

Original Paper

Analysis of the Current Situation and Influencing Factors of the Adaptive Ability of Undergraduate Nursing Students during Clinical Internship

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Abstract

Objective: To investigate the current situation and analyze the influencing factors of the adaptive ability of undergraduate nursing students during clinical internship period and analyze their influencing factors, in order to provide a basis for the development of effective intervention strategies. **Methods:** From December 2024 to January 2025, 336 full-time undergraduate nursing students who had completed four months of internship in a tertiary hospital in Haikou City were selected by convenience sampling method. An online questionnaire was administered using the General Information Questionnaire and the Clinical Adaptation Skills Scale for Nursing Students in Internship. SPSS 27.0 software was used for descriptive analysis, independent samples t-test and one-way ANOVA. **Results:** The total clinical adaptability score of undergraduate nursing students was (82 ± 11.5) , which was at a moderate level. Among them, 72 (21.4%) were well-adjusted, 168 (50.0%) were mildly maladjusted, and 96 (28.6%) were moderately severe maladjusted. The scores of each dimension, in descending order, were: interpersonal relationship (3.6 ± 0.6) , occupational cognition (3.4 ± 0.7) , behavioral performance (3.3 ± 0.7) , and emotion (3.1 ± 0.8) . Univariate analysis showed that the differences in clinical adaptability scores were statistically significant among nursing students of different genders, places of origin, whether or not they were student leaders, frequency of extracurricular activities, personality types, monthly family incomes, degree of liking for the nursing profession, and attitudes toward employment prospects (all $P < 0.05$). **Conclusion:** The overall adaptive ability of undergraduate nursing students during their clinical internships needs to be improved, which is influenced by a variety of personal and social factors. It is recommended that comprehensive measures be taken at the school, hospital and nursing students' own levels, including optimizing the curriculum, strengthening the support of clinical teaching, and

enhancing the psychological resilience and sense of professional identity of nursing students, in order to promote their smooth adaptation to the clinical environment.

Keywords

undergraduate nursing students, clinical placement, adaptive ability, influencing factors, cross-sectional study

1. Introduction

Clinical placement is a key link in the nursing education system, which is an important stage in the transformation of nursing students' theoretical knowledge and clinical practice, and the realization of the transition from students to prospective nurses. nurse role change is an important stage (Arslan Yurumezolu, H., & Kocaman, G., 2020). In this process, adaptive ability is one of the core competencies for nursing students to effectively cope with the challenges of the clinical environment and to ensure the quality of practice and physical and mental health. Clinical adaptability is not only related to the current learning effectiveness of nursing students, but also has a profound impact on their sense of professional identity, future career choices and the stability of the nursing team (Tan, X., He, Y., Zeng, Y., et al., 2022).

Studies at home and abroad have shown that nursing students generally face different degrees of adaptation challenges during clinical internship. Yang Hongjun et al. (2020) found that male nursing students may have more difficulties in interpersonal adaptation. Studies have also shown that clinical maladjustment is an important factor affecting nursing students' professional identity and even their intention to leave the profession (Li, F., Ning, L., Li, S., et al., 2023). Various factors affect the clinical adaptability of nursing students, including individual factors such as gender, age, and personality traits, as well as external factors such as school education, clinical environment, and social support. However, most of the existing studies focus on a specific factor or group, and there is a relative lack of systematic research on the comprehensive analysis of multiple factors, especially for undergraduate nursing students in specific regions (e.g., Hainan, China).

Undergraduate nursing students, as an important reserve force of the nursing workforce, deserve great attention for their clinical adaptation status. Hainan, as an important special economic zone and tourist destination in China, has special healthcare resources and needs. Therefore, this study aimed to comprehensively assess the current situation of undergraduate nursing students' adaptive ability during clinical internship in Haikou area through a cross-sectional survey and to deeply explore their multidimensional influencing factors, with a view to providing empirical evidence for the development of targeted intervention strategies and the enhancement of the quality of undergraduate nursing students' clinical internship.

2. Objects and Methods

2.1 Subjects

A convenience sampling method was used to select 336 full-time undergraduate nursing students interning in a tertiary hospital in Haikou City from December 2024 to January 2025 as the study subjects.

Inclusion criteria: (1) full-time undergraduate nursing interns; (2) having entered the clinical internship for 4 months; (3) informed consent and voluntary participation in this study.

Exclusion Criteria: (1) Those who could not continuously participate in the internship due to personal leave, sick leave, etc.; (2) Those who had serious cognitive or communication disorders and could not complete the questionnaire.

2.2 Research Tools

(1) General information questionnaire: designed by the researcher herself, the contents include gender, age, family residence, only child, whether serving as a student cadre, frequency of extracurricular activities, personality type, monthly family income, degree of liking of nursing specialty, and attitude toward employment.

(2) Clinical Adaptation Skills Scale for Intern Nursing Students: the scale prepared by Lei Jie (2013) was used, with a total of 28 entries containing four dimensions: interpersonal relationship (9 entries), behavioral performance (9 entries), career cognition (5 entries), and emotion (5 entries). A Likert 5-point scale was used (1 = not at all, 2 = not well adjusted, 3 = fair, 4 = fairly well adjusted, and 5 = well adjusted), with a total score range of 28 to 140. A score of ≥ 95 was classified as well adapted, 78 to 94 as mildly maladapted, and ≤ 77 as moderately severe maladaptation. The Cronbach's α coefficient of the scale is 0.921, which has good reliability and validity.

2.3 Survey Method

A cross-sectional survey design was used. The electronic questionnaire was distributed through the "Questionnaire Star" platform. Before the survey, a uniformly trained researcher explained the purpose, significance and confidentiality of the study to the nursing students, and after obtaining informed consent, the questionnaires were filled out independently and anonymously by the nursing students. The questionnaires were submitted on the spot and verified for completeness by the researcher.

2.4 Statistical Methods

SPSS 27.0 software was used for data analysis. Count data were described as frequency (n) and percentage (%); measures that conformed to normal distribution were described as mean $\pm$ standard deviation ($\bar{x} \pm s$). Independent samples t-test was used to compare the differences between dichotomous variables (e.g., gender, place of origin, etc.) on the total score of adaptive ability; one-way analysis of variance (ANOVA) was used to compare the differences between groups of multicategorical variables (e.g., frequency of extracurricular activities, personality type, etc.), and if the results of the ANOVA were statistically significant, then the LSD method was used to make two-by-two comparisons. The test level $\alpha = 0.05$.

3. Results

3.1 General Information of the Study Subjects

In this study, 336 questionnaires were distributed and 336 valid questionnaires were recovered, with a valid recovery rate of 100%. The results showed that of the 336 undergraduate nursing interns in this study, the age range was 20-24 years old, with a mean age of (22.3±1.2) years; 68 (20.2%) were male; and 268 (79.8%) were female. There were 184 (54.8%) who lived in towns and cities, 216 (64.3%) who were not only children, 250 (74.4%) who did not serve as student leaders, 156 (46.4%) who had low frequency of extracurricular activities, 168 (50%) who were extroverted, 120 (35.7%) who had a per capita family income of 3,000-5,000 yuan, and 96 (28.6%) who were very fond of the nursing profession. 96 (28.6%), and 168 (50%) who were optimistic about the employment prospect. The specific results are shown in Table 1.

Table 1. General Information Table of Intern Nursing Students (n=336)

Variable	Category	Number (n)	Percentage (%)
Gender	Male	68	20.2
	Female	268	79.8
Family residence	Rural	152	45.27
	Urban	184	54.8
Only child	Yes	120	35.7
	No	216	64.3
Served as student cadre	Yes	86	25.6
	No	250	74.4
Participation extracurricular activities (times/month)	≥4	102	30.4
	1-3	78	23.2
	< 1	156	46.4
Personality type	Extraversion	168	50.0
	Introversion	168	50.0
	< 1000	36	10.7
Per capita household income (yuan)	1000-3000	84	25
	3000-5000	120	35.7
	> 5000	96	28.6
Degree of liking the nursing profession	Very much	96	28.6
	Liking	120	35.7
	Generally	84	25
Attitude towards the	Disliking	36	10.7
	Optimistic	170	50.6

employment prospect	Generally	84	25
	Unoptimistic	82	24.4

3.2 Clinical Adaptability Score of Undergraduate Nursing Students

The total clinical adaptability score of undergraduate nursing students is (82 ± 11.5) , which is in the middle level overall. The scores of each dimension, in descending order, were: interpersonal relationship (3.6 ± 0.6) , occupational cognition (3.4 ± 0.7) , behavioral performance (3.3 ± 0.7) , and emotion (3.1 ± 0.8) . According to the scale demarcation score, 72 (21.4%) were well-adjusted, 168 (50.0%) were mildly maladjusted, and 96 (28.6%) were moderately or severely maladjusted. This indicates that nearly 80% of the nurses had varying degrees of clinical adaptation difficulties. The distribution of specific scores is shown in Table 2.

Table 2. Scores of Clinical Adaptability Dimensions of Intern Nursing Students

Dimension	Mean	Standard deviation	Minimum	Maximum
Interpersonal and social	3.6	0.6	1	5
Behavioral performance	3.3	0.7	1	5
Occupational cognition	3.4	0.7	1	5
Emotions	3.1	0.8	1	5
Total score of adaptability	82	11.5	35	130

3.3 Unifactorial Analysis of the Clinical Adaptability of Undergraduate Nursing Students of Different Characteristics Analysis

The results of the one-way analysis showed (see Table 3) that the differences in the clinical adaptive ability of nursing students were statistically significant in terms of gender, place of origin, whether they served as student leaders, frequency of extracurricular activities, personality type, per capita monthly income of the family, liking of the nursing specialty, and attitudes toward employment (all $P < 0.05$). And on the factor of being an only child, the difference was not statistically significant ($P > 0.05$).

Table 3. Analysis of Differences between Different General Information and Clinical Adaptability Scores

Variable	Category	Mean clinical adaptability score (points)	t/F	P
Gender	Male	88	-4.21	< 0.001
	Female	80		
Family residence	Rural	82	-3.87	< 0.001
	Urban	85		
Only child	Yes	83	1.23	0.22

	No	81		
Served as student cadre	Yes	87	3.65	<0.001
	No	80		
Participation	≥ 4	88	8.23	<0.001
extracurricular	1-3	82		
activities (times/month)	<1	72		
Personality type	Extraversion	86	6.54	<0.01
	Introversion	78		
	<1000	76	7.89	<0.001
Per capita household	1000-3000	78		
income (yuan)	3000-5000	82		
	>5000	90		
	Very much	90	12.34	<0.001
Degree of liking the	Liking	83		
nursing profession	Generally	78		
	Disliking	72		
Attitude towards the	Optimistic	88	9.87	<0.001
employment prospect	Generally	82		
	Unoptimistic	76		

4. Discussion

4.1 The Adaptive Ability of Undergraduate Nursing Students during Clinical Internship is Generally at a Moderate Level

The results of this study show that the adaptive ability of undergraduate nursing students during clinical internship in Haikou is generally at a moderate level, but the proportion of maladaptive students is as high as 78.6% (50.0% mild, 28.6% moderate and severe), which is higher than that of some domestic studies of the same kind (Tingting Zhan, Mei Cheng, Xu Sun, et al., 2023), suggesting that undergraduate nursing students are facing a greater challenge of smooth transition from the campus to the clinic, and their adaptive ability needs to be urgently improved and improved. challenges, and their adaptive ability needs to be improved urgently. The lowest score (3.1 ± 0.8) in the emotion dimension reflects that nursing students are prone to negative emotions such as anxiety and frustration when facing clinical work pressure, complex interpersonal and unexpected events. Therefore, it is crucial to pay attention to the psycho-emotional state of nursing students during internship and provide timely guidance.

4.2 Analysis of Factors Influencing the Adaptive Ability of Undergraduate Nursing Students during Clinical Internship

The results of this study found that the adaptive ability of male nursing students during clinical internship was better than that of female nursing students. This difference may stem from the differences in stress

coping strategies and social role expectations between the two sexes. It has been shown that males are more inclined to adopt problem-focused coping strategies, i.e., taking positive problem-solving actions that directly address the stressor, when faced with a stressful situation (Zhang Li, Xuliu Liu, & Zhang Tong, 2019). Women, on the other hand, may be more inclined to emotion-focused coping, with the former usually being more conducive to rapid adaptation to the demands of the job in highly stressful clinical settings. In addition, there are certain unconventional social expectations for men to choose nursing, a traditionally feminized profession, and such expectations may have prompted male nursing students to have engaged in more adequate psychological construction and career planning prior to enrollment and internship, and thus demonstrated greater psychological resilience and adaptive initiative upon entering the clinic.

The results of this study suggest that extroversion, rich experience in extracurricular activity participation, and student leader experience were shown to be significant protective factors for clerkship adaptability. Individuals with extroverted personalities usually have better social initiative and emotional expressiveness, which helps them quickly establish good interpersonal relationships in unfamiliar clinical teams. Long-term involvement in extracurricular activities and serving as student leaders meant that these nursing students had accumulated richer practical experience in interpersonal communication, organizational coordination and stress management during their formative years. These transferable generic competencies can be effectively transferred to clinical practice scenarios, enabling them to show stronger self-confidence and handling ability when facing doctor-patient communication, teamwork and emergency situations (Middleton, R., Kinghorn, G., Patulny, R., et al., 2022).

The results of this study found that nursing students residing in towns had significantly higher scores of adaptability. This phenomenon can be explained from the perspective of environmental exposure and early socialization. Urban-born nursing students usually have more exposure to medical institutions, health information and related social resources during their growth process, and have earlier indirect knowledge of the hospital's environmental settings, workflow and cultural atmosphere. This early environmental familiarity can significantly reduce their sense of unfamiliarity and situational anxiety when they first enter clinical practice, thus shortening the psychological adaptation period and allowing them to engage in learning and work more quickly.

This study found that the higher the per capita monthly family income, the stronger the nursing students' ability to adapt to the internship. Economic capital plays an important role in supporting individual development, and good family economic conditions can not only provide nursing students with richer learning resources (e.g., professional books, online courses, and skills training), but also provide a stable psychological backing to reduce their anxiety due to economic pressure. This dual material and psychological support helps nursing students to focus more on clinical learning and skill enhancement, thus enhancing their overall confidence and performance in adaptation (Song, L., 2022).

The results of this study showed that love for the nursing profession itself and optimism about future employment prospects were significantly and positively correlated with placement adaptation. This

finding strongly supports the Knowing-Believing-Doing theoretical framework. Positive professional emotions stem from a deep understanding of the value of the nursing profession, and this internal identification and love can effectively stimulate strong learning motivation and positive professional behavior, prompting nursing students to seek learning opportunities, overcome difficulties, and integrate into the clinical team more actively during the internship (Song, L., 2022). On the contrary, nursing students with a low sense of professional identity and a sense of confusion about their professional future are more likely to display negative, passive, or even withdrawn behaviors in their internships, thus triggering maladaptation. Therefore, cultivating students' intrinsic sense of professional identity and positive career outlook is a core intervention target to enhance their clinical adaptability.

5. Conclusion

The results of this study indicate that maladaptation is common among undergraduate nursing students during their clinical internships, and their adaptive ability is significantly affected by multiple factors such as gender, place of origin, experience of social activities, personality traits, family socio-economic status, professional identity, and career expectations. Emotional adaptation is the weakest link among them. In order to effectively improve the clinical adaptation ability of undergraduate nursing students, schools can optimize the curriculum, and set up courses or workshops with strong relevance, such as “clinical adaptation and stress management” and “nurse-patient communication skills” before the internship. Promote teaching methods such as simulation teaching and case discussion to train nursing students' clinical thinking and adaptability in advance. Establish a tracking and counseling mechanism during the internship period, and pay attention to and channel the psychological pressure of nursing students in a timely manner. Hospitals should strengthen the construction of clinical teaching teachers, conduct standardized training, and improve their teaching ability and sense of humanistic care. Implement the “mentor system”, matching each nursing student with an experienced instructor to provide personalized guidance. Efforts should be made to create a supportive and inclusive clinical learning atmosphere, and regular team building activities should be organized to enhance the sense of belonging of nursing students. Nursing students should take the initiative to improve self-adjustment ability and actively seek social support. Participate in all kinds of practical activities during the school period to exercise comprehensive quality. During the internship, they should keep a positive attitude, reflect and summarize, and communicate with teachers and students. Correctly recognize stress, learn emotion management skills, and maintain physical and mental health.

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