Dec 06, 2021

A multicenter survey of patients' favorite type of nursing care and associated factors in Hebei Province, China

dryzzhang [1], Hongzhi Lv[1]

[1]the Third Hospital of Hebei Medical University

dx.doi.org/10.17504/protocols.io.b2mrqc56

The Third Hospital of Hebei Medical University

dryzzhang

Background: Nursing care service is an important part of the healthcare system; however, patients' favorite type of nursing care remains unknown. This study aims to investigate inpatients' and nurses' favorite types of nursing care and identify nurses' learning needs.

Method: The study selected a province-representative sample of inpatients and nurses using a stratified random sampling method from 18 selected hospitals, including 9 Level IIhospitals and 9 Level III hospitals in 9 cities of Hebei province. All participants were personally interviewed about their favorite type of nursing care. Multinomial logistic regression analysis was applied to analyze the potential associations between favorite nursing care and factors about inpatients and nurses.

DOI

dx.doi.org/10.17504/protocols.io.b2mrqc56

dryzzhang , Hongzhi Lv 2021. A multicenter survey of patients' favorite type of nursing care and associated factors in Hebei Province, China. **protocols.io** https://dx.doi.org/10.17504/protocols.io.b2mrqc56

Key Research and Development Project of Hebei Province
Grant ID: 20377780D

protocol ,

Dec 06, 2021

Dec 06, 2021

55697

1 A multicenter survey of patients' favorite type of nursing care and associated factors in Hebei Province, China

Background

Nursing care service is an important part of patient care and improves a patient's satisfaction with received healthcare [1]. Patient satisfaction is an indicator of the quality of healthcare. A high level of patient satisfaction is closely related to nurses' satisfaction with their work [2-4]. A high satisfaction rate can also help reduce complaints about healthcare providers and avoid potential medical disputes [5].

In recent decades, patients have become increasingly knowledgeable about healthcare and have increasing demands on healthcare services. Patient-centered nursing care has been recommended and conducted in clinics. The key feature of this care model was the identification of patient needs, which could be analyzed following data collection. However, most nursing care research was conducted from nurses' point of view, rather than from patients' perspective, such as the standard and content of nursing services and the design of patient satisfaction questionnaires [6-9].This study investigated patients' favorite types of nursing care services, identified nurses' learning needs, and explored the main factors influencing inpatients' satisfaction with different nursing care services. We hope this study can provide detailed data to improve nursing care services and the quality of nursing training, thereby increasing inpatients' satisfaction levels.

Sampling Method

A pilot phase of the study was undertaken at three secondary and three tertiaryhospitals in Hebei Province. In total, 1,437 individuals were recruited to estimate the general proportions of patients preferring different types of nursing care services and to facilitate accurate estimation of the sample size needed for the main study from March 2020 to May 2020. The formal study was conducted using stratified cluster random sampling [10-11]. The 11 cities of Hebei Province were categorized into three economic levels by gross domestic product (GDP); resulting in two high-economic-level cities (GDP > 500 million), Shijiazhuang and Tangshan; three moderate economic level cities (300 > GDP > 500 million), Cangzhou, Handan and Baoding, and six low-economic level-cities (GDP < 300 million), Qinhuangdao, Xingtai, Hengshui, Langfang, Zhangjiakou and Chengde. All hospitals with an inpatient department in Hebei Province were categorized into three levels (primary, secondary and tertiary). Finally, 18 hospitals, including: The Third Hospital of Hebei Medical University, Jingxing Country Hospital, Hengshui people's Hospital, Jingxian People's Hospital, Cangzhou Hospital of Integrated TCM-WM, Hejian People's Hospital, Chengde Central Hospital, Weichang Manchu and Mongolian Autonomous County Hospital, The First Hospital of Qinhuangdao, Lulong County People's Hospital, The First Central Hospital of Baoding, Dingzhou Maternal and Child Health Care Hospital, Xingtai Mining Group General Hospital, Xingtai People's Hospital, General Hospital of Jizhong Energy Fengfeng Group, Weixian People's Hospital, Zhangjiakou Chinese Medicine Hospital, The First Hospital of Zhangjiakou, were selected by choosing two hospitals at each level (level 2 and 3) from nine cities (Shijiazhuang, Hengshui, Cangzhou, Chengde,

Citation: dryzzhang , Hongzhi Lv A multicenter survey of patientsÃ¢ÂÂ favorite type of nursing care and associated factors in Hebei Province, China https://dx.doi.org/10.17504/protocols.io.b2mrqc56

Qinhuangdao, Baoding, Xingtai, Handan and Zhangjiakou).

Study Participants

After the hospitals were selected, the patients were first screened using inclusion and exclusion criteria. The inclusion criteria were patients with a hospital stay of greater than 3 days, a stable condition, consciousness, and answering questions clearly. For children in junior and senior high schools, their information was provided by themselves. The exclusion criteria included patients with a history of mental illness, non-cooperative patients, patients incapable of communicating, and critically ill patients. Each patient was assigned a random number. Using a random number table, 220 patients were randomly selected from the inpatient wards in each hospital, with 5 to 50 patients selected from each department.All the selected patients were personally interviewed, and trained research teams at each hospital completed a questionnaire. For 1-13 years old children, information was provided by their guardians after asking the patient's opinion or observing the patient's performance. If a randomly selected patient refused to participate in the survey, another patient was randomly selected from the same department [12-13]. The nurses in all the inpatient wards of each department were also interviewed.

Design of the questionnaire and Research Team

The questionnaire used in this study was designed by our team using the theory of comfort care. We evaluated nursing care service quality across four elements that nurses could provide for patients: a comfortable environment, physiology, psychology, and social culture. The nurses' attitude, nursing skills, health education guidance, the ward and hospital environment were important aspects of nursing care services that significantly influenced patients' satisfaction within the health care system. Four types of nursing care services could then be classified based on these dominant aspects: nurse' attitude-centered, nursing skill-centered, health education guidance-centered and environment-centered nursing care services. Good attitude-centered care services referred to nurses having a high degree of compassion, caring care, active enthusiasm, friendly expression, speaking softly, patient and meticulous work, answering questions, and not quarreling with the patient. Good nursing skill-centered care referred to the ability to practice, evaluate clinical nursing and first aid, provide scientific nursing, and record accurately to ensure quality care. Good environment-centered nursing care services referred to the nurse's ability to maintain a hygienic, comfortable, safe and quiet environment in the ward, which was suitable for patients to recover their physical and mental health. Good health education guidance-centered care services referred to the nurses providing the patients with concise information about their disease and treatment algorithm. These included exhaustive and useful information on how to prevent inpatients' complications such as decubitus, deep vein thrombus and hypostatic pneumonia, how to prevent falls and fall-related fractures, and how to act in concert with treatment, professional advice on pain management, rehabilitative training and diet, and concise information about hospital living facilities. Delphi method was used to analyze the validity of the questionnaire. The draft questionnaire was reviewed by six clinical and nursing specialists and then was modified. It included two rounds of surveys. The first round was an open questionnaire in which experts answered two questions: (1) What do you think a nurse should do to be your favorite type of nursing care and meet your demands? (2) Please describe a particular experience of receiving nursing care and your evaluation of this care. According to experts' opinions and the results of the first round of investigation, the second round of questionnaires

Citation: dryzzhang , Hongzhi Lv A multicenter survey of patientsÃ¢ÂÂ favorite type of nursing care and associated factors in Hebei Province, China https://dx.doi.org/10.17504/protocols.io.b2mrqc56

included the above-mentioned four elements that nurses could provide for patients. The authority rating of experts was 0.87±0.09. The expert positive coefficient of both surveys was 100%.

The research team consisted of two physicians, two nursing directors, two head nurses, one epidemiologist, and twenty-seven investigators (including six postgraduate students and 14 nurses). All the team members undertook a 1-week, centralized training program and then were stratified into six subgroups. A questionnaire was administered by trained staff to obtain information about the inpatients' demographic characteristics, personal medical status, demand for nursing care services, and basic information about the nurses. The questionnaire used to interview patients included: age, occupation, gender, residence, living status, education level, inpatient department, times of admission, number of hospitalization per year, working status. All the selected inpatients answered the question above and their favorite type of nursing care. The respondents were classified into two groups: children younger than 14 years old, whose questionnaires were completed following interviews with their parents or other adults after asking the patient's opinion or observing the patient's performance; and adults and children over 14 years old were interviewed personally [12]. The inpatients' medical records were reviewed. The data were extracted included: health insurance, postoperation complication, adverse events in the hospital, nursing classification, preoperative comorbidities, length of hospital stays, hospital level, extra bed ward and Modified Early Warning Score (MEWS). The questionnaire related to nurses included age, gender, education level, nurse-staffing levels, and years of working as a nurse. All selected nurses answered the most important aspect of being a nurse.

Nine quality control teams were established (one per city), and they sampled 10% of all the questionnaires collected in the field to check for omissions or errors. All the data were recorded on a written survey at each household selected and were later entered into the EpiData 3.1 software program using the dual import program. The dually imported data were then compared, and any mismatched information was corrected using the original version.

Statistical Analysis

All statistical analyses used SPSS 13.0 (IBM, Armonk, NY, USA). Multinomial logistic regression models were used to assess the relationship between the four types of nursing care and various factors of inpatients, including: age, occupation, gender, residence, living status, education level, inpatient department, times of admission, number of hospitalization per year, health insurance, postoperation complication, adverse events in hospital, nursing classification, preoperative comorbidities, MEWS score, length of hospital stays, working status, hospital level and extra bed ward. The potential correlations between the four types of nursing care and various factors of nurses, including: age, gender, education level, nurse-staffing levels, and years working as a nurse, were also studied by multinomial logistic regression models using the four types of nurses as the reference category. A stepwise strategy was used to select the confounding factors. Adjusted odds ratios (ORs) with 95% confidence intervals (CIs) were calculated for all the models. Pearson's χ^2 test was used to compare the difference between the nurses' and patients' opinions about the 'patients' favorite nurse'. A Pvalue < 0.05 (two-tailed) was considered statistically significant.

References

1. Andersson AK, Omberg M, Svedlund M. Triage in the emergency department--a qualitative

Citation: dryzzhang , Hongzhi Lv A multicenter survey of patientsÃ¢ÂÂ favorite type of nursing care and associated factors in Hebei Province, China https://dx.doi.org/10.17504/protocols.io.b2mrqc56

study of the factors which nurses consider when making decisions. Nurs Crit Care 2006; 11: 136-145.
2. Trout A, Magnusson AR, Hedges JR. Patient satisfaction investigations and the emergency department: what does the literature say? Acad Emerg Med. 2000; 7(6):695-709.
3. Chen H, Li M, Wang J, et al. Factors influencing inpatients' satisfaction with hospitalization service in public hospitals in Shanghai, People's Republic of China. Patient Prefer Adherence 2016; 10: 469-477.
4. De Salins CA, Brenaut E, Misery L, et al. Factors influencing patient satisfaction: assessment in outpatients in dermatology department. J Eur Acad Dermatol Venereol 2016; 30: 1823-1828.
5. Zimmerman M, Gazarian D, Multach M, et al. A clinically useful self-report measure of psychiatric patients' satisfaction with the initial evaluation. Psychiatry Res 2017; 252: 38-44.
6. Tayefi B, Sohrabi MR, Kasaeian A. Patients' Satisfaction with the Diabetes Control and Prevention Program in Tehran, Iran: A Cross Sectional Study. J Res Health Sci 2015; 15: 239-243.
7. Geiballa GH, Abubakr NH, Ibrahim YE. Patients' satisfaction and maintenance of fixed partial denture. Eur J Dent 2016; 10: 250-253.
8. Minichsdorfer C, Fureder T, Mahr B, et al. A Cross-Sectional Study of Patients' Satisfaction With Totally Implanted Access Ports. Clin J Oncol Nurs 2016; 20: 175-180.
9. Twigg MJ, Bhattacharya D, Clark A, et al. What do patients need to know? A study to assess patients' satisfaction with information about medicines. Int J Pharm Pract 2016; 24: 229-236.
10. Chen W, Lv H, Liu S,et al. National incidence of traumatic fractures in China: a retrospective survey of 512 187 individuals. Lancet Glob Health 2017; 5:e807-e817.
11. Zhu Y, Liu S, Chen W, et al. Epidemiology of low-energy lower extremity fracture in Chinese populations aged 50 years and above. PLoS One. 2019;14:e0209203.
12. Reich J, Yates W, Woolson R. Kish method for mail survey respondentselection. Am J Public Health 1986; 76: 206.
13. Kish, Leslie. A Procedure for Objective Respondent Selection within the Household. J Am Stat Assoc 1949; 44: 380-387.

DepartmentBed numberMedical record number

Patient related form

Part IBasic information

A1Ageyears
A2Gender 1=Male2=Famale□
A3Education level：1= Elementary school graduate or less 2= Middle school graduate 3= High school graduate 4= College graduate or higher□
A4Residence：1=Urban2=Rural□
A5 Occupation(Current, Including rehiring as a current professional)□□
1=Farmer 2=Student/Preschool children3=Manual worker4=Military personnel5=Civil

Citation: dryzzhang , Hongzhi Lv A multicenter survey of patientsÃ¢ÂÂ favorite type of nursing care and associated factors in Hebei Province, China https://dx.doi.org/10.17504/protocols.io.b2mrqc56

servant7=Medical personnel8=Retired9= Others（give clear indication of）
A6Working status:1=Inservice2=Farming3=Retirement4=Preschool children
5= Students□□
A7Times of admissiontimes
A8Living status: 1=Single2=With spouse3=With children4=With children and spouse
5= With guardians□
A9Number hospitalization per year

PartⅡInpatients' medical records

B1Health insurance（Multiple choices are allowed）□□
0=Non1=Medical insurance for urban workers/residents2=New rural cooperative medical system3=Commercial health insurance4= Free medical service
B2Nursing classification ? □
1=special level care2= grade one care3= grade two care4= grade three care
B3Postoperation complication□
0=Non1=Yes
B4Adverse events in hospital□
0=Non1=Yes
B5Preoperative comorbidities□
0=Non1=Yes
B6Length of hospital staysdays
B7Extra bed ward□
0=Non1=Yes
B8 MEWS score ?

Modified Early Warning Score（MEWS）

Citation: dryzzhang , Hongzhi Lv A multicenter survey of patientsÃ¢ÂÂ favorite type of nursing care and associated factors in Hebei Province, China https://dx.doi.org/10.17504/protocols.io.b2mrqc56

Citation: dryzzhang , Hongzhi Lv A multicenter survey of patientsÃ¢ÂÂ favorite type of nursing care and associated factors in Hebei Province, China https://dx.doi.org/10.17504/protocols.io.b2mrqc56

Item	Score						
	3	2	1	0	1	2	3
HR(times/min)		<=40	41-50	51-100	101-110	111-129	>=130
SBP(mmHg)	<=70	71-80	81-100	101-199		>=200	
R(times/min)		<9		9-14	15-20	21-29	>=30
T(℃)		<35		35.0-38.4		>=38.5	
Consciousness				Clear	Respond to sound	Respond to pain	No reaction

PartIII Your favorite nursing care service

C1Which kind of nursing care services do you like best?□
1=Good attitude-centered care service2=Good nursing skill-centered careservice3=Good environment-centered nursing care service4=Good health education guidance-centered care service

Note: If you are under 14 years of age, please ask your guardian to complete this form with you

Citation: dryzzhang , Hongzhi Lv A multicenter survey of patientsÃ¢ÂÂ favorite type of nursing care and associated factors in Hebei Province, China https://dx.doi.org/10.17504/protocols.io.b2mrqc56

Basic information of the patient's department and the nurse in charge

A1Ageyears
A2Gender 1=Male 2=Female□
A3Education level□
1=Junior college or less2=bachelor3=Master4=Doctor
A4Nurse-staffing levels□
1=Registered nurse2=Nurse practitioner3=Supervisor nurse4=Co-chief nurse
5=Chief nurse
A5Years worked as a nurse□
1=1-102=11-203=21-304=31-40
B1Which is the most important aspect of being a nurse?□
1= Keeping a good attitude2=Good nursing technology3= Keeping a good environment4=
Good health education guidance

Investigators_____Investigation time _____
Auditor_____Audit time _____

Citation: dryzzhang , Hongzhi Lv A multicenter survey of patientsÃ¢ÂÂ favorite type of nursing care and associated factors in Hebei Province, China https://dx.doi.org/10.17504/protocols.io.b2mrqc56

2

Citation: dryzzhang , Hongzhi Lv A multicenter survey of patientsÃ¢ÂÂ favorite type of nursing care and associated factors in Hebei Province, China https://dx.doi.org/10.17504/protocols.io.b2mrqc56