38 ± 17.21		
Type of institution			0.798	0.451
Private institution	107 (11.4)	89.19 ± 18.76		
Public institution	763 (81.4)	89.40 ± 17.54		
Public-private mixed	67 (7.2)	86.55 ± 17.74		
Institution level			0.842	0.431
Level 1	90 (9.6)	91.12 ± 17.12		
Level 2	473 (50.5)	88.59 ± 18.36		
Level 3	374 (39.9)	89.44 ± 16.95		
Department			2.524	0.014
Internal medicine	190 (20.3)	88.39 ± 18.33		
Surgery	181 (19.3)	90.55 ± 15.15		

Table 1 (Continued)

Characteristics	<i>n</i> (%)	Nurse prescriptive authority beliefs and attitudes score	<i>F</i>	<i>P</i>
Obstetrics and gynecology	93 (9.9)	88.26 ± 17.95		
Pediatrics	97 (10.4)	85.77 ± 20.84*		
Emergency department	119 (12.7)	89.06 ± 16.74		
ICU	20 (2.1)	98.20 ± 18.77*		
Other clinical departments	121 (12.9)	86.88 ± 18.31		
Medical technical departments	116 (12.4)	92.82 ± 16.51*		
Total	937 (100)	89.17 ± 17.69		

3.2. Current beliefs and attitudes of Yunnan nurses towards nurse prescriptive authority

The results are shown in **Table 2**. From **Table 2**, it can be seen that the total score of the Nurse Prescriptive Authority Beliefs and Attitudes Scale was (89.17 ± 17.69), indicating a moderate level. The highest-scoring dimension was the perceived benefits of nurse prescriptive authority, while the lowest was the perceived barriers to exercising nurse prescriptive authority.

Table 2. Total scores and scores of each dimension of the nurse prescriptive authority belief and attitude scales (*n* = 937)

Dimension	Score
Perceived need for nurses' prescriptive authority	17.42 ± 4.72
Self-efficacy in exercising prescriptive authority	19.91 ± 5.44
Perceived benefits of nurses' prescriptive authority	34.94 ± 8.04
Perceived barriers to exercising prescriptive authority	15.23 ± 3.50
Total score	89.17 ± 17.69

3.3. Univariate analysis of factors affecting nurses' beliefs and attitudes toward nurse prescriptive authority

The results are shown in **Table 1**. From **Table 1**, it can be observed that there were statistically significant differences in belief and attitude scores related to nurse prescriptive authority based on age, professional title, years of practice, and department (all *P* < 0.05). No significant differences were found based on gender, education level, region, type of institution, or institution level (all *P* > 0.05).

Analysis of variance was used to examine the scores of different characteristics of nurses on each dimension of the scale. Results indicated that there were statistical differences in the “perceived need for prescriptive authority” dimension based on age and professional title (*P* < 0.05). Nurses of different ages, professional titles, institution levels, and departments had significant differences in the “self-efficacy in exercising nurse prescriptive authority” dimension (all *P* < 0.05). Nurses with different years of practice showed significant differences in the “perceived benefits of nurse prescriptive authority” dimension (*P* = 0.050). Statistically significant differences were found in the “perceived barriers to exercising nurse prescriptive authority” dimension across different genders, ages, professional titles, types of institution, and institution levels (all *P* < 0.05), with male nurses scoring higher than female nurses (*F* = 10.725, *P* = 0.001).

3.4. Multivariate linear regression analysis of factors affecting scores on the nurse prescriptive authority beliefs and attitudes scale

Variables that showed statistical differences in the univariate analysis were included in the multivariate linear regression analysis using the enter method, as shown in **Table 3**. The model had a correlation coefficient $R = 0.124$, a coefficient of determination $R^2 = 0.015$, $F = 3.616$, $P < 0.05$, indicating that the regression model was statistically significant. Results showed that age was a significant factor influencing both the total score and the “self-efficacy” dimension of the scale (both $P < 0.05$). Clinical years of practice were a factor influencing the “perceived benefits” dimension ($P < 0.05$). Gender, age, and professional title were factors influencing the “perceived barriers” dimension (all $P < 0.05$).

Table 3. Multiple linear regression analysis of factors influencing scores on the beliefs and attitudes scale on nurses’ prescriptive authority

Outcome variable	Predictor variable	Partial regression coefficient	Standard error	Standardized coefficient	<i>t</i>	<i>P</i>
Total score	Constant	86.591	3.297		26.265	< 0.001
	Age	2.843	1.232	0.125	2.307	0.021
	Professional title	0.359	1.042	0.02	0.344	0.731
	Years of practice	-0.704	1.233	-0.029	-0.571	0.568
	Department	0.063	0.238	0.009	0.263	0.793
Perceived need	Constant	16.454	0.342		48.135	< 0.001
	Age	0.296	0.312	0.049	0.948	0.343
	Professional title	0.295	0.252	0.06	1.17	0.242
Self efficacy	Constant	19.059	0.811		23.487	< 0.001
	Age	0.794	0.361	0.114	2.203	0.028
	Professional title	-0.128	0.292	-0.023	-0.439	0.661
	Institution level	-0.135	0.28	-0.016	-0.48	0.631
	Department	0.06	0.073	0.027	0.817	0.414
Perceived benefits	Constant	32.47	1.287		25.237	< 0.001
	Years of practice	0.709	0.362	0.064	1.958	0.051
Perceived barriers	Constant	15.413	0.812		18.983	< 0.001
	Gender	1.064	0.343	0.101	3.098	0.002
	Age	-0.889	0.23	-0.198	-3.861	< 0.001
	Professional title	0.416	0.187	0.115	2.229	0.026
	Type of institution	-0.301	0.264	-0.037	-1.139	0.255
	Institution level	-0.112	0.179	-0.02	-0.625	0.532

4. Discussion

4.1. Current beliefs and attitudes of nurses in Yunnan Province toward prescriptive authority

According to the survey results, the total score of the Beliefs and Attitudes Scale on Nurses’ Prescriptive

Authority was 89.17 ± 17.69 , reflecting a moderate level. This indicates that, overall, nurses in Yunnan Province possess some awareness of and a positive attitude toward prescriptive authority, although there remains room for improvement. Among the dimensions, the highest-scoring one was the perceived benefits of nurses' prescriptive authority, while the lowest was the perceived barriers to exercising prescriptive authority. This finding suggests that while nurses recognize the benefits of prescriptive authority, they still face numerous challenges in practice, as also noted by Feng *et al.* ^[9], who highlighted legal regulations and education as major obstacles. Additionally, this study found significant heterogeneity in nurses' beliefs and attitudes based on gender, age, professional title, years of practice, educational background, region, institutional type, institutional level, and department. This highlights the importance of considering the specific needs of different groups when formulating relevant policies.

4.2. Factors influencing beliefs and attitudes toward nurses' prescriptive authority in Yunnan province

The results showed that age was a significant factor affecting the total score of beliefs and attitudes and the self-efficacy dimension. Years of clinical practice influenced the perceived benefits dimension, while gender, age, and professional title collectively impacted the perceived barriers dimension. These findings emphasize the critical role of age in shaping nurses' attitudes toward prescriptive authority. With increasing age, nurses tend to hold more positive beliefs and attitudes toward prescriptive authority. Older nurses are more inclined to view prescriptive authority as an opportunity to expand their career scope and enhance their professional skills. Their extensive clinical experience and skills instill confidence in acquiring prescriptive authority. Moreover, their broader social experiences lead them to value the positive clinical, social, and humanistic impacts of prescriptive authority.

Years of practice also play a pivotal role in nurses' understanding of prescriptive authority, as similarly observed by Zhong *et al.* ^[10], who reported that nurses with longer careers have a stronger desire to achieve higher professional value. Furthermore, this study revealed that age, gender, and professional title are important factors influencing the perceived barriers dimension. Nurses with more clinical experience may adopt a more cautious attitude toward new policies, concerned about potential increases in workload or disruptions to existing workflows. Older and higher-ranked nurses may also be more sensitive to potential risks, particularly regarding legal responsibilities and patient safety, leading to a more conservative stance toward new policies. Related studies have also noted that senior nurses with higher ranks demonstrate greater capability to identify prescription errors compared to their junior counterparts ^[11].

Male nurses scored higher than female nurses in the perceived barriers dimension, possibly reflecting a more cautious attitude toward potential risks. As noted by Blackley *et al.* ^[12], male nurses often face role conflicts and exclusion in the workplace, which may lead them to adopt more careful attitudes when addressing potential risks to avoid negative feedback and misunderstandings.

4.3. Practical implications and recommendations

This study highlights the current state of nurses' beliefs and attitudes toward prescriptive authority in Yunnan Province and the influencing factors, providing valuable data to support further optimization of nursing career development. Based on the findings, the following recommendations are proposed:

- (1) Design personalized training programs targeting nurses of different age groups, professional titles, and years of practice to help them better understand and accept prescriptive authority.
- (2) Promote the policy of nurses' prescriptive authority widely through various channels (e.g., social media,

professional journals, and internal newsletters), particularly among groups with higher perceived barriers, such as male nurses, to enhance overall awareness and support.

- (3) Provide practical guidance to nurses at all levels, especially on overcoming challenges encountered in exercising prescriptive authority. Establish dedicated consulting and support teams to promptly address issues nurses face in their work.
- (4) Conduct regular surveys to monitor changes in nurses' attitudes and adjust relevant policies and measures to ensure the successful implementation of prescriptive authority.

This study indicates that nurses in Yunnan Province exhibit moderate levels of belief in and attitudes toward prescriptive authority, with age being the most significant influencing factor. Targeted interventions can further enhance nurses' understanding and support of this right, thereby facilitating its implementation, promoting the comprehensive development of the nursing profession, and improving healthcare service quality.

Disclosure statement

The authors declare no conflict of interest.

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