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Impact of narrative nursing cognition, self-efficacy, and social support on the practices of registered nurses in China: a structural equation modeling analysis

Li Zhang¹, Qiang Han¹, Lin Nan² and Huiyun Yang^{3*}

Abstract

Background Narrative nursing is a novel approach according with humanistic care, which has been shown to be effective in improving health outcomes for both patients and nurses. Nevertheless, few studies have investigated the status of narrative nursing practice among nurses, and a comprehensive understanding of factors influencing this practice remains elusive.

Design This was an observational, cross-sectional study using convenience sampling method.

Methods After obtaining the informed consent, a total of 931 registered nurses from three hospitals in China were investigated. Data were collected using the Social Support Rating Scale, the General Self-efficacy Scale, and the Knowledge-Attitude-Practice Survey of Clinical Nurses on Narrative Nursing. All the scales were validated in the Chinese population. The questionnaire results were verified by an independent investigator. Factors influencing narrative nursing practice were determined through a series of analyses, including independent sample t-tests, one-way ANOVA, and Pearson correlations. Subsequently, path analysis was performed and a structural equation model was established.

Results The score of narrative nursing practice in this study was 30.26 ± 5.32 . The structural equation model showed a good fit, with a Root Mean Square Error of Approximation (RMSEA) of 0.007 (90%CI: 0.000, 0.047). Both social support and narrative nursing attitude could directly affect narrative nursing practice ($\beta_{\text{social support}} = 0.08, P < 0.001$; $\beta_{\text{attitude}} = 0.54, P < 0.001$) and indirectly influence it via self-efficacy ($\beta_{\text{social support}} = 0.04, P < 0.001$; $\beta_{\text{attitude}} = 0.06, P < 0.001$). In addition, narrative nursing knowledge ($\beta = 0.08, P < 0.001$) and the nurses' growth environment ($\beta = -0.06, P < 0.001$) also affected the practice of narrative nursing.

Conclusion Narrative nursing in China is at a medium level and could be influenced by several personal and environmental factors. This study highlighted the critical role of nursing management in the advancement of narrative nursing practices. Nurse managers should prioritize specialized training and cultivate supportive environments for nurses to improve their narrative nursing practices.

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Keywords Narrative nursing, Self-efficacy, Social support, Registered nurses

Background

Nurses are the largest group of healthcare professionals, and their initial assessment and subsequent care are critical for favorable health outcomes [1]. Humanistic care is the cornerstone of nursing practice [2], which is also a vital approach to promoting global health, according to the statements by the International Council of Nurses [3]. However, with the rise of science-centered medicine, the emphasis on humanistic care has diminished [4]. Research has revealed that 76.9% of medical disputes arise from a lack of humanistic care [5], which can adversely affect both patients and nurses/nurse practitioners. For instance, patients who do not receive sufficient humanistic care may feel insecure, express dissatisfaction with hospitalization, and encounter strained doctor-patient relationships [6]. Nurses, on the other hand, may suffer from anxiety and depression [7] and experience job burnout [8]. Therefore, practicing humanistic care has extremely important significance.

Narrative nursing is a key practice in humanistic care, which aims to provide patient- and family-centered care by interpreting narrative tales and integrating knowledge, beliefs, and values within the nurse-patient interaction context [9]. Narrative nursing can be augmented by focusing on the analysis of unfolding case studies, utilizing interactive teaching methods, and incorporating the practical realities of nursing care [10]. Storytelling is the core technique of narrative nursing, which requires nurses to continuously inquire about the issues encountered by patients and families and assess their needs and preferences for patient- and family-centered care [9]. Narrative nursing is considered successful when patients and their families feel cared for. Narrative nursing helps patients cope with disease and restores their meaning in life through focused listening and reactive nursing practices [11]. Patients receiving narrative nursing reported calmness of mind [12], relief from depression and anxiety [13], and improvement in their quality of life [14]. Additionally, narrative nursing has the potential to reduce nurses' work-related stress [15] and mitigate the ethical challenges faced in clinical practice [16].

Although narrative nursing has obvious advantages, the implementation process still faces a series of challenges, such as the lack of standardized clinical nurse-patient communication models and significant differences in mutual understanding levels between nurses and patients [17]. To address these issues, it is imperative to identify the potential factors influencing the effectiveness of narrative nursing and develop targeted strategies accordingly.

According to Bandura's theory, personal cognition, which encompasses knowledge and attitudes, directly affects behavioral activities by predicting and modulating behavior [18]. Previous research corroborates this finding, demonstrating that healthcare professionals' cognitive attitudes toward trauma-informed care practices positively impact their implementation of such practices [19]. In this study, nurses' personal cognition of their knowledge and attitudes toward narrative nursing were also expected to influence their narrative nursing practices. In addition, a positive attitude towards narrative nursing can boost nurses' confidence in their capabilities, indirectly enhancing narrative nursing practices through increased self-efficacy [20]. Therefore, self-efficacy may serve as a mediating factor in the relationship between nurses' attitudes toward narrative nursing and their narrative nursing practices.

Social support also influenced narrative nursing practices. Social support, defined as emotional and tangible assistance provided by family, friends, colleagues, and other significant individuals [21], is understood through main and buffering effect models [22]. The main effects model suggests that social support invariably benefits individuals, regardless of their stress or distress levels. Research has shown that individuals who receive social support are less likely to experience compassion fatigue and can manage stress more effectively to promote narrative nursing [23]. Furthermore, high social support can help nursing personnel proactively prevent adverse performances and maintain a more positive emotional experience, effectively mitigating the physical and psychological impacts of occupational stress [24]. By enhancing nurses' self-efficacy through positive experiences, social support can indirectly improve the quality and efficiency of narrative nursing [25]. Thus, theoretically, social support may indirectly influence narrative nursing practices through self-efficacy. Thus, we hypothesized that the practice of narrative nursing is contingent upon the synergistic effects of personal factors, such as knowledge and attitude regarding narrative nursing, and environmental factors, such as social support, which indirectly affect narrative nursing practice through self-efficacy. A theoretical model illustrating these relationships is presented in Fig. 1.

Due to that the existing knowledge gap regarding the current state and factors influencing narrative nursing practices, we conducted this cross-sectional study to primarily understand these aspects, offering empirical evidence for subsequent longitudinal and intervention-based studies. This study aimed to identify and understand how personal factors, such as knowledge and

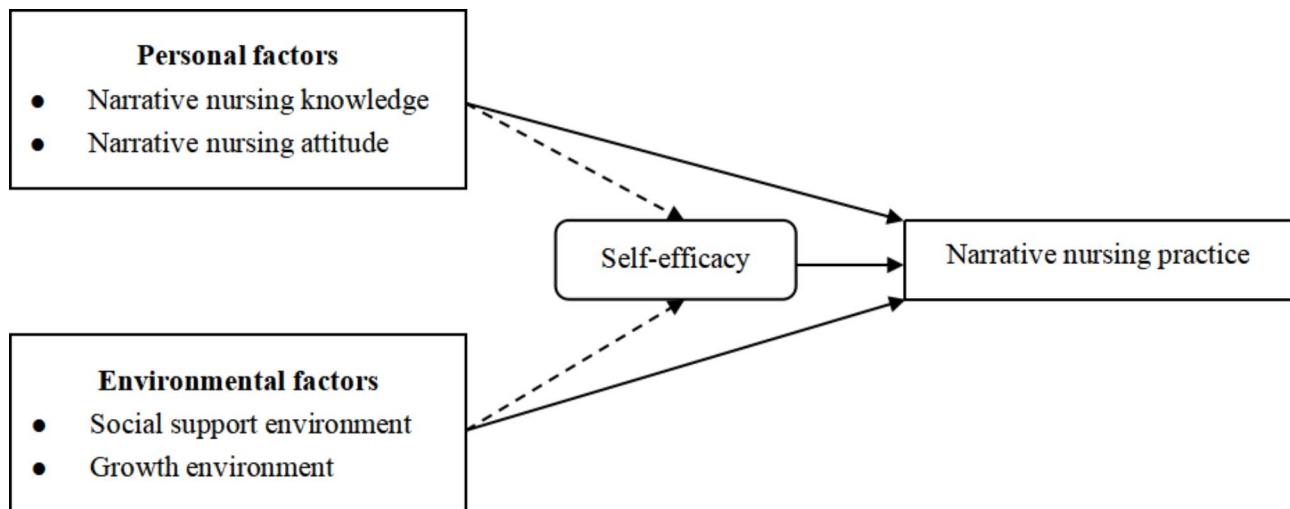


Fig. 1 Hypothetical model of the relationships among personal factors, environmental factors, and narrative nursing practice

attitude, and environmental elements, such as social support, influence the practice of narrative nursing.

Three hypotheses were proposed: (1) personal factors, including both knowledge and attitude, directly impact the practice of narrative nursing, (2) environmental factors, such as social support, also directly affect the practice of narrative nursing, and (3) self-efficacy serves as a mediator between personal and environmental factors that influence the practice of narrative nursing.

Methods

Study design and participants

This study was designed as a multi-center cross-sectional investigation using convenience sampling to obtain sufficient samples for developing our model. From March to October 2023, we surveyed 1091 nurses at three hospitals in Shanxi Province, China, and collected 931 questionnaires with a response rate of 85.34%. Nurses meeting the following criteria were invited to participate: (1) possession of a valid nursing practice license, (2) a minimum of one year of nursing experience providing care to sober patients, and (3) voluntary commitment to participate in this study. Individuals who (1) were not scheduled for duty during the survey period, (2) did not directly engage in nursing services (e.g., nurse managers), and (3) were advanced students and interns were excluded. All the participants provided written informed consent.

Setting and procedure

Having secured the consent of the nurse managers and nursing supervisors at each selected hospital, an electronic questionnaire was developed to facilitate an online survey using Sojump. Sojump is the most commonly used online survey platform in China and offers features such as data encryption, server stability, automated backups, and user-friendly interface. To prevent duplicate

responses, the questionnaire was designed to allow for only one response per unique cell phone number or IP address. All the questions were configured as mandatory to ensure that the survey could not be submitted with any missing responses. Prior to the official survey launch, comprehensive training materials were provided to nursing leaders at the three hospitals, outlining the study's objectives and importance, and detailing the precautions and response methods to be employed when completing the questionnaire. Subsequently, the survey data were verified by independent data processors to ensure completeness and reliability of the questionnaire.

Ethical considerations

This study adhered to the principle of the Declaration of Helsinki. Ethical approval was granted by the Medical Ethics Committee of The Second Affiliated Hospital of Xi'an Jiaotong University (Approval No. 2023004). Before the commencement of the investigation, participants were given an informed consent form. They were thoroughly informed of the voluntary and confidential nature of their involvement in this study. Emphasis was placed on the fact that their participation was entirely optional and that they had the unconditional right to withdraw from the study at any point without consequences or explanation. Additionally, they were assured that all collected data would remain anonymous and that their privacy would be strictly protected throughout the research process.

Sample size

According to Comrey and Lee [26], a sample size of approximately 300 is considered adequate for factor analysis. To further assess the statistical power, we conducted a post hoc analysis using G*Power 3.1 software to determine whether the sample size was sufficient. The analysis

revealed that with 931 participants, a power of 100% was achieved at a significance level of 0.05 (two-side).

Measures

Social-demographic characteristics

A self-designed questionnaire was initially developed based on a literature review and considerations of clinical significance and was subsequently pilot tested by an independent statistician. A questionnaire was used to collect sociodemographic characteristics, including gender, age, marital status, working department, working years, educational level, growth environment, monthly income (RMB), and job satisfaction. Specifically, the growth environment was categorized as urban or rural, which referred to the places where the participants were born and raised.

Knowledge-attitude-practice survey of clinical nurses on narrative nursing

The Knowledge-Attitude-Practice Survey of Clinical Nurses on Narrative Nursing was used to evaluate the narrative nursing practice, knowledge and attitude of participants in this study [27]. The questionnaire consists of three subscales: practice (8 items), knowledge (6 items), and the attitude (8 items). Each item was rated on a scale of 1 to 5 points, based on a 5-level Likert scale scoring method. The total scores for Practice, Knowledge, and Attitude were to 8–40 points, 6–30 points, and 8–40 points, respectively. A higher score indicated a higher the level of practice, knowledge, or attitude towards narrative nursing. This scale has revealed good reliability and validity in previous study (Cronbach's $\alpha=0.844$) [28], and in this study, the Cronbach's α for practice, knowledge, attitude subscales were 0.835, 0.735, 0.891, respectively.

Perceived social support rating scale

The Perceived Social Support Rating Scale was employed to evaluate the social support received by nurses [29]. This scale comprises three dimensions: subjective, objective, and support utilization. It comprises 10 items, each item is scored on a scale from 1 to 7, with higher scores indicating a greater level of social support. This scale has demonstrated strong validity and reliability in the Chinese population (Cronbach's $\alpha=0.949$) [30]. The Cronbach's α of the scale in this study was 0.806.

General self-efficacy scale

The Chinese version of the General Self-efficacy Scale was used to evaluate nurses' confidence in their capacity to participate in narrative approaches [31]. This scale consists of a single dimension with 10 items. Each item is rated on a scale of 1–4, allowing for a total possible score range of 10–40 points. This scale has been validated in a Chinese population, with a previous study reporting a

Cronbach's α of 0.903 [32]. The Cronbach's α of the scale in this study was 0.941.

Data analysis

Statistical analysis was conducted using IBM SPSS version 26.0 and AMOS version 20. The normality of the variables was evaluated by assessing the skewness and kurtosis. The variables were considered to be normally distributed if the skewness value was less than or equal to 2 or the kurtosis value was less than or equal to 4 [33]. All continuous data in our study adhered to a normal distribution. Thus, parametric tests were conducted. Specifically, independent sample t-tests (dichotomous variables), one-way ANOVA (polytomous variables), and Pearson's correlations (continuous variables) were performed. Variables that exhibited significant differences during the univariate analysis ($P<0.2$) [34] and potential factors identified through clinical experience were incorporated into the structural equation model. The structural equation model was conducted using bootstrap resampling techniques to detect direct and indirect relationships among the factors were analyzed, presenting standardized regression coefficients (β) and their corresponding p-values for direct, indirect, and total effects. Variables with non-significant coefficients were excluded from the model. Model fit was assessed using appropriate model fit indices [35]: a relative chi-square (χ^2/df) test of less than 3 (indicates a good fit if $P>0.05$); adjusted goodness-of-fit index (AGFI) (adjusted measure of how well the model fits the data); comparative fit index (CFI) (compares the fit of the proposed model to a null model); normative fit index (NFI) (compares the fit of the model to a model where all variables are uncorrelated); incremental fit index (IFI) (similar to CFI, accounts for the degrees of freedom); and Tucker-Lewis Index (TLI) (like CFI, assesses model fit); all above 0.90, goodness-of-fit index (GFI) (overall measure of how well the model fits the data) above 0.80, and Root Mean Square Error of Approximation (RMSEA) (estimates the error of approximation in the model) less than 0.08. A p-values of less than 0.05 (two-tailed) were considered statistically significant.

Results

Social-demographic characteristics

A total of 931 participants were included in this study, with a slightly higher proportion of middle-aged individuals. Most participants held a bachelor's degree or higher (81.95%), and their monthly income was mainly less than 5,000 RMB (46.19%). The other details are presented in Table 1.

Table 1 Characteristics and univariate analysis of survey results (N=931)

Variables	N/%	M ± SD	t/F	P	Post hoc ^a
Gender			0.45	0.650	
Male	33/3.54%	29.85 ± 6.76			
Female	898/96.46%	30.28 ± 5.26			
Age (years)			4.08	0.017	(a)-(c)*
< 30 (a)	402/43.18%	29.76 ± 5.33			
31–40 (b)	409/43.93%	30.47 ± 5.20			
>41 (c)	120/12.89%	31.22 ± 5.56			
Marital status			2.34	0.097	
Unmarried	308/33.08%	29.88 ± 5.17			
Married and having no child	95/10.20%	29.69 ± 4.70			
Married and having child	528/56.71%	30.59 ± 5.50			
Working department			1.28	0.280	
Internal department	337/36.20%	29.89 ± 5.53			
Surgery department	297/31.90%	30.43 ± 5.06			
Others	297/31.90%	30.51 ± 5.23			
Working years			4.97	0.007	(b)-(c)**
0–3 (a)	185/19.87%	30.13 ± 5.05			
4–10 (b)	355/38.13%	29.66 ± 5.44			
> 11 (c)	391/42.00%	30.87 ± 5.28			
Educational level			0.24	0.810	
Junior/senior high school	168/18.05%	30.35 ± 5.63			
Undergraduate and above	763/81.95%	30.24 ± 5.26			
Growth environment			2.71	0.007	
City	492/52.85%	30.71 ± 5.36			
Countryside	439/47.15%	29.76 ± 5.24			
Having experience of hospitalized or accompanied			3.23	0.001	
Yes	740/79.48%	30.55 ± 5.20			
No	191/20.52%	29.16 ± 5.63			
Workload			6.46	0.002	(c)-(b)** (c)-(a)*
Moderate (a)	211/22.66%	30.98 ± 5.24			
High (b)	426/45.76%	30.51 ± 5.07			
Very high (c)	294/31.58%	29.38 ± 5.63			
Monthly income (RMB)			0.41	0.667	
< 3000	430/46.19%	30.22 ± 5.63			
5000–8000	333/35.77%	30.15 ± 5.06			
> 8000	168/18.05%	30.59 ± 5.02			
Job satisfaction			26.14	< 0.001	(a)-(c)*** (b)-(c)***
Not satisfied (a)	67/7.20%	27.43 ± 6.46			
Satisfied (b)	417/44.79%	29.47 ± 5.05			
Very Satisfied (c)	447/48.01%	31.43 ± 5.09			
Narrative nursing contact			25.17	< 0.001	(a)-(b)*** (a)-(c)*** (a)-(d)** (b)-(c)*
Never heard (a)	404/43.39%	28.72 ± 5.28			
Not familiar (b)	460/49.41%	31.16 ± 4.90			
Familiar (c)	55/5.91%	33.27 ± 5.14			
Very familiar (d)	12/1.29%	33.82 ± 7.84			

Notes^a Adjusted by Bonferroni test, and only significant correlations are listed

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Univariate analysis

The independent sample t-test showed that there were significant differences in growth environment (MD=0.94, 95%CI: 0.26 ~ 1.62, $t=2.71$, $P=0.007$) and having experience of hospitalized or accompanied (MD=1.39, 95%CI:

0.55 ~ 2.23, $t=3.23$, $P=0.001$). For the one-way ANOVA, age ($F=4.08$, $P=0.017$), working years ($F=4.97$, $P=0.007$), workload ($F=6.46$, $P=0.002$), job satisfaction ($F=26.14$, $P < 0.001$), and narrative nursing contact were significant

Table 2 Correlations between variables

	Mean	SD	r	p
Narrative nursing performance (KAP-P)	30.26	5.32		
Narrative nursing knowledge (KAP-K)	23.71	4.76	0.41	<0.001
Narrative nursing attitude (KAP-A)	31.69	5.29	0.68	<0.001
Social Support Rating Scale	39.68	7.5	0.35	<0.001
Subjective support	23.32	4.92	0.2	<0.001
Objective support	8.61	2.51	0.29	<0.001
Support utilization	7.76	1.95	0.34	<0.001
General Self-Efficacy Scale	26.72	6.3	0.43	<0.001

Table 3 Path results of structural equation model

Paths	Direct effect	Indirect effect	Total effect
NN attitude → self-efficacy → NN practice	0.54***	0.06***	0.60***
Social support → self-efficacy → NN practice	0.08***	0.04***	0.12**
NN knowledge → NN practice	0.08**	/	0.08**
Growth environment → NN practice	-0.06**	/	-0.06**

Notes NN: narrative nursing

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

factors ($F = 25.17$, $P < 0.001$) (Table 1). These factors were used to validate of the structural equation model.

Correlations between variables

Correlations between the measurement variables were analyzed using Pearson's correlation coefficient analysis (Table 2). We observed positive correlations among all the individual variables. In this study, the correlation coefficient between the latent variables ranged from 0.20 to 0.68, and the squared value was smaller than every AVE value; thus, discriminant validity was secured. Narrative nursing knowledge ($r = 0.41$, $P < 0.001$), narrative nursing attitude ($r = 0.68$, $P < 0.001$), social support ($r = 0.35$, $P < 0.001$), and self-efficacy ($r = 0.43$, $P < 0.001$) were statistically significant.

Structural equation model

Table 3 details the model's results, revealing that nurses' attitudes toward narrative nursing indirectly influenced narrative nursing practice through self-efficacy, with a desirable fitting index (Table 4). This relationship involved a direct effect of 0.54 ($P < 0.001$), an indirect effect of 0.06, and a total effect of 0.60 ($P < 0.001$). Knowledge of narrative nursing directly influenced narrative nursing practice with an effect of 0.08 ($P < 0.001$). Social support has an indirect impact on narrative nursing practice through self-efficacy, with a direct effect of 0.08 ($P < 0.001$), an indirect effect of 0.04, and a total effect of

0.12 ($P < 0.001$). In addition, the growth environment was also associated with narrative nursing practice ($\beta = -0.06$, $P < 0.01$). The refined model is presented in Fig. 2.

Discussion

Summary of main results

The average score for nurses' narrative nursing practice in this study was 30.26 ± 5.32 , slightly higher than the previous study that investigated a total of 1993 nurses in China (28.27 ± 5.48) [36]. The structural equation model showed that narrative nursing attitudes and social support directly affected narrative nursing practice and indirectly influenced it via self-efficacy. In addition, narrative nursing knowledge and the growth environment were found to have an impact on narrative nursing practice. This study clarified the relationships between personal and environmental factors and narrative nursing practice, thus providing further insight into factors that may improve narrative nursing practice.

Model results

Attitude is central to the daily implementation of humanistic care, while knowledge provides basic theoretical guidance for nurses to engage in humanistic care practices [37]. In previous empirical research, both attitude and knowledge were found to significantly affect nursing practices, including the prevention of catheter-associated tract infections [38] and medical device-related pressure injuries [39]. This study confirmed that both narrative nursing knowledge and attitude could directly affect the practice of narrative nursing, thus verifying Hypothesis 1.

It has been proved that self-efficacy is intricately linked to the humanistic practices of narrative nursing [40]. This study further found that self-efficacy acted as a mediating factor in narrative nursing attitudes and practice, verifying our hypothesis 3. One possible mechanism is that self-efficacy is a dynamic process that can be modified by attitude, knowledge, feedback, and experience [41]. Once nurses gained higher levels of self-efficacy, they can effectively use their skills to accomplish challenging tasks [42]. Therefore, it is highly advisable to intensify and prioritize training and educational programs focused on narrative nursing, as this will significantly bolster nurses' self-efficacy in engaging in narrative nursing practices.

Consistent with previous research findings [43], this study confirmed that social support can directly affect narrative nursing practice. Additionally, it could indirectly influence narrative nursing practice through self-efficacy, thus verifying hypotheses 2 and 3. Previous

Table 4 Model fit parameters for the hypothesized and emerging models

Fitting Index	P	GFI	AGFI	IFI	TLI	CFI	RMSEA (90%CI)
Fitting Criteria	> 0.05	> 0.8	> 0.9	> 0.9	> 0.9	> 0.9	< 0.08
Correction path	0.385	0.998	0.992	1	0.999	1	0.007 (0.000, 0.047)

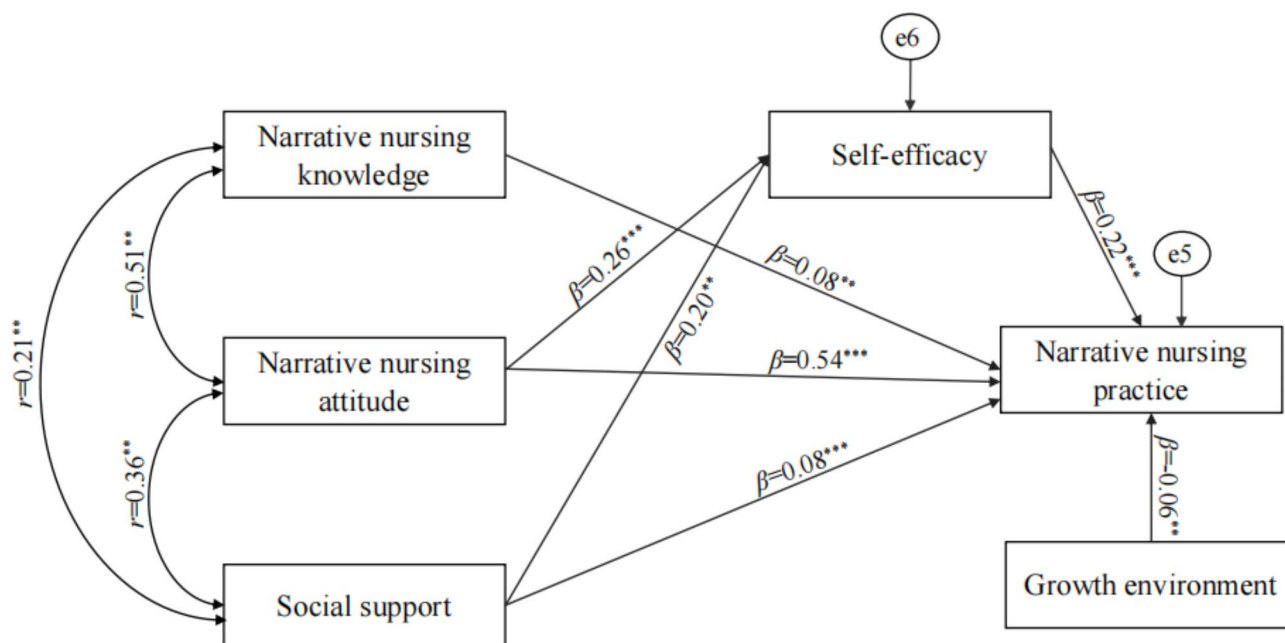


Fig. 2 Hypothesized Model of narrative nursing knowledge, narrative nursing attitude, social support, self-efficacy, growth environment, and narrative nursing practice

studies have highlighted that a strong social support network can provide emotional bolstering, guidance, and tangible assistance, which can exert a positive influence on an individual's beliefs, performance, and overall functioning [43]. Hospital nurses who receive greater social support may experience higher personal achievement and lower levels of emotional exhaustion and burnout [44], which could increase job satisfaction and promote humanistic care [45]. In particular, social support within the workplace, such as advocacy for narrative nursing and the development of narrative nursing skills, can effectively increase the humanistic qualities of nursing staff and promote the practice of narrative nursing [46]. In addition, healthy workplace characteristics, such as harmonious nurse–physician relationships, may influence work performance [47]. These findings underscore the importance of reinforcing social support and nurturing nursing staff's enthusiasm for narrative nursing, which can significantly enhance the quality of narrative nursing practice.

Notably, this study identified an association between nurses' growth environment and their practice of narrative nursing, with nurses in urban areas exhibiting better narrative nursing practices, which has not been clearly stated in previous studies. A large-scale longitudinal study of American adults spanning various stages of adulthood, has found that urban-rural differences in the expression of these five personality traits [48]. City dwellers tend to score higher on cheerfulness and mental health [48], which are significant factors that affect the execution of humanistic care [45]. This could explain the

findings of the present study. Accordingly, it is imperative that nursing managers focus on cultivating positive personality traits in nurses and promoting their psychological well-being. Training programs should be tailored to cater to a diverse range of nurse personalities while also enhancing their professional knowledge and fostering a deeper passion for nursing. Thus, the provision of humanistic care may be improved, encouraging narrative nursing practice.

Limitations

This study has several limitations. First, although we analyzed the research data based on a theoretical model, the cross-sectional design limited the inference of causality. Additional longitudinal and intervention studies are necessary to validate these findings. Second, despite being a multicenter study, we only included hospitals from one province. Therefore, questions might be raised about how the results can be generalized to other regions or countries. Future research should aim to replicate our study in different regions or countries to assess the consistency of our findings and determine the extent to which they can be generalized. Third, the variables in this study were measured using self-report questionnaires, and the results may have been overestimated, underestimated, or deviated.

Conclusions

This study identified crucial factors from both the personal and environmental perspectives that could directly or indirectly influence narrative nursing practice. The

path relationships in our model highlight the necessity of a comprehensive strategy to promote the practice of narrative nursing. This includes specialized training that enhances their knowledge and skills in narrative care, as well as the creation of a supportive environment that encourages and facilitates the implementation of humanistic care. The findings offer a compelling rationale for policymakers and nurse managers to integrate narrative nursing into healthcare settings. In doing so, they can contribute to the provision of patient-centered care that is compassionate, effective, and aligned with the principles of narrative nursing.

Implications for future research

The global healthcare sector has long faced challenges stemming from the scarcity and unequal distribution of nursing personnel [49]. In 2022, the registered nurses in China only covered 3.7 per 1,000 individuals [50]. This scarcity has seriously affected the quality of both clinical care and humanistic care [51]. The findings suggest that a multifaceted approach should be developed to promote the practice of narrative nursing in China. First, it is recommended that nursing programs tailored to narrative nursing, including art-based narrative training [52] and reflective practice [10] to improve nurses' knowledge of narrative nursing and foster an awareness and a desire to engage in such practices. These practices should be integrated into undergraduate and postgraduate nursing curricula to ensure a solid foundation for narrative nursing. In addition, simulation training for narrative nursing listening [53] and the use of narrative nursing case studies [54] can enhance nurses' self-efficacy in implementing narrative nursing. By providing hands-on experience and practical examples, these methods enable nurses to apply narrative techniques in controlled environments, thereby enhancing their confidence in their abilities [10]. Moreover, within medical settings, fostering a supportive environment is crucial for promoting the practice of narrative nursing [55]. Therefore, nursing managers should provide more support for nurses. These include providing resources, addressing concerns, and creating a supportive environment that values and encourages narrative nursing. Subsequently, a narrative-based nursing model should be developed to emphasize the concept of patient-centered care [56], while also incorporating the considerations of cost-effectiveness.

Author contributions

L Z conceptualized and designed the study, developed the methodology, implemented software tools, and drafted the original manuscript. Q H and L N conducted investigations, curated data, contributed to conceptualization and methodology, and drafted the original manuscript. H Y provided supervision, validated the findings, and contributed to writing, reviewing, and editing the manuscript. All authors have approved the final draft.

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Data availability

The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethical approval and consent to participate

This study adhered to the principle of the Declaration of Helsinki. Ethical approval was granted by the Medical Ethics Committee of The Second Affiliated Hospital of Xi'an Jiaotong University (Approval No. 2023004). Before the commencement of the investigation, participants were given an informed consent form. They were thoroughly informed of the voluntary and confidential nature of their involvement in this study. Emphasis was placed on the fact that their participation was entirely optional and that they had the unconditional right to withdraw from the study at any point without consequences or explanation. Additionally, they were assured that all collected data would remain anonymous and that their privacy would be strictly protected throughout the research process.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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