BMJ Open

Inpatient satisfaction with nursing care in a backward region: a cross-sectional study from northwestern China

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ABSTRACT

Objectives The aim of the study was to examine the level of patient satisfaction with nursing care and identify the factors affecting satisfaction from the inpatient's perspective in a backward region of China.
Design This was a cross-sectional study.
Setting The study was conducted at a tertiary hospital located in northwest China.
Participants Patients admitted to the ward for at least 48 hours were chosen to participate in the survey.
Primary outcome measure The Newcastle Satisfaction with Nursing Care Scale was used. Data were collected from 219 patients.
Results The overall inpatient satisfaction with nursing care was 78.15±4.74. Patients were more satisfied with nurses who respected their privacy and treated them as individuals (67.7%). Patients were least satisfied with the type of information nurses gave them (11.7%) and with the sufficient awareness of their needs. Patients who were married, had a history of hospitalisation, surgery and were taken charge of by junior nurses had higher satisfaction.
Conclusions The overall level of patient satisfaction was moderate. Patient-centred individualised care and providing sufficient information model of care are needed. There was a need for nurses to be aware of patients' individualised care needs and to provide them with more information. This study may suggest/urge hospital administrators, policymakers and nurses to be more sensitive with patients' married status, history of hospitalisation and surgery, the professional title of in charged nurses when care is provided. Ultimately to achieve better outcome of patients' hospitalisation.

BACKGROUND

Patient satisfaction has been defined by scholars from different aspects. Swarup *et al* define it as people's expectation for health-care services due to the requirements of health, disease, quality of life and other aspects.[1] Berkowitz suggested that patient satisfaction is an individual's evaluation of the degree to which the medical services provided are in line with their expectations and preferences.[2] Ahmed *et al* believe that patient satisfaction is the result of patients filtering medical service experience and

Strengths and limitations of this study

► The current study used a valid and standardised instrument.
► This is the first study to evaluate inpatient satisfaction using Newcastle Satisfaction with Nursing Scale in a backward region of China.
► The small sampling might not likely to represent the patients in all Chinese hospitals.
► There is a possibility that patients' responses were influenced by social desirability.

evaluating the degree to which medical service experience meets their needs from their own unique perspective.[3] Among them, most scholars believe that the best definition of patient satisfaction is an evaluation of medical services by patients based on the degree to which their expectations are met.[4] In view of this expectation, the evaluation of patient satisfaction objectively reflects the quality of healthcare services which becomes a gold standard and widely used metric to measure hospital quality management.[5 6]

Patient satisfaction with nursing service is an important component of patient satisfaction.[7] Risser defines patient satisfaction with nursing as the degree to which the patient's expectation of ideal care is consistent with the actual care.[8] Eriksen defines it as a subjective evaluation made by patients according to their own expectations of nursing and their cognitive and emotional reactions to the interaction of actual receiving nursing services.[9] The American Nurses Association defines it as a patient or his family staff's evaluation of the nursing care received.[10] The above definitions are slightly different, but the consistent point is that patients' satisfaction with nursing is a subjective feeling, closely related to their expectation and perception of nursing quality. From the time of admission until discharge, nurses provide care for patients every day without fail and are

involved in almost every aspect of a patient's care. Therefore, as main healthcare providers, nurses make a significant impact on patients' perceptions about their hospital experience.[7] If healthcare organisation managers are able to identify patient expectations, they could accordingly adjust the performance of services that they offer, in order to meet these expectations.[11 12] Therefore, it is urgently necessary to carry out surveys in health services to constantly measure patient healthcare satisfaction, to learn about their expectations, suggestions and feedbacks, so as to guide healthcare workers as to which items should be prioritised and which require alterations in the service.[13]

In order to achieve the goal of high-care quality, decision makers should not only know whether a patient is satisfied but, more importantly, why the patient is not satisfied. That is, they should identify the factors affecting the patient's satisfaction with nursing services, so as to carry out care that meets the patient' needs. According to previous studies, factors such as age,[14 15] gender,[15–17] educational level,[18 19] length of hospital stay, type of admission,[20] history of admission, patient's income level, type of admission rooms,[21] monthly household income, frequency of admission, and so on had a significant association with the level of satisfaction.[22] To foster better individualised care, the factors influencing a hospitalised patient's perception of individualised care should be identified.

In China, there are 20 918 hospitals of different levels with 20 million registered nurses. The average bed to nurse ratio is about 1:0.45. Of them, the 2232 tertiary public hospitals account for only 7.66% of the all-type health facilities, yet they provide nearly half (42.5%) of the inpatient care.[23] On average, the rate of one nurse per 1000 population is lower than the WHO standard of 2.28 per 1000 population.[24] Excessive workloads lead to a lower job satisfaction in nurse staff across tertiary hospitals.[23 25] In such an environment, the patient satisfaction in tertiary hospitals needs more attention. The Ministry of Health of China formulated the 'Standards for Implementing Quality Nursing Services in Hospitals (Trial)' in 2010, which was aimed at providing patients with safe and high-quality nursing services.[26] With these standards, the 'high quality nursing service project' was carried out nationwide. By the end of 2015, all tertiary hospitals in China had carried out the project, with 87.0% of them being tertiary A class hospitals and 82.6% were B class.[27]

At present, the results of surveys on the satisfaction of hospitalised patients with nursing service in China have rather been confusing. On one hand, patients in different facilities reported a high satisfaction about nursing service, as shown in table 1.

These indicated that Chinese nursing services have continued to be improved with the implementation of the 'high-quality care project'. However, untruthful reports by the media and continuous occurrence of disputes and violence are inconsistent with the results of the satisfaction surveys. An analysis of workplace violence shows that 40.8% of hospital nurses in China have experienced different types of workplace violence.[28] Zou's study showed that there was a high incidence (59.7%) of workplace violence among nurses in Chinese tertiary

Table 1 Outcomes of patients' satisfaction in different provinces of China

Author	Survey date	Province	Hospital included	Instrument	Satisfaction		Effecting factors
					n	%	
Guo et al[67]	2007	24 provinces	71 hospitals	Self-designed	4338	93.69	Age, education level
Jiao[35]	2008	Beijing	4 A class hospitals	NSNS	1496	82.9	Age, education-level health status, department
Fu[48]	2010	Henan	1 children hospital	NSNS	110	85	Age, education level
Nie[41]	2013	Shandong	1 B class hospital	Self-designed	626	78	Department, age, education level, occupation, payment method, ADL
Shan et al[68]	2013	Heilongjiang	30 hospitals	CNHSS	1200	76	Medical insurance
Hu[43]	2013	Gansu	1 A class hospital	Self-designed	400	80.9	Environment
Guo[69]	2014	Shandong	1A-class hospital	Self-designed	298	79.8	Age, patients' position, culture, income and reason for choosing the hospital
Xing et al[33]	2015	Gansu	1A-class hospital	Self-designed	138	82.4	Age, degree of education, average income per person in family and self-feeling of health status
Liu et al[42]	2017	Jiangxi	2 A-class hospital	IAPSQGH	844	82.1	Age, degree of education, average income per person in family
Liu and Mao[40]	2019	11 provinces in western China	33 county-level hospitals, 33 township hospitals	CNHSS	9811	60	Waiting time, medical expenses

ADL, ability of daily life; CNHSS, China National Health Service Surveys questionnaire; IAPSQGH, Improvement and Assessment of Patient Satisfaction Questionnaire in General Hospitals; NSNS, Newcastle Satisfaction with Nursing Scale.

hospitals.[29] Wang and Sun's study indicated that 6.67% of nurses had suffered violence in the workplace.[30] Violence in these workplaces affects nurses' mental health, leading to job burn-out,[31] and thus reduces the quality of nursing services. The frequent occurrence of workplace violence in hospitals directly reflects the dissatisfaction of patients with the quality of medical care. Thus, hospital-specific data are still required to provide evidence for cross-country and cross-cultural comparisons of satisfaction and factors affecting satisfaction using standardised tools.

The backward region studied in this manuscript is the Gansu province, located in the northwest of China. Affected by the regional conditions, the development of economy, culture and information has been relatively less developed. According to China's comprehensive economic competitiveness development report, Gansu province was ranked 27th among the 31 provinces in China.[32] With continuous development in the overall scale of hospitals in Gansu, the scope of service has been getting larger, and the number of patients received also gradually increasing. With the continuous improvement of people's requirements for service level, complaints from patients occur frequently.[33] In light of this situation, hospital managers urgently need to understand the gap between patients' care needs and the capabilities of their hospital to providing care in a timely and dynamic manner. To our knowledge, ours is the first study in Gansu to use the Newcastle Satisfaction with Nursing Scale (NSNS) to measure satisfaction with nursing care. Thus, this study has two aims: (1) to assess patient satisfaction with nursing care using the NSNS instrument, so as to find out the gap between patients' expectations and hospitals' service provision; (2) to investigate into the factors affecting patient satisfaction with nursing care, so as to provide more accurate reference for hospital managers and relevant regulatory agencies.

METHODS

Study design

This study was a cross-sectional survey held in 2018. For the reporting purpose, Strengthening the Reporting of Observational Studies in Epidemiology checklist was used.

Study settings and the participants

This study was conducted at Gansu Provincial Hospital (GPH), a tertiary hospital with 1700 beds. The services at GPH include ear, nose and throat, surgery, outpatient clinic, emergency, gynaecology and obstetrics, paediatrics and neonatal intensive care unit, maternal and child health, physiotherapy, dental, radiology, traditional Chinese medicine, rehabilitation and internal medicine. GPH is also a teaching hospital for nursing, health officers, medicine, midwifery and pharmacy undergraduate and graduate students. The hospital has a total of 4070 employees, 1200 of which are nurses who provide healthcare in 60 nursing units. The hospitalised patients mainly come from residents and people in the surrounding cities and counties. Choosing the hospital to carry out the survey can better understand the expectations of patients from different social strata in Gansu.

The number of open beds in GPH is about 1500, excluding departments such as paediatrics, intensive care units, emergency wards and VIP wards (about 200). The population of the study was calculated using the formula $N=Z^2 \cdot P(1-P)/E^2$ [5] in which the symbols represent the following: a margin of error (E)=5%. In order to narrow the interval and make the estimation of effect quantity more accurate, we chose 99% as the confidence level, with Z=2.58. Previous study showed that 90% patient satisfaction with nursing care.[16] We calculated the sampling using the following: $Z^2 \cdot P(1-P)/E^2 = (2.58*2.58) \cdot 0.90(1-0.90)/(0.05*0.05) = 6.65*0.09/0.0025 = 239$. Then we added 20% to the sample size for non-response or for selection bias, thus making the sample size=288 approximately. Patients should meet the following inclusion criteria: (1) ≥18 years old; (2) admitted in the wards for at least 48 hours; (3) capable of independent communication; (4) voluntary participation. Patients were excluded on any one of the following: patients in intensive care unit; paediatric patients; emergency observation ward patients; VIP patients in selected wards. Medical, surgical, gynaecological and obstetrical, and ear, nose and throat wards were purposefully selected and based on the calculated sample size, the required number of patients from each ward was proportionally allocated. Finally, 291 patients were included for further analysis, and 32 were excluded with 12 of them being younger than 18 years old and 20 who refused to participate.

Instruments

The questionnaire included: (1) general demographic characteristics such as age, gender, educational status, marital status, monthly family income, history of admission, hospital length of stay, admission ward, professional title of the patient's nurse in charge; (2) NSNS checklist. The NSNS was developed by Thomas et al.[34] The scale has been translated into different languages and has been applied in many studies. The Chinese version of the scale was tested for its validity and reliability by Jiao with the Cogent Validity index being 0.98 and Cronbach's alpha 0.97.[35] The NSNS includes two subscales: the Experience of Nursing Care Scale and the Satisfaction with Nursing Care Scale (SNCS). The two subscales can be applied either together or separately. In this study, the SNCS was applied, consisting of a total of 19 items and using a 5-point Likert scale. For assessing the degree of satisfaction, 'not at all', 'barely', 'satisfied', 'very' and 'completely' were scored from 1 to 5 respectively. Patient responses across all items were summed and transformed to yield an overall satisfaction score between 0 and 95, which denotes none or complete satisfaction with all aspects of nursing care.

Patient and public involvement

The research questions and outcome measures were developed by the authors (JZ and JW) based on the

NSNS checklist and through consulting with ward nurse managers who understood patients' priorities, experiences and preferences. Patients were recruited via their advisers (ward nurse managers) and were interviewed by the trained nurse students to evaluate their level of satisfaction. No patient was involved in the design and planning of the study. The main results will be disseminated to patients by means of health education.

Data collection

Five nursing students were trained previously by one of the authors (JZ). The training lasted for 2 days. On the first day, the students were trained to understand the meaning of each item of the questionnaire and, on the second, they were shown how to communicate with patients. After that, each student selected a patient in a specified department to conduct a presurvey using the questionnaire, and gave feedback regarding the survey process, so that the trainers could answer their questions in a timely manner.

At the time of admission, a lottery method was adopted by the nurse manager to randomly select patients. Then, the students made records and attended to the patients 48 hours later after their admission. A private room at the department was used to interview patients. Family members were present during some of the interviews at the request of patients. If the patient could not fill in the form due to various factors, the student would ask the questions and gave a certain amount of time for patients to make statements for each question. After each question, the student assisted to fill in the questionnaire according to the patient's answer. In addition, medical records were reviewed for certain variables such as hospital length of stay and history of admission. The study started in August 2018 through November of the same year and 291 patients completed the survey.

Data analysis

The data were collected and analysed with SPSS V.21.0. Patient satisfaction was described by the mean, SD, frequency and percentage. As the missing data were less than 5% in some items, we used listwise deletion to deal with them. Considering the study by Ahmed *et al*,[21] we adopted the same method to use the mean satisfaction score as a cut-point to dichotomise satisfaction into 'satisfied' and 'not satisfied'. Based on the years of experience, the professional title of nurses was divided into junior (1–5 years) and senior (above 5 years). In addition to hospitalisation, we also checked whether patients had a history of hospitalisation in the past. Binary logistics regression analysis and backward stepwise method were used to screen variables that might affect patient satisfaction. The strength of the associations was described using OR and 95% CI.

RESULTS
Patients' characteristics

Of the participants, the mean age was 45.59±15.96. As seen in table 2, 54.6% were male, 87.6% were married and 23.7% were primary school graduates; 33.7% were

Table 2 Sociodemographic characteristics and NSNS calculated score, for example (n=291)

Variables	Categories	Frequency n (%)	NSNS score Mean (SD)
Gender	Male	159 (54.6)	79.00±4.44
	Female	132 (45.4)	77.12±4.85
Monthly family income (¥)*	<100	1 (0.3)	78.0±0.35
	<1000	17 (5.7)	77.52±4.05
	1000–2999	103 (34.6)	85.0±0.05
	3000–4999	130 (43.6)	78.56±4.37
	≥5000	39 (13.1)	77.0±6.45
	≥10 000	1 (0.3)	78.52±4.05
Marital status	Single	20 (6.9)	78.5±2.35
	Married	255 (87.6)	77.98±4.95
	Others	16 (5.5)	80.4±1.59
Educational status	Primary school	69 (23.7)	78.27±4.01
	High school	146 (50.2)	77.90±4.53
	Advanced diploma	40 (13.7)	77.82±6.15
	Bachelor's degree	35 (12.0)	79.11±4.96
	Master's degree	1 (0.3)	85.0±0.05
Admission ward	Medicine	99 (33.7)	78.62±4.93
	Surgery	78 (26.5)	77.63±2.97
	Obstetrics and gynaecology	42 (14.4)	74.5±5.5
	Ophthalmology and otorhinolaryngology	18 (6.2)	79.77±3.13
	Rehabilitation department	22 (7.6)	80.86±5.13
History of admission	Yes	146 (50.2)	78.76±4.57
	No	145 (49.8)	77.53±4.82
Patients know the name of nurse in charge	Yes	221 (75.9)	78.47±4.65
	No	70 (24.1)	77.14±4.82
Living area	Urban	146 (50.2)	77.98±4.08
	Rural	145 (49.8)	78.31±5.28
Title of staff nurse	Junior RN	177 (61.7)	79.15±4.25
	Senior RN	114 (38.3)	76.56±4.98
Mean satisfaction score		78.15 (max 95)±4.74	

*US$1 is ¥7.4.
NSNS, Newcastle Satisfaction with Nursing Scale; RN, registered nurse.

admitted in a medical department, 43.6% had monthly family incomes between ¥3000 and ¥4999 (related to US$436–US$726). More than three-quarters (79%) of the patients knew the name of their nurse in charge and more than half (61.7%) were cared by junior registered nurses. Patients had variations in the duration of their hospital stays (2–36 days) with a mean of 7.20±5.69 days.

Table 3 Percentage distribution of items for satisfaction with nursing care in admitted patients at GPH

Item	Not at all satisfied n (%)	Barely satisfied n (%)	Quite satisfied n (%)	Very satisfied n (%)	Completely satisfied n (%)
1. The amount of time nurses spent with patient	0	4 (1.4)	42 (14.4)	179 (61.5)	66 (22.7)
2. How capable nurses were at their job	0	1 (0.3)	16 (5.5)	156 (53.6)	118 (40.5)
3. There always being a nurse around when needed	0	2 (0.7)	58 (19.9)	164 (56.4)	67 (23.0)
4. The amount nurses knew about patient care	0	1 (0.3)	38 (13.1)	193 (66.3)	59 (20.3)
5. How quickly nurses came when patient called them	0	1 (0.3)	30 (10.3)	123 (42.3)	137 (47.1)
6. The way the nurses made patient feel at home	0	1 (0.3)	47 (16.2)	187 (64.3)	56 (19.2)
7. The amount of information nurses gave to patient about their condition and treatment	0	5 (1.7)	124 (42.6)	102 (35.1)	60 (20.6)
8. How often nurses checked to see if patients were well	0	1 (0.3)	27 (9.3)	176 (60.5)	87 (29.9)
9. Nurses' helpfulness	0	1 (0.3)	26 (8.9)	192 (66.0)	72 (24.7)
10. The way nurses explained things to patient	1 (0.3)	0	29 (10.0)	166 (57.0)	95 (32.6)
11. How nurses helped put patient relatives or friends' minds at rest	0	0	41 (14.1)	161 (55.3)	89 (30.6)
12. Nurses' manner in going about their work	0	0	12 (4.4)	111 (38.1)	167 (57.4)
13. The type of information nurses gave to patient about his/her condition and treatment	0	3 (1.0)	97 (33.3)	157(54)	34 (11.7)
14. Nurses' treatment of patient as an individual	0	1 (0.3)	14 (4.8)	78 (26.8	197 (67.7)
15. How nurses listened to patient worries and concerns	0	1 (0.3)	55 (18.9)	196 (67.4)	39 (13.4)
16. The amount of freedom patient was given on the ward	0	0	83 (28.5)	170 (58.4)	38 (13.1)
17. How willing nurses were to respond to patient requests	0	2 (0.7)	51 (17.5)	177 (60.8)	61(21)
18. The amount of privacy nurses gave patient	0	0	36 (12.4)	78 (26.8)	177 (60.8)
19. Nurses' awareness of patient needs	0	3 (1.0)	130 (44.7)	130 (44.7)	28 (9.6)

GPH, Gansu Provincial Hospital.

The hospital length of stay of inpatients in a surgery ward (an average of 11 days) was longer than that for medical inpatients (an average of 7 days). See table 2.

Satisfaction with nursing care

As shown in table 2, the average satisfaction score was 78.15±4.74. Regarding nursing care, as shown in table 3, patients reported the highest satisfaction when nurses treated them as an individual (67.7%) and respected their privacy (60.8%). Patients were least satisfied with the type of information nurses gave them (11.7%) and with latter's lack of awareness of the patient's needs (9.6%). As shown in table 4, after dichotomising satisfaction into 'satisfied' and 'not satisfied', 60.5% of the study participants were satisfied with the care provided by nurses.

Factors influencing satisfaction

History of hospitalisation and history of surgery were significant factors influencing patient satisfaction with nursing care. A higher level of patient satisfaction was found in married patients with a history of admission (p<0.05). Patients admitted in medical wards showed the highest satisfaction compared with those in other wards. The score without surgery was higher than that with surgery (p=0.045, OR=0.64, 95% CI 0.38 to 1.07). The

higher the nurse's professional title, the lower the score. The patient did not know the nurse in charge had a lower score (p=0.028, OR=1.77, 95% CI 0.98 to 3.19) (table 5).

DISCUSSION

Patients' satisfaction with hospital care is significantly associated with better patient safety, clinical effectiveness,[36] health outcomes[37] and less medical resource utilisation.[38] In the current reform of China's healthcare system, we need to have a better understanding of what is associated with patient satisfaction, and what we can do to improve it. Comparably no study on patient satisfaction in northwest of China has been reported in English. The international research community has limited access to and understanding of patient satisfaction in this area. In this study, we use NSNS to investigate the level of inpatient satisfaction with nursing care and its associated factors in northwestern China. The results showed that the patient's overall satisfaction in nursing was 78.15+4.74 (95 points are completely satisfied), and 60.5% of inpatients were satisfied with nursing services at GPH. Marital status, history of admission, history of surgery, knowing

Table 4 Level of inpatient satisfaction with nursing services in a tertiary hospital of Gansu, China

	Level of satisfaction	
Variables	**Satisfied (score ≥78) n (%)**	**Dissatisfied (score <78) n (%)**
Gender		
Male	105 (59.66)	54 (46.05)
Female	71 (40.34)	61 (53.04)
Marital status		
Single	12 (6.82)	8 (6.96)
Married	158 (89.77)	97 (84.35)
Others	16 (9.09)	0
Admission ward		
Medicine	69 (39.20)	29 (25.22)
Surgery	41 (23.29)	36 (31.30)
Obstetrics and gynaecology	11 (6.25)	31 (26.96)
Ophthalmology and otorhinolaryngology	13 (7.39)	5 (4.35)
Rehabilitation department	16 (9.09)	6 (5.22)
History of admission		
Yes	95 (53.98)	51 (44.33)
No	81 (46.02)	64 (55.65)
History of surgery		
Yes	81 (43.02)	66 (57.39)
No	95 (53.98)	49 (42.61)
Know the nurse in charge		
Yes	140 (79.55)	81 (70.43)
No	36 (20.45)	34 (29.56)
Title of nurse in charge		
Junior	121 (68.75)	56 (48.69)
Senior	55 (31.25)	59 (51.30)
Educational status		
Primary school	43 (24.43)	26 (22.61)
High school	87 (49.43)	59 (51.30)
Advanced diploma	22 (12.50)	18 (15.65)
Bachelor's degree	23 (13.07)	12 (10.43)
Master's degree	1 (0.57)	0
Total	176 (60.50)	115 (39.50)

Table 5 Factors influencing patients' satisfaction with nursing care

Variables	B	SE	Significance	95% CI
Gender	0.15	0.32	0.640	0.61 to 2.19
Marital status	−1.08	0.51	0.037	0.13 to 0.93
Admission ward	−0.02	0.12	0.839	0.76 to 1.24
History of admission	0.29	0.38	0.045	0.67 to 2.29
History of surgery	−0.60	0.29	0.049	0.30 to 0.98
Know the nurse in charge	0.79	0.34	0.021	1.13 to 4.35
Title of nurse in charge	0.99	0.30	0.001	1.49 to 4.89
Educational status	−0.13	0.19	0.486	0.59 to 1.27

and Australia.[45] This might have been related to differences in sample size, region and the use of a different survey scale. Therefore, it is difficult to make an absolute comparison of these results. When the research findings were compared with studies conducted using the same scale internationally, the average score was higher than Turkey (62.08+20.94),[5] Ethiopia (63.9+17),[21] Poland (74.98),[15] Jordan (77.1+12.52)[46] and Pakistan (51%),[47] but lower than studies conducted in Beijing[35] and Henan province[48] in China. A study from rural western China showed that patients in primary healthcare were relatively less satisfied with medical services than developed areas.[49] Our study may have indicated this too.

Although the overall patient satisfaction was moderate, this study revealed that patients were mostly satisfied with nurses' attitude in treating them as an individual and respected their privacy. However, the fewest patients in the study were satisfied with the type of information nurses gave them (11.7%) and a lack of awareness in their needs (9.6%). The findings were consistent with the outcomes of other studies.[50–53] It could be that, first of all, due to their heavy workload, nurses spent more time on completing doctor's orders and therapeutic work, less time is spent on communicating with patients and conducting health education. This might also result from the fact that in most Chinese hospitals there are no nurse assistants whose main task is the performance of basic nursing activities such as bathing, oral toilet, changing, and so on.[54] Nurse staff in different professional layers need to perform various direct and indirect nursing activities. Moreover, hospitals in a less developed area may face a larger proportion of patients with a lower education level.[49] They may have more demands of medical knowledge. However, with such a workload, nurses were eager to educate patients and therefore provide incomplete information that could not meet patients' needs.[55] In various clinical settings, information is the decisive factor for good patient experience.[56] Poor communication between healthcare professionals and their patients is a key problem in the growing number of complaints against healthcare professionals worldwide.[57] Therefore, investigating all aspects of patients' needs and providing them with care and information to meet their needs

the nurse in charge and title of nurse in charge were all significantly associated with patient satisfaction.

The level of patient satisfaction (60.5%) in our study was higher than the results obtained in other areas either in China or elsewhere, such as in Taiwan (35%)[39] Malaysia[22] and 11 western provinces in China (60%)[40]; however, it was lower than that in Shandong,[41] Jiangxi[42] and other cities in Gansu, China,[33 43] and also in Spain[44]

through communication plays an important role in improving patients' satisfaction.[58]

A better understanding of the factors affecting care quality can help hospital managers implement effective plans to improve service quality.[59] In the current study, we find that married patients were more satisfied than others. This finding was in accord with a study conducted in Amhara Region[60] which used the NSNS scale, and another study in China[26] which used another scale. This could be that married patients were accompanied by their spouses who provided daily care and communicated with them. Therefore, they had relatively less demand from nurses. Prevalence of preoperative anxiety ranged from 60% to 80% in population,[61] which had been commonly neglected by clinicians.[62] Study has shown that patients who were well informed and understood the process had a better surgical experience.[44] However, this might have not been well revealed in our study as patients with surgery showed less satisfaction with nursing services. It is suggested that patients need to be assessed regularly for anxiety during the preoperative visit and appropriate anxiety-reducing methods should be introduced. Nursing staff should attach importance to nurse–patient communication through assessing patient needs to provide health-related information and care services so as to meet patients' needs,[58] thus enhancing their satisfaction.

Another factor that needs to be emphasised is that patients with a history of hospitalisation were found to be more satisfied than their counterparts, and similar results were found in other studies conducted in Ethiopia[63] and China.[26] This could be because patients who are hospitalised for the first time are unfamiliar with the nursing staff and hospital environment. They may have more needs for communication with nurses regarding their diseases and nursing services. For those with a history of admission, they have a certain understanding of their own diseases and health conditions, and are familiar with the hospital environment and ward nurses, and have a stronger sense of security than patients hospitalised for the first time. Our findings also showed that patients who knew their nurse in charge were significantly satisfied with nursing than those who did not. Study showed patients receiving continuity of care with the same nurse were more satisfied than those who did not.[31] The findings can provide evidence for the value of nurses in nursing practice. Patients require more individualised care from nurses regarding education, communication and comfort,[2] which will improve their well-being through reducing anxiety and depression, and also indirectly, through building trust and social support.[64]

Research shows that nurses' work experience is closely related to patient satisfaction. So it is helpful to provide guidance for rational allocation of nursing human resources to explore whether the composition of professional titles affects patient satisfaction. Tervo-Heikkinen et al's research shows that the working years of nurses are positively correlated with patient satisfaction.[65] In China, the level of nurses is divided into professional titles corresponding to junior (1–5), intermediate (5–10) and senior (more than 10 years). The more nurses with a solid professional knowledge and rich working experience among nursing staff, the better the effect of nursing work.[26] Research by Wang and Sun shows that patients' satisfaction with nursing professional skills is positively correlated with the proportion of nurses working for more than 5 years, and satisfaction with health education is positively correlated with the proportion of competent nurses.[30] Han et al's survey shows that patients are most satisfied with nurses who have worked for 2–5 years.[66] Our findings also showed the same as the patients in the charge of junior nurses who have worked for less than 5 years were more satisfied than those in the charge of senior nurses. The reason may be that nurses who have worked for more than 5 years have rich clinical experience and better operating skills, but most of them have a sense of job burn-out, which has a negative impact on patient satisfaction.[66] On the other hand, due to the different divisions of labour in GPH, nurses working for less than 5 years are mainly engaged in first-line clinical nursing, while senior nurses in some work related to ward organisation and management. Therefore, senior nurses have less communication with patients, thus affecting patients' satisfaction with their work. It indicated that nurse–patient communication plays an important role in the evaluation of patients' satisfaction with nursing work.[67–69]

This study has several strengths: the use of a standardised patient satisfaction scale and the first to evaluate patients' satisfaction using the scale in a less developed area of China. However, certain limitations should be noted too. First, the present study was conducted in one hospital context, which might limit the external validity of the results in other healthcare contexts. Future research should therefore investigate whether the questionnaire has the ability to demonstrate significant differences across hospitals in terms of their caring culture. Second, potentially relevant factors influencing patient satisfaction such as medical diagnosis, severity and duration of illness, and medication history were not included. Third, the study adopted self-reported questionnaires, so all answers were based on admitted patients, who might be afraid to speak out their real feelings that they thought might affect further nursing care they received.

CONCLUSION

The current study explored the level of patient satisfaction with nursing services and its associated factors in a backward region of China. It shows that the care needs of hospitalised patients are yet not satisfied to some extent. Meanwhile, patients' married status, history of hospitalisation and surgery, and professional title of nurses in charge when providing care are main factors affecting patients' satisfaction. The current finding will have direct implication for nurse professionals and nursing administrators. Nurses should establish a good relationship with patients

through more communication. In daily nursing work, nurses should formulate corresponding plans according to the personal characteristics and care needs of patients so as to sufficiently meet patients' expectations.

Of course, besides nursing, many factors may also affect the patient's satisfaction, including patient staffing ratio, the use of health information technology, the amount of surgery in the hospital and the health teaching situation. Based on our experience, we suggest to conduct interviews with patient as a first step to learn what patients are most concerned with when seeking nursing services.

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