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ORIGINAL RESEARCH

Design and Initial Validation of a Humanistic Care Evaluation Tool

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Objective: This study aimed at developing and validating a humanistic care tool in Anhui province that could be used across Chinese public hospitals, and to reflect the humanistic care from patients' perspective.

Participants: A cross-sectional survey was conducted in three public hospitals of Anhui Province, China by adopting simple random sampling, which included 312 outpatients and 323 inpatients.

Methods: The dimensions of the tool were set according to "Further Improve Medical Service Action Plan" in China and Patient-Doctor Relationship Questionnaire. Cronbach's alpha values were calculated and used to evaluate the reliability of this tool. Construct validity was tested by the exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). The associations between characteristics and humanistic care were analyzed by binary logistic regression.

Results: These initial findings showed that about two-thirds of the respondents experienced humanistic care. Both the reliability and construct validity of the humanistic care evaluation tool were suitable Social aspects (location and yearly income), treatment style and having a regular doctor were significantly associated with better humanistic care (all $P<0.05$).

Conclusion: The humanistic care tool can directly reflect the humanistic care from patients' perspective, and can be popularized and applied across Chinese public hospitals. These findings have important implications to further improve medical service in Chinese public hospitals.

Keywords: humanistic care, hospital, evaluation tool

Introduction

Since medical care has switched from the biomedical to the biopsychosocial medical model, treatment has also changed to providing more humanistic care to meet patients' psychological needs.[1] The notion that the patient is the center of the medical act has gradually become mainstream.[2,3] Humanistic care not only empowers the health care giver to make patient-oriented decisions but also to move towards an empathetic, caring, respectful and kind model of clinical practice.[2]

"Humanistic care" as described by Paterson & Zderad is different from primary nursing.[4–6] The definition of humanistic care involves concern, care, and attention to human personality; to meet people's needs and respect human rights. It is concerned about the person's spiritual problems; including the living conditions and spiritual development of self and others. Its essence is the human-centered thinking on existence, values, freedom and development. In addition to providing patients with the necessary medical and technical services, we also address their

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mental, cultural and emotional wellbeing.[7–10] However, the society is currently more concerned about the progress of medical technology than humanistic care. Technological advances have tremendously altered the relationship between the patient and physician. The stethoscope is a valuable extension of doctors, although it is also widely viewed as creating distance with patients.[11] The blind pursuit of financial profits at a systems-level has eroded patient-physician trust in China and medical disputes sometimes ignite a vicious cycle leading to violence.[12] Violence in the medical workplace involves insults, threats, and attacks on medical staff. This not only affects the health and safety of medical staff, but also leads to poor health outcomes for patients.[13] In 2016, a report from the China Joint Study Partnership proposed a reform strategy to improve health care and promote people-centred comprehensive care, aimed at reducing workplace violence.[14]

Humanistic care had been adopted in chronic disease care decades ago. Home-care and self-care movements can be seen as directed toward providing more humanistic care and promoting clients' independence.[15] Simpkin et al pointed out that the relationship between technology and humanistic care should be coordinated.[11] Humanistic care is constantly being discussed and can be fostered by cultivating an open dialogue among patients, families, and health care staff.[16] However, it is mostly used by nursing students and nurses to evaluate their skill level of patient care,[17–20] but its implementation in general medicine is pending. There is a need for better humanistic care, but few approaches exist for strengthening its position,[21,22] especially on cost-effectiveness, human personality and sociopolitical factors.[15]

Humanistic care is a soft skill that improves patient-physician relationships, strengthens communication, clears barriers, remodels physician's image, and builds harmonious hospitals.[23] This culture system has been ignored in our province or even country hospital. It is mainly exhibited at the moral level in the hospital, and is subjective; depending on the quality of medical staff, virtue, knowledge, etc. However, it is not adapted as standard operating practices.

The purpose of this study was to develop and validate a new measure that could be used to evaluate the level of humanistic care in a hospital in China. This was on the background of the comprehensive health care reform in Anhui Province. The objectives were to describe the process of designing and validating the instrument and to demonstrate the important role of humanistic care in public hospitals.

Methods

Development of Humanistic Care Evaluation Tool

We have developed a questionnaire in which the dimensions of humanistic care evaluation are set according to the "Further Improve Medical Service Action Plan in China", and Doctor Relationship Questionnaire (PDRQ).[24] Five dimensions were considered: medical treatment process, medical treatment environment, medical treatment experience, doctor-patient relationship, and overall evaluation. We selected commonly used items corresponding to the five dimensions which were suitable for inpatients and outpatients, with each item rated on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree). The humanistic care evaluation tool is displayed in Table 1. The sum of the individual scores is the total score. A high score indicates a higher degree of humanistic care.

Table 1 Humanistic Care Evaluation Tool

Dimension	Item
1. Medical treatment process	1.1 Waiting time is acceptable 1.2 Volunteers provide help
2. Medical treatment environment	2.1 Easy to take the elevator 2.2 Enough seats in the rest area
3. Medical treatment experience	3.1 Doctors inquire symptoms with patience 3.2 Doctors explain the treatment plan with patience 3.3 Doctors fulfill their duty 3.4 My privacy is protected 3.5 I feel the respect and comfort given by medical staff
4. Doctor-patient relationship	4.1 Medical staff deserve social recognition and respect 4.2 Doctor-patient relationship is improving in the past two years 4.3 I am willing to let my children engage in medical work
5. Overall evaluation	5.1 The cost of this treatment is reasonable 5.2 In general, I am satisfied with this medical treatment 5.3 I will recommend this hospital to relatives and friends

Validation of the Humanistic Care Evaluation Tool

A cross-sectional survey was conducted to evaluate the validity of the humanistic care evaluation tool. Three public hospitals were selected by simple random sampling (random number according to organization code), based on the geographical distribution and economic level: In Hefei-central and high economic level, Bengbu-north and lower economic level, Wuhu-south and middle economic level.

The survey was carried out in December 2019 and was divided into two stages: First, the outpatient respondents were selected by convenience sampling in each hospital. The number of respondents was ≥25 in each department (internal medicine, surgical, gynecology, obstetrics, and pediatrics) and ≥ 100 in each hospital. Secondly, inpatient respondents were selected by the same method as outpatient respondents. Pediatric patients were assisted by their parents or escorts.

Data Analysis

All collected questionnaires were input into a computer using the EpiData 3.1 software, and a consistency check was done to eliminate data entry errors. Descriptive statistics were performed on the data, and the results expressed as a percentage. Cronbach's alpha values were calculated and used in the internal consistency of the humanistic care evaluation tool. Construct validity was tested the exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Scores of humanistic care were calculated in factor analysis for all items, and divided into binary variables (>0 equal 1, <0 equal 0). Crude odds ratios (ORs) and 95% confidence intervals (95% CI) were determined to analyze the associations between characteristics and humanistic care using binary logistic regression. Statistical analysis was performed using the SPSS statistical package (version 16.0, SPSS Inc., Chicago, Illinois) and AMOS 24.0 version, and $P \leq 0.05$ was considered as statistically significant.

Ethical Considerations

Since this was an observational study without any personal identifiable information, during the interview, they were informed that their participation was totally voluntarily they can withdraw from the research during the investigation process without providing any reason, and it had no any adverse effects on the study subjects, thus only verbal informed consent was obtained from the research subjects prior to study commencement. All procedures were undertaken following the ethical standards of the Helsinki Declaration. Verbal informed consents were recorded and the study protocol was approved by The Committee on Medical Ethics of The First Affiliated Hospital of Anhui Medical University (approval number: Quick -PJ 2019-10-20).

Results

Respondent Characteristics

A total of 312 outpatient and 323 inpatient respondents completed the questionnaire, with a respondent rate of 100%. Table 2 presents descriptive information about the respondents, nearly one-third were from three cities: 33.2% in Bengbu, 35% in Wuhu and 31.8% in Hefei.

Table 2 Characteristics of the Respondents

Value		N (%)
City	Bengbu	211 (33.2)
	Wuhu	222 (35.0)
	Hefei	202 (31.8)
Patient type	Inpatient	323 (50.9)
	Outpatient	312 (49.1)
Department	Internal medicine	207 (32.6)
	Surgical	127 (20.0)
	Gynecology and obstetrics	45 (7.1)
	Pediatrics	104 (16.4)
	Others	152 (23.9)
Education level	Primary	129 (20.3)
	Junior high	151 (23.8)
	Senior high	145 (22.8)
	College or above	210 (33.1)
Occupation	Employer	200 (31.6)
	Farmer	63 (9.9)
	Retiree	132 (20.8)
	Non-working	176 (27.8)
	Student	64 (10.1)
Yearly income*(RMB)	<20,000	60 (9.5)
	20,000–50,000	249 (39.4)
	50,001–120,000	215 (34.0)
	>120,000	108 (17.1)
Location	Register as a resident	425 (66.9)
	Non-register as a resident	105 (16.5)
	Out-of-town resident	105 (16.5)
Having a regular doctor	Yes	155 (24.4)
Signed community doctor	Yes	73 (11.5)
Humanistic care	Yes	385 (60.6)

Note: *Missing 3 cases.

Approximately 50% of inpatients (50.9%) and outpatients (49.1%) were surveyed. Patients were drawn from various departments; internal medicine (32.6%), surgical (20%), gynecology and obstetrics (7.1%), pediatrics (16.4%), and 23.9% from other departments (ophthalmology, otolaryngology, stomatology, infectious diseases and Traditional Chinese Medicine). The majority of respondents were employers (31.6%), residents (66.9%), college and above (33.1%), and had a yearly income of 20,000–50,001 RMB (39.4%). Some respondents had a regular doctor (24.4%) while some used a community doctor (11.5%). About two-thirds of respondents (60.6%) experienced humanistic care.

EFA

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.901, which meant that the factor analysis was suitable.[25] According to the eigenvalue ≥ 1, three factors are finally obtained, and the explained total variance is 61.19%. Three factors formed the three dimensions of the scale: Factor 1 (medical treatment experience) included seven items (3.1, 3.2, 3.3, 3.4, 3.5, 5.2, 5.3), factor 2 (medical treatment environment) fie items (1.1, 1.2, 2.1, 2.2, 5.1), factor 3 (doctor-patient relationship) three items (4.1, 4.2, 4.3). In total, the three factors described the three dimensions of the scale, and we adjusted the items, according to the result of factor analysis, and displayed the adjusted humanistic care evaluation tool in Table 3. All factors' Cronbach's α was above 0.600. The results of EFA were shown in Table 4.

CFA

Use structural equation model to test CFA. The results of the goodness-of-fit were: CMIN/DF (Chi-square minimum/degree of freedom) = 4.873;RMSEA (Root Mean Square Error of Approximation) = 0.078; GFI (Goodness of Fit Index) = 0.922, NFI (Normal Fit Index) = 0.917, CFI (Comparative Fit Index) =0.933, IFI (Incremental Fit Index) = 0.933, and TLI (Tucker Lewis Index) =0.915. The result showed acceptable construct validity.

Binary Logistic Regression

The results of logistic regression were shown in Table 5. Compared to Hefei, respondents in Bengbu experienced more humanistic care (OR = 3.52, 95% CI: 2.19, 5.66), but not as much in Wuhu (OR = 1.43, 95% CI: 0.90, 2.25). Inpatient respondents felt more humanistic care (OR= 2.00, 95% CI: 1.33, 3.00) compared to outpatients. Annual income was negatively associated with humanistic care (OR = 0.81, 95% CI: 0.66, 0.99), while having a regular doctor was positively associated with it (OR = 1.62, 95% CI: 1.04, 2.51). Respondents who were "non-registered" as residents experienced a lower level of

Table 3 Adjusted Humanistic Care Evaluation Tool

Dimension	Item
1. Medical treatment experience	3.1 Doctors inquire symptoms with patience 3.2 Doctors explain the treatment plan with patience 3.3 Doctors fulfill their duty 3.4 My privacy is protected 3.5 I feel the respect and comfort given by medical staff 5.2 In general, I am satisfied with this medical treatment 5.3 I will recommend this hospital to relatives and friends
2. Medical treatment environment	1.1 Waiting time can be accepted 1.2 Volunteers provide help 2.1 Easy to take the elevator 2.2 Enough seats in the rest area 5.1 The cost of this treatment is reasonable
3. Doctor-patient relationship	4.1 Medical staff deserve social recognition and respect 4.2 Doctor-patient relationship is improving in the past two years 4.3 I am willing to let my children engage in medical work

Table 4 The Results of EFA (N=635)

Factors/Items		Factor Loadings	Eigenvalue	Cronbach's α
Medical treatment experience	3.1 3.2 3.3 3.4 3.5 5.2 5.3	0.809 0.843 0.797 0.663 0.808 0.595 0.504	6.529	0.909
Medical treatment environment	1.1 1.2 2.1 2.2 5.1	0.455 0.799 0.691 0.688 0.414	1.475	0.691
Doctor-patient relationship	4.1 4.2 4.3	0.745 0.804 0.784	1.175	0.750

Table 5 Characteristics of the Respondents Linked with Humanistic Care (N = 635)

		OR (95% CI)	*P* value
City	Hefei	1.00	
	Bengbu	3.52(2.19,5.66)	<0.001
	Wuhu	1.43 (0.90,2.25)	0.129
Patient	Outpatient	1.00	
	Inpatient	2.00(1.33,3.00)	0.001
Department	Others	1.00	
	Internal medicine	0.62(0.38,1.01)	0.055
	Surgical	0.78(0.43,1.43)	0.424
	Gynecology and obstetrics	1.18(0.53,2.63)	0.694
	Pediatrics	0.70(0.39,1.26)	0.239
Education level		0.92(0.77,1.11)	0.389
Occupation	Student	1.00	
	Employer	0.68(0.35,1.31)	0.243
	Farmer	0.56(0.24,1.33)	0.192
	Retiree	0.93(0.46,1.89)	0.843
	Non-working	0.54(0.28,1.04)	0.066
Yearly income		0.81(0.66,0.99)	0.043
Location	Out-of-town resident	1.00	
	Register as a resident	0.64(0.37,1.11)	0.111
	Non-register as a resident	0.47(0.25,0.89)	0.019
Having a regular doctor		1.62(1.04,2.51)	0.032
Signed community doctor		1.13(0.65,1.97)	0.670

humanistic care compared to out-of-town residents (OR =0.47, 95% CI: 0.25, 0.89). The hospital department, education level and occupation were not significantly associated with humanistic care (P >0.05).

Discussion

Currently, China is undergoing social transformation. However, conflicts between doctors and patients have not been effectively resolved; violent attacks against hospitals and medical personnel have increased.[27] The doctor-patient relationship is not only a medical problem but more importantly, a social issue; the main cause being lack of humanistic care in hospitals. There are limited studies and a lack of theoretical basis on the issue. Therefore, it is necessary to use scientific methods to study the humanistic care experience of patients seeking medical care.

This study aimed at developing and validating humanistic care in Anhui province that could be used across Chinese public hospitals, and to reflect the humanistic care in public hospitals from patients' perspective. The findings showed that the reliability and construct validity of the humanistic care evaluation tool developed were suitable Social determinants (location and yearly income), treatment style and having a regular doctor were significantly associated with the level of humanistic care. To the best of our knowledge, this is the first study in China to investigate such associations in humanistic care. Physical and psychological care must also be improved in addition to improving medical technology.[28] The doctor-patient relationship has changed to the "patient-medical service system"; therefore, it is imperative to establish a good medical staff-patient relationship. This situation may reduce the patient's trust in the doctor, and the ultimate lack of humanistic care. Patients who had a regular doctor were more likely to experience humane care. Patient's expectations often exceed doctors' abilities.[29] Those not registered as residents and outpatients experienced lower level of humanistic care. Patients who had higher yearly income may have higher requirements for hospital standards. Plato once said that in the course of clinical practice, the best way is to combine scientific knowledge with individual trust, which forms a good doctor-patient relationship. It is more important to know what kind of patient has the disease than what disease the patient has.

Limitations

The study has several limitations: First, the study population was a convenient sample with low representation; which may deviate from the overall Chinese population. Second, the relationship was by pure association only, because of the nature of the cross-sectional study. Validation should also include criterion and content validity tests; more evidence is required to prove that the humanistic care evaluation tool has stable and good validity. Third, the lack of test-retest reliability is another limitation of our research. Additionally, other social determination factors, such as age and gender, were not included in the study, which may influence humanistic care.

Conclusions

These initial findings suggest that about two-thirds of the respondents experienced humanistic care. Both the reliability and construct validity of the humanistic care evaluation tool were suitable Social aspects (location and yearly income), treatment style and having a regular doctor were significantly associated with better humanistic care. These findings have important implications for further improving medical service in the Chinese public hospitals.

Relevance to Clinical Practice

The humanistic care tool in Anhui province can directly reflect the humanistic care from patients' perspective, and can be popularized and applied across Chinese public hospitals. It is more scientific and objective to show humanistic care from the perspective of patients, which can further improve the medical service and doctor-patient relationship. It can guide the clinical practice of medical staff to be more standardized, reasonable and humanized. Humanistic care will empower the person in the clinical practice encounter to participate and make decisions related to patient health care. Humanistic care allow us to move towards an empathetic, caring, respectful and kind model of clinical practice.

Data Sharing Statement

The data used to support the findings of this study are included within the article.

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Disclosure

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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