

The influencing factors of humanistic care ability among a group of nursing professionals in Zhoukou, China

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Abstract.

The purpose of study is to identify the influencing factors of humanistic care ability among a group of nursing professionals in Zhoukou city, Henan Province, China. This research was the survey research and development. The data were collected by using questionnaires. The participants in this study were 450 front-line clinical nurses working in three major hospitals with the level 3A in Zhoukou City, China. The results of the study found there is a significantly uneven distribution of gender and age, the overall competency score of male respondents is significantly high levels, years of work had a significant correlation with the overall score, the relationship with parents had a significant subject effect on scores, and non-religious professionals score high levels in terms of humanistic care ability. The suggestion of study is advisable to strengthen humanistic care education, establish humanistic care system, improve the level of nursing humanistic care through scientific research, and increase investment in hospital human resources and equipment.

Keywords: Medical workers, Humanistic care ability, nursing professional

1. Introduction

Zhoukou City, Henan Province, is located in the east of Henan Province, where the three rivers meet. It governs eight counties and two cities, with a registered population of more than 11 million, a permanent population of more than 8 million and a large population. Under the situation of great health, the medical system is being reformed, the number of private hospitals is constantly increasing, and the medical system has formed a considerable scale. With the rapid development of China's economy, people's living standards have undergone qualitative changes. On the basis of meeting the material requirements, the requirements for physical and mental health are constantly improving.

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At the same time, with the development of the “Quality Nursing Service Demonstration Project”, it is required to enhance the quality of nursing, improve patient experience and improve patient satisfaction. The overall medical care model is changing, and humanistic care is getting more and more attention. Holistic nursing requires people-oriented and health-centered, which puts forward higher requirements for nurses' comprehensive quality. Nurses are required not only to care about patients' physical diseases, but also to care for their psychological, social and spiritual needs. Then, in this huge nursing staff system, how to strengthen the cultivation of humanistic care ability and improve the humanistic care ability of medical workers has become a problem that cannot be ignored in the development of medical science in today's society. According to the “China Nursing Development Plan 2016-2020” issued by the National Health and Family Planning Commission clearly pointed out: continue to promote quality nursing and reflect humanistic care; Improve the quality of nursing personnel training, and strengthen the humanistic education and professional quality education of nursing specialty (National Health and Family Planning Commission, 2016).

2. Literature Review

The operation skills and humanistic care ability of nursing staff are equally important, and both are indispensable. Integrating humanistic care into clinical nursing work can effectively improve the quality of nursing services, build a harmonious relationship between nurses and patients, and at the same time help to enhance the professional identity of nursing staff. However, influenced by the traditional medical model, more attention is paid to the cultivation of theoretical knowledge and operational skills in nursing education and teaching, and there is a lack in the cultivation of humanistic care ability, which leads to the lack of humanistic care ability of nursing students to a certain extent and affects the follow-up clinical nursing work (Qiao et al., 2017).

Some scholars have pointed out that the development of humanistic care education is positively related to nursing humanistic care ability, and care practice plays an important role in the cultivation of nursing humanistic care ability (Tian, 2015). Nursing practice education, as an important part of nursing teaching, is also an important way to practice nursing humanistic care. Nurses are influenced by teachers' educational background, working years and their humanistic care ability, and the cultivation of nursing humanistic care ability is not optimistic. Therefore, it is necessary to explore how to strengthen nursing humanistic care ability education in nursing education.

In 1950s, nursing researcher Madeleine Leininger (1988) first put forward the theory of care, which he defined as "the act of giving assistance, support or assistance to people or groups who need to improve their physical condition or lifestyle". Since then, the research on nursing care has developed continuously. Scholars have a comprehensive and in-depth understanding of the definition, connotation and characteristics of nursing care and expanded it in practice. In this process, many theories have been formed. Orem (1980) pointed out that nurses help patients by meeting their physical, psychological and spiritual care needs, and promote their health.

Roach, a nursing scientist, discussed care at the level of values, holding that care is an act of showing respect for other people's way of life or values, which is expressed through

sympathy, ability, conscience, confidence and obligation (Roach, 1982). As a result, the 5C nursing care theory is constructed, which includes cooperation, Competence, consideration, Conscience and Commitment. In 1985, Watson put forward the concept of humanistic care elements for the first time, and regarded it as the core of nursing (J. Watson, 1985). He believed that nursing is not only a discipline, but also should include concern for the spirit outside the human body. Nurses should pay attention to and protect the dignity of patients while taking care of them. In 1990s, researcher Nkongho developed CAI (Caring Ability Inventory) scale, which aims to evaluate nursing staff's humanistic care ability. The scale contains 37 items and can be divided into three dimensions (including cognition, courage and patience). Caring is "the value and attitude of consciously expressing will, purpose and commitment in concrete actions". Watson's greatest breakthrough lies in introducing the concept of humanistic care for the first time, taking people as the theme, and studying the different performances of nursing in meeting people's needs in different dimensions. His theory has realized the true combination of nursing and people for the first time.

Many scholars pointed out the importance of humanistic training and education. In fact, Effective empathy training interventions based on scientific evidence becomes essential (Bas-Sarmiento et al., 2020). organizational factors that inhibit or promote humanistic practice by faculty physicians in today's healthcare environment. A cross-sectional study used the JSE-HPS (Jefferson Scale of Empathy-Health Profession Student version) to assess 263 Chinese pharmacy undergraduates from 1st to 4th year at Wuhan University of Science and Technology was conducted by Chinese scholars in 2015 (Li, Wang, Hu, Hu, & Xu, 2015).

Foreign nursing scholars measure and evaluate caring ability from different angles, and compile various evaluation tools, It mainly includes but not limited to Caring Dimensions Inventory, also known as CDI (R. Watson & Lea, 1997), and Caring Behaviors Inventor (Wolf, 1986). Cronin also developed Caring Behaviours Assessment (CBA) to evaluate nurses' caring behavior from the perspective of patients (Cronin & Harrison, 1988). Last but not the least, Caring Ability Inventory (CAI) was developed in the 2000s, which is widely used at present (Ngozi, 2019).

3. Methodology

A survey on humanistic care ability was conducted among 450 front-line clinical nurses working in three major hospitals with the level 3A in Zhoukou City. Specifically, 150 questionnaires were collected from each hospital by quota sampling method. The questionnaire is designed for answering the purpose of this research, reflecting necessary information for further analysis, including gender, age, educational level, marital status, professional title and working experience. The sample of this study is the clinical nursing staff of three reputable hospitals in Zhoukou City, Henan Province including Zhoukou Central Hospital, Zhoukou Traditional Chinese Medicine Hospital and Zhoukou Orthopedic Hospital. Because these three 3A hospitals are large in scale, strong in strength and representative in the local medical service industry, this study selected the clinical nursing staff of three Grade-A hospitals in Zhoukou City, Henan Province as the research object. The questionnaire consists of two parts: 1) general situation of nurses and 2) care evaluation scale. The main content has three dimensions, namely cognition, courage and patience, with a total

of 37 items. By data analysis, this paper studied demographic features of the nursing professionals, as well as the nursing humanistic care ability of nurses in Zhoukou City, which includes the scores of CAI, especially possible factors influencing the ability. In addition, the respondents of the questionnaire can be divided into four categories: (i) nurses, (ii) nurse practitioners, (iii) supervised nurses, and (iv) senior nurses with “vice-high” and above titles. The number of respondents of each category was controlled to ensure that the collected data can reflect the real situation of the research subjects. The statistical techniques were used for data interpretation such as T-Test, variance analysis and multiple linear stepwise regression analysis.

4. Results and discussion

The first part of the questionnaire aimed to investigate the demographic information of the nursing staff in Zhoukou city, including the gender, age, educational level, marital status, professional title and working experience, which can be conveyed through following table.

Table 1: Respondent information

Item	Category	Sampling (n=450)	Percent (%)
Gender	Male	40	8.9%
	Female	410	91.1%
Age	<30 years old	70	15.6%
	30-40 years old	372	82.7%
	>40 years old	8	1.8%
Family of origin	City	111	24.7%
	Township	117	26.0%
	Rural area	222	49.3%
Religious belief	No	421	93.6%
	There are	19	4.2%
	Others	10	2.2%
Marital status	Unmarried	75	16.7%
	Married	375	83.3%
Relationship with parents	Very harmonious	317	70.4%
	Relatively harmonious	94	20.9%
	Generally	36	8.0%
	Relatively inharmonious	1	0.2%
	Very inharmonious	2	0.4%
Reasons for employment	Self-interest	233	51.8%
	Family suggestion or others suggestion	131	29.1%
	Easy to find a job	41	9.1%
	Others	45	10.0%
Current educational background	Junior college degree and below	250	55.6%
	Bachelor degree	194	43.1%
	Master degree and above	6	1.3%
Working years	<3 years	80	17.8%
	3-5 years	134	29.8%
	6-10 years	224	49.8%
	11-15 years	3	0.7%

	≥16 years	9	2.0%
Job title	Nurses	134	29.8%
	Nurse practitioner	189	42.0%
	Supervised nurses	123	27.3%
	Vice-high and above	4	0.9%

As shown in the table 1, the proportion of male and female participants in the survey was 8.9% and 91.1%, respectively, of which the number of male participants was 40 and the number of female participants was 410. It shows that the number of male and female participants in the survey differed significantly, but the sample sizes were both large enough to support the data analysis requirements. Regarding age, the table suggests that 15.6% (n=70) of the respondents were under 30 years old and 82.7% (n=372) were between 30 and 40 years old. However, a very small proportion was above 40 years of age, and this proportion was only 1.8% (n=8). It is also possible that the origin of family influences humanistic care competence, as it is also one of the items investigated in this paper, 24.7% (n=111) were from urban areas and 26% (n=117) were from towns. A larger number of people were from rural areas, 49.3%, or 222 people. The vast majority of respondents had no religious affiliation, with 421 people, reaching 93.6%. Of the remaining 29 people, 4.2% had a religious affiliation and 2.2% chose others. Regarding marital status, 83.3% (n=375) of the respondents were married, while 16.7% (n=75) were unmarried status. The vast majority of respondents had good relationships with their families, with 70.4% (n=317) having very harmonious family relationships, 20.9% (n=94) of the sample having relatively good relationships, and 8% (n=36) having average relationships with their families. Only 0.2% (n=1) were less amicable and 0.4% (n=2) were very inharmonious. As for the reasons for employment, the table conveys that 51.8% (n=233) of the respondents were motivated by personal interest, 29.1% (n=131) followed the advice of family members or others, 9.1% (n=41) thought that it was easier to find a job in this industry, and the remaining 10% (n=45) were motivated by other reasons. In terms of educational background, the results are shown in the table. 55.6% (n=250) obtained a junior college degree or a diploma lower than that. 43.1% (n=194) obtained a bachelor's degree, and the remaining 1.3% (n=6) obtained a master's degree or higher. The table 1 demonstrates that 17.8% (n=80) of the respondents had worked for less than 3 years, 29.8% (n=134) between 3 and 5 years, and 49.8% (n=224) between 6 and 10 years. The remainder were relatively much less, with 0.7% (n=3) having 11 to 15 years of work experience, while 2% (n=9) were at 16 years and above. In terms of job title, 29.8% (n=134) of the respondents were nurses, 42% (n=189) were nurse practitioners, 27.3% (n=123) were supervised nurses, while the remaining 0.9% (n=4) were at vice-high and above level.

Reliability analysis is used to test the consistency and truthfulness of the questionnaire to evaluate if the results are reliable. In this paper, Cronbach's Alpha reliability coefficient method is used to measure the internal consistency of the questionnaire. In general, the higher the Cronbach α reliability coefficient of the questionnaire, the better the reliability, and less than 0.6, the poorer reliability. After standardizing the data of the questionnaire with software, the reliability analysis was performed and the results are shown in the following table 2.

Table 2: Cronbach's Alpha reliability test (n=450)

Factor	Number of terms	Cronbach's alpha
Cognition	14	0.980
Courage	13	0.664
Patience	10	0.922

As can be seen from the above table, the Cronbach α reliability coefficient of each dimension in the questionnaire is higher than 0.65, which indicates that the reliability of the questionnaire is relatively good and the internal consistency is high. Validity refers to the validity and correctness of the designed questionnaire. A high validity indicates a high degree of truthfulness of the measurement results, while the opposite means a low degree of truthfulness. Before further analysis, it is necessary to assess the validity first, and this study adopts KMO test and Bartlett's spherical test to conduct the suitability analysis. When Sig. < 0.05, this indicates that the variables are correlated and the validity is high.

Table 3: KMO and Bartlett's spherical test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.982
Bartlett's Test of Sphericity	Approx. Chi-Square	24028.575
	df	666
	Sig.	0.000

Source: Author's results.

As can be seen in Table 3, the value of KMO of 0.982, while its significance is less than 0.05, indicating that the data is suitable for further analysis.

The agreement level of respondents on cognition, courage and patience, which reflect the humanistic care ability of the nursing professionals, are shown in Table 3.4. Reverse scoring items have been processed in the positive direction.

Table 4: Level of agreement

Component	Mean	Standard deviation	Level of agreement
Cognition	4.6643	1.5326	Agree
Courage	4.2062	0.5052	Agree
Patience	4.7756	1.3241	Agree
Overall ability	4.5334	0.9616	Agree

From table 4, it shown that the mean value of nursing professionals' ability in cognition was 4.6643 with a standard deviation of 1.5326. The results indicate that the respondents' level of agreement on cognition was slightly agreeable. the mean value of nursing professionals' ability in courage was 4.2062 with a standard deviation of 0.5052. The results indicate that the respondents' level of agreement on courage was slightly agreeable. The mean value of nursing professionals' ability in patience was 4.7756 with a standard deviation of 1.3241. The results indicate that the respondents' level of agreement on patience was slightly agreeable. Overall, the mean value of the average humanistic care ability score was 4.5334 with a standard deviation of 0.9616, which illustrates that the humanistic care competence of nursing professionals in Zhoukou city was moderate.

The results of the independent sample t-test are shown in Table 5, where there is a significant difference in the mean overall scores of humanistic care ability among

respondents of different genders ($t=2.598$, $df=448$, $p<0.05$) and the overall score of male respondents is significantly higher than that of females. However, the situation of respondents with different marital statuses is shown in Table 6, although the mean scores of respondents with different marital statuses differed slightly, they did not constitute a significant difference overall ($t=1.412$, $df=448$, $p>0.05$).

Table 5: Differences in nursing professionals by gender

	Male(n=40)		Female (n=410)		MD	t
	M	SD	M	SD		
Overall score	4.908	0.956	4.497	0.955	0.411	2.598

Table 6: Differences in nursing professionals by marital status

	Unmarried (n=75)		Married (n=375)		MD	t
	M	SD	M	SD		
Overall score	4.676	0.922	4.505	0.968	0.172	1.412

The single-factor ANOVA test is shown in Table 7. Age, reasons for employment, current educational background and job title had no significant correlation on humanistic care ability of nursing professionals ($p>0.05$); while religious beliefs and years of work had a significant correlation ($p<0.05$), where the mean overall scores of respondents with no religious beliefs or more than 16 years of work were higher than the others.

Table 7: Summary of single-factor ANOVA

Items		n (450)	M	F	Sig.
Age	<30 years old	70	4.647	0.575	0.563
	30-40 years old	372	4.512		
	>40 years old	8	4.514		
Religious belief	No	421	4.563	3.406	0.034
	There are	19	4.014		
	Others	10	4.262		
Reasons for employment	Self-interest	233	4.647	2.409	0.066
	Family suggestion or others suggestion	131	4.384		
	Easy to find a job	41	4.407		
	Others	45	4.496		
Current educational background	Junior college degree and below	250	4.488	1.699	0.184
	Bachelor degree	194	4.572		
	Master degree and above	6	5.158		
Working years	<3 years	80	4.543	2.717	0.029
	3-5 years	134	4.729		
	6-10 years	224	4.408		
	11-15 years	3	4.099		
	≥ 16 years	9	4.802		

Job title	Nurses	134	4.651	1.783	0.150
	Nurse practitioner	189	4.473		
	Supervised nurses	123	4.475		
	Vice-high and above	64	5.236		

The results of the two-factor between-group ANOVA are shown in Table 8. The interaction between the family of origin and relationship with parents was not significant for humanistic care ability. However, the relationship with parents had a significant subject effect on scores ($p < 0.05$), which indicates that respondents with different levels of closeness to their family had significantly different scores.

Table 8: Subject effects of family of origin and family relationships

Source	Type III sum of squares	df	Mean Square	F	Sig.
Origin	0.425	2	0.212	0.235	0.791
Relationship	11.229	4	2.807	3.102	0.015
Origin * Relationship	2.594	5	0.519	0.573	0.720
Error	396.374	438	0.905		
Total	9663.430	450			
Total of corrections	415.184	449			

Multiple stepwise linear regression analysis was performed with the mean overall score of humanistic care ability scale of nursing professionals as the dependent variable and the items with statistical differences in correlation analysis as the independent variables. The items that finally entered the regression equation were gender, religious belief, relationship with parent and years of work. The counts are assigned as follows. Gender: male=1, female=2. Religious belief: no=1, there are=2, others=3. Relationship with parent: very harmonious=1, relatively harmonious=2, generally=3, relatively inharmonious=4, very inharmonious=5. More details are illustrated in Table 9.

Table 9: Multiple linear regression analysis of possible influencing factors ($n=450$)

Factor	B	SE	β	t	P
Gender	-0.342	0.158	-0.101	-2.165	0.031
Religious belief	-0.253	0.127	-0.092	-1.990	0.047
Relationship with parents	-0.201	0.066	-0.143	-3.067	0.002
Working years	-0.062	0.053	-0.055	-1.180	0.238

As shown in Table 9, gender, religious affiliation and relationship with family had a significant negative effect on humanistic competence ($p < 0.05$). However, years of work did not significantly affect humanistic care competencies ($p > 0.05$). According to the survey, there are strong characteristics shown in the data, which are based on the special condition of China and can serve as good indicators for depicting the realistic picture of Chinese humanistic care. The first feature is the significantly uneven distribution of gender. Male participants only accounts for less than 1/10 of the total, which means females are the absolute majority of humanistic care personnel. It shows that most nursing work is performed by women. The age feature is also remarkable. More than 80% of the participants are between 30 and 40 years old. Although there might be the influence of the survey coverage and technological method involved, there still lies some truth of the reality. It shows a lack of

senior and junior participants, while the main force is from the “middle”. The comparatively small number of young people demonstrates the low attraction of humanistic care as a profession, which can be caused by low income, low social reputation, high workload and undesirable working environment. As for the lack of seniors, it is possibly caused by the special demand of physical situation of such profession and the restricted career development. Marital status is highly connected to age, the data also echoes this relation. Nearly half of the participants are from rural areas, which indicates a strong demographic feature of humanistic care personnel. The proportion of the people with rural family background means the profession is regarded as less desirable, maybe in combination with low social reputation and low income. Family background should be discussed in combination with educational background, which can also demonstrate the social status of the professionals. Half of the professionals have attained university or equivalent degrees, which another half have not. Only a small fraction of them pursued higher degrees. This indicates that nursing professionals are a literate group. As for religious affiliation, 93.6% participants indicate no religious affiliation, which is largely on account of Chinese national condition. China is an atheistic state, which forms a special culture within the society. The vast majority of respondents have good relationships with their families, while only 0.2% are less amicable and 0.4% are very inharmonious. Even though good family relationship should be the mainstream of the society, such proportion is still remarkably high. Maybe the caring character desired by the profession has undeniable contribution to such phenomenon. As for the reasons for employment, more than half of the respondents are motivated by personal interest, while the second large number of the respondents follow the advice of family members or others. This demonstrates nursing professionals are mostly interest-motivated, which are self-motivated, and a group that cares much about family. Last but not least, the data of working time and job title seem not to correlate nurse with high titles are much less than those work for long years. This may be a proof that nurses are not granted the title they deserve after long commitment, and the competition is fierce among all nurses. The overall competency score of male respondents is significantly higher than that of females, which indicates that male nursing professionals may be more competent than females. This is partly due to the uneven gender distribution in this field. For most professionals are females, people tend to think females are more suitable to take up related duties. In return, if males want to do such job, people may put higher expectation on them and the entry bar is set higher correspondingly. Years of work had a significant correlation with the overall score, which is without any doubt, because more working years mean more experience, and experience almost equals competency. However, the relationship between years of working and competency does not hold true in every profession. For example, for CS engineers, the freshmen are sometimes advantageous because this field is all about cutting edge skills. Freshmen are more sensitive to new skills and more adaptive, which makes them more competent even than those old hand. But nursing is different. For this profession, experience still counts, which explains more years of working correlate with higher overall scores. The relationship with parents had a significant subject effect on scores. This is partly due to the nature of the nursing professional. The patience and compassion required by the humanistic care ability is to a large extent bound up with the professional's personality, which is inseparable from the role of the parents during the professional's growing up. Non-religious professionals score higher in terms of humanistic care ability. China is a heavily populated

country which is also considered as an atheist state. This is in connection with Chinese history and the special situation of the society. Further research about the connection of religion and humanistic care ability in China is a potential future direction.

5. Conclusion

China witnesses high-speed economic development in the last decade, and the society has transformed to a large extent. The development focus has also turned to the cultural and spiritual need of the people. In response, medical industry, with nursing as part of it, has to transform accordingly. That is why the government put forward the Quality Nursing Service Demonstration Project. It is an upgrade of nursing, making it more than physical cure. New mode of nursing poses new requirements on nursing professionals. To perform holistic duties, from physical care to spiritual care, it is imperative for them to strengthen their humanistic care ability. However, the current situation seems to be dissatisfactory. While there is urgent need for nursing mode upgrade, the education and training in humanistic care is insufficient among nursing professionals, and thus their performance is less satisfactory. To fill in the gap between current situation needs systematically improvement to the nursing system. Therefore, how to strengthen the cultivation of humanistic care ability and improve the humanistic care ability of medical workers has become a problem that cannot be ignored in the development of medical science in today's society. Additionally, this research tries to figure out the current nursing situation in China and possible contributors. In order to measure the humanistic care ability among nursing professionals, Caring Abilities Inventory (CAI) designed by Nkongho is adopted in this research. A survey on humanistic care ability was conducted based on this model among 450 front-line clinical nurses working in three major hospitals with the level 3A in Zhoukou City. In result, the questionnaire successfully provides both the demographic feature of the participating professionals and possible influencing factors. The former is representative of the current situation of the nursing professionals as a group in China, while the latter can be a good bench for forming future strategies in order to improve current status. What's more, this survey based in Zhoukou can be a good reference of demonstration of the general picture of China as a whole. Nursing group shows a strong uneven feature when it comes to the gender of the professional females outnumber males considerably. And the age group is also not well-distributed, for professionals are heavily concentrated in the age group of 30-40 years old. Absolute majority of the participants are non-religious, and they have a very harmonious family relationship. As for humanistic care ability, male seems to outperform female, and professionals with no religious background or a harmonious family relationship score higher.

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