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The Impact of Socioeconomic Status on Satisfaction with Nursing Care Quality among Post Operative Patients in xuzhou, China

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ABSTRACT

summary Objective: To explore the role of socioeconomic status in patient satisfaction with quality of nursing care among postoperative patients in the Xuzhou area of China.

Method: Between September and December 2024, a cross-sectional survey was carried out using a self-reporting questionnaire in three tertiary hospitals in Xuzhou, which is one of the fastest-urbanizing districts in Jiangsu Province. The simplified Chinese version of the Cancer Nursing Quality Scale was used, and 462 valid questionnaires were analyzed with SPSS26.0.

Results: The average nursing satisfaction score was 143.79±15.296. Univariate and multivariate analysis revealed that level of education, working hours, and occupation significantly affected satisfaction. Patients with a higher level of education and cadre occupations were less satisfied, while those who worked longer hours were more satisfied. But patients who had a master's degree or higher did not follow the same pattern.

Conclusion: Socioeconomic characteristics, especially work-related and educational qualities, play crucial roles in shaping perceived quality of nursing care. Interventions tailored to fit the individual requirements of different groups of patients ought to be prepared.

Keyword: *quality of care; cross-sectional surveys; Multiple linear regression analysis*

1. INTRODUCTION

According to data from the Global Cancer Observatory, there were approximately 19.3 million new cancer cases worldwide in 2020 [1]. In China, there were approximately 4.06 million new cases of malignant tumors and approximately 2.41 million deaths in 2018 [1]. Among them, the number of new cases and deaths of malignant tumors in Jiangsu Province was approximately 270,000 and 160,000, respectively [1]. The number of new cases and deaths of malignant tumors in northern Jiangsu was approximately 90,000 and 60,000, respectively. In recent years, with the rapid development of aging, the incidence and mortality of malignant tumors have increased significantly. For cancer patients, hospitalization is a necessary, recurring, and unpredictable event. During the long-term and complex treatment process, their body and mind suffer

unbearable trauma, which seriously reduces the quality of life of patients. High-quality nursing has an important impact on the prognosis of cancer patients. Scientific nursing intervention can effectively improve the clinical treatment effect and

survival time of patients[2-5]. A study by Cupta et al. found that when cancer patients perceive the quality of nursing services to be good, it will promote patients to actively cooperate with treatment, thereby improving their quality of life. Given the specific and continuous nature of oncology care, nurses play a vital role in patient care during hospitalization, including early identification of the care needs of these patients and their families and providing personalized care that meets high-quality standards[6-8].

Based on the bio-psycho-social-spiritual care model, combined with the research on the psychological needs of cancer patients and related assessment tools, the item design of the Quality of Oncology Care Scale (QONCS) is very consistent with Maslow's need theory[9-11]. The scale was compiled by Dr. Charalambous. From the perspective of cancer patients, it measures the quality of care from five dimensions: support and confirmation, spiritual care, sense of belonging, attention, and respect. The scale has been used to measure the nursing satisfaction of different populations in Europe, such as Italy, Portugal, Czech Republic, Greece, and Cyprus[12]. The reliability and validity of the scale are good, and some meaningful conclusions have been drawn. However, the scale is rarely used in East Asia, such as China. In order to compare the differences in the quality of cancer care in different cultural and demographic backgrounds, this scale was selected for research.

In China, the Cancer Nursing Quality Scale was adapted into simplified Chinese in 2020. Only some cancer patients were surveyed when the scale was translated into Chinese, and the extrapolation of the scale has not been analyzed[13-15]. This study used the Cancer Nursing Quality Scale to conduct a survey on the quality of cancer nursing among inpatients with cancer, to understand the nurse-patient relationship, psychological experience, spiritual care, etc. of the inpatient group, to analyze the main factors affecting nursing quality, and to find solutions to improve the quality of cancer nursing.

2. METHOD

2.1 Study Design

A cross-sectional study was conducted between September and December 2024 using a self-administered questionnaire. This study received ethical approval from the Institutional Review Board (IRB) of Xuzhou Medical University and the Affiliated Hospital of Xuzhou Medical University. The procedures used in this study were in accordance with the Declaration of Helsinki. All participants were aware of the stakes involved in participating in this study and gave written informed consent. After obtaining informed consent from the patients and their families, the investigators distributed questionnaires, which the respondents filled in on their own or with the assistance of the researchers. After completion, the questionnaires were collected immediately. The researchers checked the questionnaires and asked the patients to correct and supplement them if they were incorrectly or incompletely filled in.

2.2 Research Object

The subjects of this study were inpatients in the Department of Oncology Surgery of three tertiary hospitals in Xuzhou, Jiangsu Province. Inclusion criteria: (1) diagnosed with tumor by pathology/cytology, (2) diagnosed with TNM stage III-IV, (3) aged 18 years or older, (4) with knowledge of the disease, (5) normal communication skills, and (6) voluntary participation. Exclusion criteria were: (1) patients with severe mental illness or impaired consciousness, (2) aged over 75 years, and (3) patients who refused to participate in the survey.

The sample size was determined. The Oncology Care Quality Scale used in this survey has 34 items. According to the recommendations of the literature, the sample size should be no less than 10 times the scale items, and the sample size should be at least 340 people. In order to reduce the influence of factors such as selection bias on the results, 160 people were surveyed in each hospital, and a total of 480 people were surveyed. 462 valid questionnaires were collected, with a recovery rate of 96.25%.

2.3 Research Methodology

Cross-sectional survey design. Ethical approval was granted by the Xuzhou Medical University IRB. Participants were inpatients in three tertiary hospitals. Inclusion and exclusion criteria were well defined. The Cancer Nursing Quality Scale was translated and validated for use in the Chinese population, with high internal consistency (Cronbach's alpha = 0.944).

Data were gathered utilizing trained investigators and a strict quality control process. Missing data were examined and handled by follow-up or elimination when necessary. The statistical analysis entailed descriptive, univariate, and multivariate regression methods.

The generalizability limitation to other provinces or nations was noted, and subsequent studies are advised to utilize more extensive geographic locations and multi-center sampling.

2.3.1 Demographic characteristics

Basic demographic attributes include a series of personal and family factors, including but not limited to: age, education level, occupation, monthly income, place of residence, housing area, whether it is the first hospitalization, number of days of hospitalization, etc.

2.3.2 Oncology Quality of Care Scale

The Quality of Oncology Nursing Care Scale (QONCS) is a psychometric tool designed to quantify personal satisfaction with nursing care[]. The scale contains five dimensions and 34 items: support and confirmation (16 items), spiritual care (6 items), sense of belonging (5 items), importance (4 items), and respect (3 items). All items in the scale use the Likert 5-point rating method, where 1 point = "strongly disagree" and 5 points = "strongly agree". The total score of the scale is obtained by adding the scores of each item, resulting in a total score ranging from 34 to 170. The higher the score, the higher the evaluation of the quality of nursing services by cancer patients. Compared with other scales, the design of the scale items takes into account the particularity of cancer patient care, pays attention to the participation of patients and their families in nursing decision-making and spiritual needs, emphasizes the nurses' attention to the physical, mental, and spiritual aspects of chronic disease patients, and reflects the modern nursing concept of patient-centered and holistic care. In this study, the Cronbach alpha value of the entire scale was calculated to be 0.944, and the alpha values of the five dimensions ranged from 0.676 to 0.933.

2.4 Data Collection

After completing the questionnaire survey, the investigators immediately reviewed the questionnaire and asked the patients to fill in the missing items on the spot for the missing items that were not filled in or missing, with the aim of making the collected data complete, accurate and true. To further ensure the quality and reliability of the data, the investigation team was subject to a strict supervision system. The supervisor implemented a weekly monitoring schedule and held regular quality control meetings. These meetings were mainly to coordinate various issues that occurred during the data collection process, provide guidance for the investigation team to carry out their work smoothly, and provide feedback on their opinions and suggestions during the investigation.

3. RESULTS

3.1Demographic sociological characteristics of surgical inpatients

Among the 462 surgical patients, there were 266 male patients and 196 female patients, with male patients accounting for a significantly higher proportion than female patients; the older the age, the higher the proportion of surgical patients, with patients over 50 years old accounting for 35.3% of the total patients; the largest number of married people accounted for 67.2%; the educational level of the surveyed patients was high, with primary school and below and junior high school education accounting for a high proportion of 55.7%; the proportion of patients working 8-12 hours a day was 71.2%; and the patients with a monthly income of RMB 3,000-7,000 accounted for 66.7%. The results are shown in Table 1.

table1 Demographic and sociological characteristics of cancer inpatients in Xuzhou

Constituencies		n (%)	Constituencies		n (%)
Gender	male	266 (57.6)	Working hours per week	≦8	83 (18.0)
	female	196 (42.4)		8-12	329 (71.2)
Age	18-29	58 (12.6)		≧12	50 (10.8)
	30-39	87 (18.8)	Monthly income	≦3,000	80 (17.3)
	40-49	154 (33.3)		3,000 -5,000	165 (35.7)
	50-	163 (35.3)		5,000 - 7,000	143 (31.0)
marital status	Single	52 (11.3)		≧ 7,000	74 (16.0)
	Separation	15 (3.2)	Place of residence	City	187 (40.7)
	Widowed	26 (5.6)		Townships	157 (34.0)
	Divorce	26 (5.6)		Rural areas	118 (25.3)
	Cohabitation	26 (5.6)	Housing area	≦ 70 m^2	94 (20.3)
	In marriage	310 (67.2)		70 -110 m^2	262 (56.8)
	Others	7 (1.5)		≧110 m^2	106 (22.9)

Educational attainment	Primary school	132 (28.6)	First hospitalization	Yes	266 (57.6)
	Junior school	125 (27.1)		No	196 (42.4)
	Senior school	86 (18.6)	Number of days in hospital	≦1 week	157 (34.0)
	College	51 (11.0)		1-2 weeks	246 (53.2)
	Undergraduate	46 (10.0)		≧2 weeks	59 (12.8)
	Master	22 (4.7)			
occupation	Worker	197 (42.6)			
	Farmer	117 (25.3)			
	Civil servants	89 (19.3)			
	Cadres	11 (2.4)			
	Business owners	13 (2.8)			
	Unemployed	35 (7.6)			

3.2The total score and the mean and standard deviation of the score of each dimension of the Surgical Patient Quality of Care Scale

The total score of the nursing quality scale for 462 tumor surgical patients was 143.79±15.296, the support and confirmation dimension score was 68.42±7.129, the spiritual care dimension score was 25.05±3.733, the sense of belonging dimension score was 20.99±2.789, the emphasis dimension score was 16.65±2.362, and the respect dimension score was 12.68±1.868. The results are shown in Table 2.

table2 The mean and standard deviation of the total and dimension scores of the Surgical Oncology Patient Quality of Care Scale

project	Number of entries	Score range	This time the score range	$\overline{X}$ ±S
Total score	34	34-170	74-170	143.79±15.296
Support and Confirmation	16	16-80	49-80	68.42±7.129
Spiritual Care	6	6-30	6-30	25.05±3.733
Sense of Belonging	5	5-25	9-25	20.99±2.789
Degree of Importance	4	4-20	7-20	16.65±2.362
Degree of Respect	3	3-15	3-15	12.68±1.868

3.3Univariate analysis was conducted on the total score of nursing quality and the scores of each dimension affecting patients in Xuzhou area of cancer surgery

Independent sample t-test or one-way analysis of variance was performed with different patient characteristics such as gender and age as independent variables and the total score and each dimension score of nursing satisfaction as dependent variables. The results showed that the factors with statistically significant differences in the total score of nursing quality ($P<0.05$) included the patient's age, education level, occupation, daily working hours, and monthly income; the factors with statistically significant differences in the support and confirmation dimension score ($P<0.05$) included the patient's marital status,

education level, occupation, daily working hours, monthly income, place of residence, and whether it was the first hospitalization; the factors with statistically significant differences in the spiritual care dimension score (P<0.05) included the patient's daily working hours, monthly income, and housing area; the factors with statistically significant differences in the sense of belonging dimension score (P<0.05) included the patient's age, education level, occupation, daily working hours, monthly income, housing area, and whether it was the first hospitalization; the factors with statistically significant differences in the importance dimension score (P<0.05) included the patient's age, education level, occupation, daily working hours, monthly income, and place of residence; the factors with statistically significant differences in the respect dimension score (P<0.05) included the patient's daily working hours and monthly income. The results are shown in Table .

table3 Univariate analysis of the total score of nursing quality of cancer surgery patients and the impact of each dimension score

Constituencies	Total score		Support and Confirmation		Spiritual Care		Sense of Belonging		Degree of Importance		Degree of Respect	
	$\bar{x}$ ±s	t/F	$\bar{x}$ ±s	t/F	$\bar{x}$ ±s	t/F	$\bar{x}$ ±s	t/F	$\bar{x}$ ±s	t/F	$\bar{x}$ ±s	t/F
Age												
18-29	141.80±17.35	3.241*	68.24±8.20	2.287	23.91±4.35	0.042	20.38±3.18	8.612**	16.50±2.51	6.143**	12.57±2.18	1.429
30-39	143.15±16.03		69.22±7.61		23.84±4.20		20.91±3.09		16.71±2.61		12.47±1.82	
40-49	147.50±13.78		70.79±6.25		23.92±4.12		22.12±2.54		17.72±2.11		12.93±1.77	
50-	146.03±12.88		70.22±6.92		23.77±3.68		21.89±2.36		17.39±2.14		12.75±1.58	
Gender												
male	144.84±15.34	1.000	69.63±7.73	1.264	23.68±3.98	1.078	21.62±2.75	0.209	17.24±2.32	0.190	12.67±1.73	0.994
female	146.21±13.33		70.44±5.99		24.09±4.04		21.57±2.75		17.29±2.30		12.83±1.83	
marital status												
Single	142.81±17.17	1.340	68.71±8.37	2.132*	23.78±4.48	1.712	20.75±3.37	1.983	16.90±2.49	1.518	12.65±2.08	0.769
Separation	140.00±15.19		67.13±4.55		24.40±3.71		20.33±3.42		16.00±3.05		12.13±2.09	
Widowed	143.42±13.69		68.42±7.37		23.35±4.42		21.46±3.44		17.31±1.89		12.88±1.45	
Divorce	142.54±16.27		67.19±8.04		25.08±4.22		21.08±1.76		16.65±2.31		12.54±1.70	
Cohabitation	149.00±6.66		71.00±3.22		25.77±2.83		21.65±1.49		17.42±1.84		13.15±0.93	
In marriage	146.27±14.38		70.62±6.95		23.63±3.91		21.85±2.76		17.42±2.31		12.76±1.78	
Others	143.86±13.73		69.28±6.34		23.43±5.13		21.71±1.70		17.29±0.95		12.14±2.27	
Educational attainment												
Primary school or low	149.59±11.88	3.493*	72.25±6.53	4.345*	23.83±3.65	1.546	22.52±2.18	5.481**	18.03±1.81	4.754**	12.96±1.44	1.046
Junior school	143.65±15.88		68.87±7.58		23.45±4.14		21.53±2.89		17.14±2.46		12.66±1.98	
Senior school	144.95±12.44		69.81±5.12		24.11±3.90		21.33±2.52		17.00±2.30		12.71±1.84	

College	143.51± 17.01		69.09± 8.22		23.57± 4.43		21.16± 3.19		16.88± 2.67		12.80± 1.91	
Undergr aduate	141.57± 18.14		68.26± 7.95		23.87± 4.58		20.46± 3.32		16.68± 2.57		12.30± 1.98	
Master or above	144.82± 8.25		68.82± 5.75		25.91± 2.88		20.95± 1.94		16.50± 1.54		12.64± 1.26	
occupati on												
Worker	145.48± 12.27	2.476 *	69.76± 6.12	3.547 *	24.11± 3.67	1.36 2	21.62± 2.31	3.676 *	17.23± 2.04	2.802 *	12.76± 1.64	0.98 5
Farmer	146.21± 15.74		70.99± 7.94		23.04± 4.02		21.95± 2.98		17.52± 2.52		12.70± 1.98	
Civil servants et.	144.08± 15.66		68.94± 6.98		24.13± 4.30		21.21± 2.89		16.99± 2.45		12.79± 1.74	
Cadres	135.73± 24.89		65.27± 10.57		23.54± 6.20		19.27± 4.88		15.73± 3.04		11.91± 1.92	
Business owners	140.54± 21.83		67.31± 7.52		24.38± 5.77		20.31± 3.59		16.34± 3.12		12.15± 3.02	
Unemplo yed	150.74± 9.19		72.89± 6.21		24.31± 3.24		22.46± 2.02		18.06± 1.69		13.03± 1.09	
Working hours per day												
≦8 hours	137.59± 20.98	15.67 5**	66.76± 9.03	11.54 4**	22.43± 5.07	13.9 80*	20.27± 3.94	12.86 2**	16.13± 3.03	13.36 0**	12.00± 2.45	8.99 2**
8-12 hours	147.08± 12.49		70.82± 6.47		23.87± 3.71		21.93± 2.38		17.56± 2.07		12.89± 1.58	
≧12 hours	147.52± 8.72		69.74± 5.33		26.12± 2.63		21.60± 1.78		17.18± 1.80		12.88± 1.38	
Monthly income												
≦3,000	146.15± 13.36	5.099 *	70.49± 7.46	3.638 *	23.11± 3.89	3.81 2*	22.11± 2.39	5.606 *	17.58± 2.09	3.481 *	12.86± 1.66	4.12 6*
3,000 - 5,000	146.13± 14.64		70.21± 7.05		24.01± 3.83		21.73± 2.71		17.41± 2.35		12.79± 1.82	
5,000 - 7,000	147.23± 10.57		70.67± 5.29		24.56± 3.66		21.75± 2.19		17.31± 1.93		12.94± 1.51	
≧ 7,000	139.55± 19.91		67.55± 8.94		22.95± 4.85		20.46± 3.72		16.50± 2.93		12.09± 2.13	
Place of residenc e												
City	143.93± 15.69	2.846	69.24± 7.38	5.026 *	23.69± 4.20	0.98 7	21.32± 2.83	2.139	17.12± 2.42	3.038 *	12.56± 1.87	1.67 7
Townshi ps	145.29± 12.27		69.54± 6.35		24.22± 3.67		21.64± 2.33		17.09± 2.01		12.80± 1.59	
Rural areas	147.97± 15.10		71.72± 7.16		23.64± 4.10		21.98± 3.07		17.71± 2.46		12.92± 1.84	
Housing area												
≦ 70 m2	143.66± 13.52	2.994	68.70± 6.66	2.532	24.49± 3.59	7.67 7*	21.04± 2.57	3.364 *	16.81± 2.22	2.698	12.62± 1.79	1.21 2
70 -110 m2	146.86± 12.65		70.55± 6.34		24.15± 3.82		21.86± 2.36		17.45± 2.06		12.85± 1.63	

≧110 m2	143.43± 18.81		69.67± 8.74		22.56± 4.51		21.43± 3.59		17.21± 2.88		12.57± 2.07	
First hospitalization												
Yes	146.46± 14.91	1.792	70.73± 7.15	2.716 *	23.62± 4.38	1.480	21.82± 2.89	1.998 *	17.43± 2.31	1.811	12.85± 1.76	1.816
No	144.02± 13.89		68.94± 6.79		24.17± 3.41		21.30± 2.51		17.04± 2.29		12.56± 1.78	
Number of days in hospital												
≦1 week	144.75± 14.63	0.690	69.67± 7.21	1.239	23.57± 4.35	0.619	21.56± 2.81	0.243	17.19± 2.24	0.464	12.76± 1.76	0.148
1-2 week	145.39± 14.33		69.85± 6.98		24.03± 3.85		21.57± 2.67		17.24± 2.32		12.69± 1.75	
≧2 week	147.36± 15.06		71.31± 6.83		23.86± 3.66		21.83± 2.91		17.53± 2.45		12.83± 1.9	

Remark：*P<0.05,** P<0.001

3.4Multiple linear regression analysis of the total score of quality of care and the scores of each dimension of patients in oncology surgery

The total score of tumor nursing quality and the scores of each dimension were used as dependent variables. Multivariate linear regression analysis was performed on the factors with statistically significant differences in univariate analysis. The results showed that compared with primary school, the total score of nursing quality of patients with an education level of junior high school (β=-0.213, P<0.001), high school (β=-0.145, P=0.013), college (β=-0.144, P=0.009), and undergraduate (β=-0.158, P=0.010) was lower; compared with working 8 hours a day, the total score of nursing quality of patients working 8-12 hours (β=0.292, P<0.001) and more than 12 hours (β=0.244, P<0.001) a day increased; compared with workers, the total score of nursing quality of patients with occupations of cadres (β=-0.109, P=0.018) was lower.

Compared with working 8 hours a day, patients working 8-12 hours (β=0.139, P=0.012) and more than 12 hours (β=0.277, P=0.000) had increased spiritual care dimension scores.

Compared with those aged 18-29 years, the sense of belonging dimension score of patients aged 40-49 years (β=0.207, P=0.004) increased; compared with primary school, the sense of belonging dimension score of patients with education level of junior high school (β=-0.175, P=0.001), high school (β=-0.163, P=0.005), college (β=-0.143, P=0.009), and undergraduate (β=-0.194, P=0.002) decreased; compared with working hours of 8 hours a day, the sense of belonging dimension score of patients working hours of 8-12 hours (β=0.286, P<0.001) and more than 12 hours (β=0.209, P<0.001) increased; compared with workers, the sense of belonging dimension score of patients with occupation of cadres (β=-0.112, P=0.013) decreased.

Compared with working 8 hours a day, patients who worked 8-12 hours (β=0.225, P<0.001) and more than 12 hours (β=0.163, P=0.003) had increased respect scores, and compared with patients with a monthly income of less than 3000 RMB, patients with an income of more than 7000 RMB (β=-0.177, P=0.002) had decreased respect scores. The results are shown in Table 4.

table4 Multiple linear regression analysis of the total score of quality of care and the scores of each dimension of patients in oncology surgery

	overall		Support and Confirmation		Spiritual Care		Sense of Belonging		Degree of Importance		Degree of Respect	
project	*β*	*P*	*β*	*P*	*β*	*P*	*β*	*P*	*β*	*P*	*β*	*P*
Age（Ref: 18-29）												
30-39	-0.002	0.981					0.021	0.743	0.001	0.987		
40-49	0.120	0.099					**0.207**	**0.004**	**0.171**	**0.019**		
50-59	0.055	0.470					0.137	0.068	0.071	0.350		

marital status（Ref: Single）												
Separation			-0.038	0.452								
Widowed			-0.080	0.144								
Divorce			-0.076	0.162								
Cohabitation			0.059	0.271								
Inmarriage			0.050	0.473								
Others			-0.009	0.854								
Edu（Ref:Primary）												
Junior school	**-0.213**	**0.000**	**-0.217**	**0.000**			**-0.175**	**0.001**	**-0.195**	**0.000**		
Senior school	**-0.145**	**0.013**	**-0.134**	**0.020**			**-0.163**	**0.005**	**-0.175**	**0.003**		
College	**-0.144**	**0.009**	**-0.133**	**0.015**			**-0.143**	**0.009**	**-0.156**	**0.005**		
Undergraduate	**-0.158**	**0.010**	**-0.128**	**0.035**			**-0.194**	**0.002**	**-0.159**	**0.010**		
Master and above	-0.071	0.180	-0.070	0.183			-0.096	0.068	**-0.128**	**0.016**		
Occu（Ref: Worker）												
Farmer	-0.024	0.636	0.006	0.917			-0.025	0.642	-0.008	0.876		
Civilser	0.000	0.996	-0.048	0.398			0.020	0.709	0.008	0.878		
Cadres	**-0.109**	**0.018**	**-0.128**	**0.006**			**-0.112**	**0.013**	-0.085	0.064		
Business owners	-0.014	0.761	-0.016	0.734			-0.024	0.604	-0.018	0.712		
Unemployed	0.013	0.790	0.022	0.653			-0.011	0.814	0.005	0.918		
Working hours per day（Ref: ≦8）												
8-12	**0.292**	**0.000**	**0.245**	**0.000**	**0.139**	**0.012**	**0.286**	**0.000**	**0.294**	**0.000**	**0.225**	**0.000**
≧12	**0.244**	**0.000**	**0.186**	**0.001**	**0.272**	**0.000**	**0.209**	**0.000**	**0.200**	**0.000**	**0.163**	**0.003**
Monthly income（Ref: ≦3,000 RMB）												
3,000 -5,000	0.024	0.711	0.008	0.898	0.073	0.260	-0.032	0.618	-0.005	0.941	-0.058	0.370
5,000 - 7,000	0.076	0.265	0.094	0.177	0.105	0.111	0.017	0.802	0.013	0.850	-0.028	0.666
≧ 7,000	-0.100	0.119	-0.063	0.342	-0.054	0.368	-0.119	0.062	-0.075	0.244	**-0.177**	**0.002**
Place of residence（ Ref: City）												
Townships			0.006	0.912	0.028	0.573	-0.003	0.950				
Ruralareas			**0.123**	**0.028**	-0.018	0.733	0.024	0.659				

4. DISCUSSION

In this study, the total score and scores of each dimension of nursing quality for cancer patients in Xuzhou were higher than those in Southeast European countries. From the patients' perspective, they are generally satisfied with the nursing quality. This also suggests that the overall nursing quality of chronic patients provided by nursing staff in Xuzhou is at an upper-middle level, and also reflects that patients are more able to understand the hard work of nursing staff. The scores of each dimension are also higher than those of other countries using similar scales, indicating that the level of meticulous care for patients in all aspects is also better than that of other countries[17-18].

Compared with cancer patients who work no more than 8 hours a day, patients who work 8-12 hours and more than 12 hours a day have a higher total score of nursing quality ($p<0.05$), indicating that the length of patients' previous daily working hours affects their nursing quality experience, and the longer they work, the better their nursing quality experience. From the perspective of patients, after the hospital's precise treatment and careful care, their body and mind have been well restored, and they are satisfied with the overall nursing experience with gratitude to the hospital; from the perspective of nurses and nursing managers, their hard work has been recognized and well rewarded by patients. This also shows that patients who work long hours in China generally have a higher work intensity, less rest time, and a stronger experience of the hardships of work and life. When they are hospitalized for treatment, they may generally face greater survival pressure, understand the hard work of nurses, and easily resonate with each other, resulting in higher nursing satisfaction evaluations for nurses or hospital work. This is similar to the results of Andreas Charalambous's study in three southeastern European countries.

Compared with cancer patients with an education level of primary school or below, the total nursing quality scores of patients

with an education level of junior high school, senior high school, college, and undergraduate were lower ($p<0.05$); the total nursing satisfaction scores of the master's degree and above group were not statistically different from those of the primary school group ($p=0.180$)[17-19]. This may generally indicate that with the improvement of education level, income status will also increase, and various physical, psychological, social, and spiritual needs during hospitalization will also increase, and patients' expectations for nursing services will also increase, resulting in a relatively lower evaluation of nursing quality[20]. There is no significant statistical difference in the total score of nursing quality between cancer patients with a master's degree or above and those with primary school education or below. The possible reason is that patients with higher educational levels are generally in a higher social class, have stronger psychological adaptability to their own cancer, and are relatively objective about the prognosis of the disease, so their total score of nursing quality is higher. It may also be because the sample size is small or the group's expectations of nursing services are closer to their actual experience, resulting in a higher total score.

It was found that the main factors affecting the total score of cancer nursing quality were the patient's working hours, education level and previous occupation. At the same time, the main factors affecting the scores of each dimension were not much different from the factors affecting the total score, but this study also has certain limitations. First, the cancer patients in this study were recruited from tertiary general hospitals, so our sample may be insufficient; second, because this study was conducted in parts of eastern China, there will inevitably be selection bias, so the representativeness of the sample needs to be improved. It is recommended that similar studies be conducted in wider areas in the future to facilitate the comparison of differences in cancer care quality between different regions; third, the sociological factors studied are not comprehensive enough, and subsequent studies need to add some characteristic variables to more broadly find factors that affect the quality of cancer care; finally, this study only used self-reported measurement methods to investigate patients' satisfaction with care, so the participants' responses may be subject to subjective influences such as social expectations, and may be biased to a certain extent. In order to avoid this problem, it is necessary to use more objective behavioral tests in future studies.

Limitations are regional sample, possible social desirability bias through self-reporting, and no investigation of interaction effects between variables (e.g., income * education). Future research should include more varied types of hospitals (e.g., rural and military hospitals) and mixed-method designs.

5. CONCLUSION

This study comprehensively explored the factors affecting the quality of nursing care for inpatients with cancer. The results confirmed that the patient's daily working hours, education level, and occupational factors play a dominant role in affecting the total score of nursing satisfaction. The longer the daily working hours, the higher the nursing satisfaction of the patients, while the higher the education level and the higher the occupational position, the lower the nursing satisfaction of the patients, indicating that the requirements of disadvantaged inpatients with cancer for nursing conditions during hospitalization are relatively low, and the groups with good economic conditions have higher requirements for nursing conditions. This requires that the nursing staff of medical institutions that admit cancer patients should not only provide various medical care to this group of patients, but also meet the needs of patients in other aspects such as psychology and spirituality in a targeted manner, so as to better promote the recovery of patients' diseases and thus improve the quality of nursing. Socioeconomic factors, especially education level, occupation, and working hours per day, have significant effects on patient satisfaction with nursing services. The results indicate the necessity of stratified nursing practices. Hospitals ought to provide care interventions based on patients' psychological, emotional, and spiritual needs across different backgrounds. The findings provide data-based evidence to enhance oncology nursing care among various social groups in China

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