The Impact of Educational Background on Nursing Humanistic Care Ability: Meta-Analysis

Huiling Liang, Guoying Lian, Wenxin Song, Xian Pan, Yudong Huang, Chunxi Lin*

The First Affiliated Hospital of Sun Yat-sen University, Guangzhou, China
Email: *15602227838@163.com

Abstract

To understand the impact of nurses' educational background on their ability to provide nursing humanistic care, and to determine strategic plans for optimizing training in humanistic care for nursing. Meta-analysis of observational studies was performed, and a total of 753 articles were searched from 4 electronic databases. After exclusion of irrelevant data using EndNote software, 224 articles remained. Among these, 20 duplicates were removed. Further full-text reading was conducted on 204 articles, which met the necessary research criteria. Five studies were included in the Meta-analysis. The results of the heterogeneity test indicated data heterogeneity (Q = 22.49, I^2 = 82.3%, p = 0.023). Statistical analysis was performed using a fixed-effects model. Publication bias was also noted. Educational background has a certain impact on the ability of nurses to provide humanistic care. These findings can provide important insights for nursing educators and clinical nursing educators to adjust strategies for humanistic care education in a timely manner.

Keywords

Nurse, Humanistic Care, Education, Impact

1. Introduction

Nurse's humanistic care is a reflection of a nurse's inherent comprehensive qualities in clinical nursing work, which includes morality, humanity, knowledge, beliefs, attitude, etc. It is an expression of the nurse's ability to experience and demonstrate care for patients. Nurse's humanistic care abilities can improve patient satisfaction with nurses, decrease nursing complaints and adverse events, increase a nurse's confidence in clinical nursing work, reduce the threat of violence towards nurses, and lower the nurse turnover rate (Zhong et al., 2021). Various factors affect a nurse's caring ability, such as communication skills,

educational background, work pressure, social support, humanistic care training, job satisfaction, and the meaningfulness of work (Jian et al., 2022). Among these factors, a nurse's educational background has a certain impact on a nurse's humanistic care abilities (Létourneau et al., 2020; Létourneau et al., 2021). It is widely believed that nurses with higher educational levels exhibit higher levels of humanistic care abilities. However, the full extent of the impact of a nurse's humanistic care abilities remains unknown (Wang et al., 2022; Ren et al., 2023).

Currently, there are studies at home and abroad on the factors influencing the humanistic care ability of nurses. However, there is a lack of definitive evidence on whether investigations into the educational background of nurses have a positive or negative impact on their humanistic care ability. There is also a lack of consistency in the existing literature. This study aims to systematically evaluate the impact of the educational background of nurses on their humanistic care ability through a meta-analysis, objectively demonstrating that the educational background of nurses can have a certain influence on their humanistic care ability. Through this research, nursing managers can understand the educational background of nurses and provide personalized training in humanistic care based on their educational background, thereby enhancing nurses' abilities in caring for patients in clinical settings.

2. Methods

2.1. Inclusion and Exclusion Criteria

1) Exclusion criteria: a) Conform to the Medical Subject Headings (Mesh) definition of nursing humanistic care ability. b) Nurses engaged in clinical work as the research subjects. c) The literature language should be limited to Chinese and English.

2) Exclusion criteria: a) Review. b) Nursing students who have not undergone clinical internships. c) Studies of low quality (such as inconsistent research data, incomplete data).

2.2. Literature Retrieval Strategy

Search Strategy: Computer retrieval of PubMed, Embase, Web of Science and Cochrane Library was conducted from the inception of the databases to March 2024. English subject terms and advanced search combinations were used for the retrieval. The search query was: Advanced search: (((((((Nurse) OR (Personnel, Nursing)) OR (Nursing Personnel)) OR (Registered Nurses)) OR (Nurse, Registered)) OR (Registered Nurse)) OR (Nurses, Registered)) AND (nursing humanistic care), subject term search: "Nurse" [Mesh] AND (nursing humanistic care. Retrieval results: a total of 753 articles underwent Meta-analysis. Retrieval process is shown in Figure 1.

2.3. Data Extraction

There were a total of 6 members in the research team for this study. Three
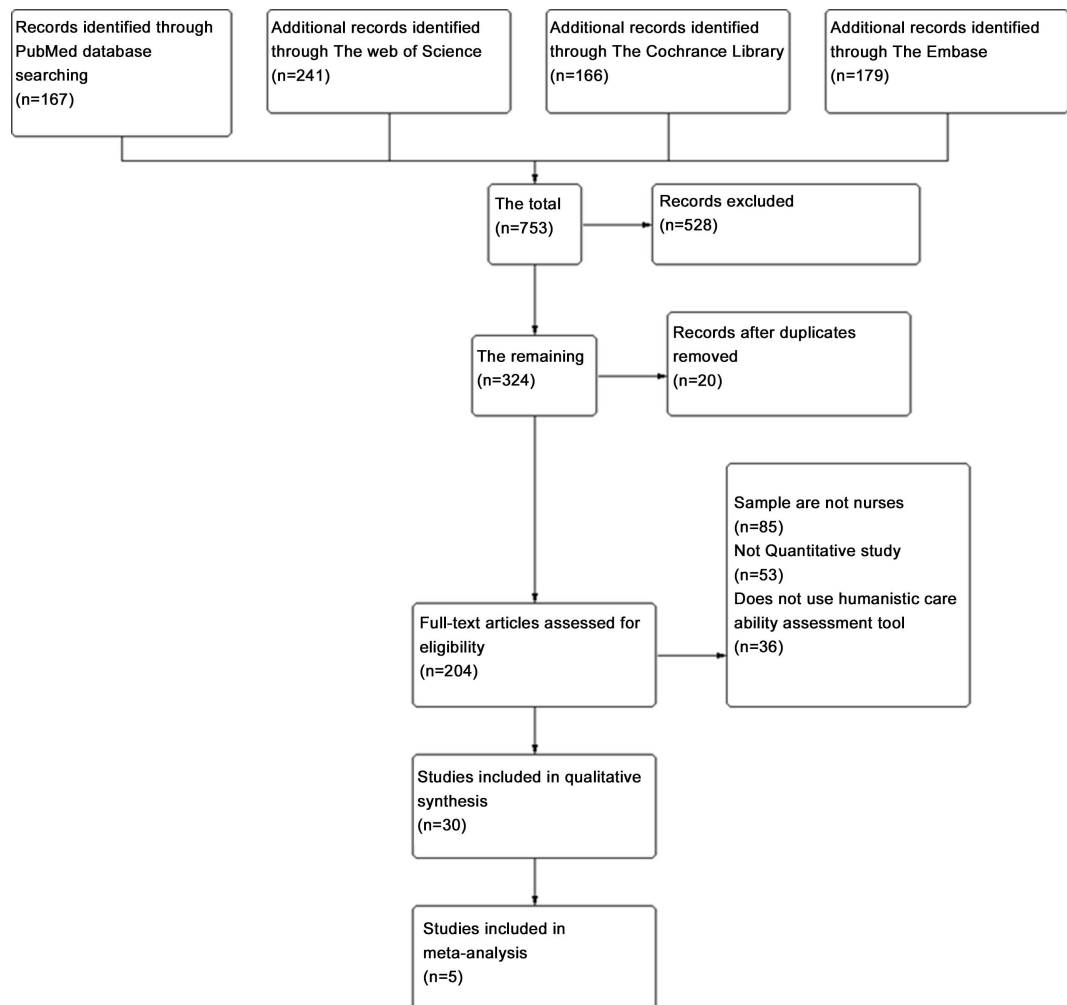
Figure 1. Literature screening flow chart.

researchers conducted article selection and data extraction based on the inclusion and exclusion criteria. The extracted data were then cross-checked. In case of any disputes, the other three researchers were consulted for resolution. By reading the titles and abstracts of articles, eligible articles were included in the selection, duplicate articles were identified and removed before a detailed reading of each article. Finally, well-selected articles were determined. Data extraction included information such as authors, country, year of publication, study type, sample size, statistical tests (M ± SD), outcome indicators, and quality assessment tools.

2.4. Quality Assessment

Quality assessment of the included literature was conducted using the cross-sectional study evaluation criteria recommended by the Agency for Healthcare Research and Quality (AHRQ) (Patel, 2004). AHRQ has 11 items, where each item is scored 1 point if assessed as "yes" and 0 points if not. The total score ranges from 0 to 3 points for low quality, 4 to 7 points for moderate quality, and

8 to 11 points for high quality.

2.5. Data Collection and Statistical Analysis

All included studies used consistent measurement tools, enabling a meta-analysis of combined quantitative data. The mean and standard deviation of the scores on the humanistic care ability scale in each study were summarized using Stata SE.14, and presented using weighted mean difference (WMD) effect sizes and 95% confidence intervals (CI). The Cochrane Q test and I^2 statistics were utilized with I^2 values of 25%, 50%, and 75%, indicating low, moderate, and high heterogeneity, respectively. When $I^2 > 50\%$, and $p < 0.05$, a random-effects model was used.

3. Results

3.1. Search Results

From 4 electronic databases, a total of 753 articles were retrieved. After excluding irrelevant data using EndNote software, 224 articles remained. Among them, 20 duplicates were removed. We conducted further full-text reading of 204 articles, ultimately meeting our research criteria (as shown in Table 1).

Table 1. Basic characteristics of the included studies.

Study/Country	Aim	Sample size/ setting/Study design	Statistical tests	Less than a bachelor's degree	Bachelor degree or above	Outcome index detection table	Quality grade	AHRQ Mark
(Zhang et al., 2023) China	To understand the humanistic practice ability of nurses and analyze its influencing factors	1196/A third class hospital in Hunan Province/ Descriptive Correlational	M ± SD 95% CI	104.65 ± 16.68 low (71.96 - 137.57)	110.17 ± 15.23 high (80.32 - 140.02)	Humanistic practice ability assessment scale for nurses	high	8
(Jiang et al., 2022) China	The present situation of humanistic care ability of nurses and its influencing factors were analyzed	63/Ruijin Hospital affiliated to Shanghai Jiao Tong University School of Medicine, humanistic care of nurses in the burn department/ Cross-sectional	M ± SD 95% CI	191 ± 26 low (140.04 - 241.96)	209 ± 26 high (158.04 - 259.96)	Caring Ability Scale (CAI)	moderate	6
(Liu et al., 2022) China	To confirm the relationship between psychological capital and humanistic care ability of nurses, and to provide suggestions on improving the humanistic care ability of nurses	339/A tertiary general hospital in Taizhou, China/ Cross-section	M ± SD 95% CI	187.91 ± 19.94 low (149.89 - 226.99)	189.44 ± 20.57 high (149.12 - 229.76)	Caring Ability Scale (CAI)	moderate	6

Continued

(Wang et al., 2022) China	To investigate the perceived stress and humanistic care abilities among Chinese healthcare workers	955/A convenience sample from 29 hospitals in China/ Observational study	M ± SD 95% CI	159.5 ± 16.58 moderate (127.0 - 186.0)	160 ± 5.87 moderate (148.5 - 181.0)	Humanistic care ability (HAC)	moderate	7
(Ahmed et al., 2022) "Arab League United Emirates "Jordan"	This study was conducted to examine level and predictors of caring behaviours among critical care nurses in two Arab countries	210/From two Arab countries/ Cross-sectional	M ± SD 95% CI	121.3 ± 14.9 high (92.6 - 144.90)	115.7 ± 18.5 low (79.44 - 151.96)	Caring behavior scale	moderate	4

Note: M (Mean Value), SD (Standard Deviation).

3.2. The Impact of Different Educational Backgrounds on the Humanistic Care Ability of Nurses

Five studies were included in the Meta-analysis. The results of the heterogeneity test indicated data heterogeneity (Q = 22.49, I^2 = 82.2 %, p = 0.023). A random model was used, which indicated that the educational background of nurses has a certain influence on their humanistic care ability (Figure 2).
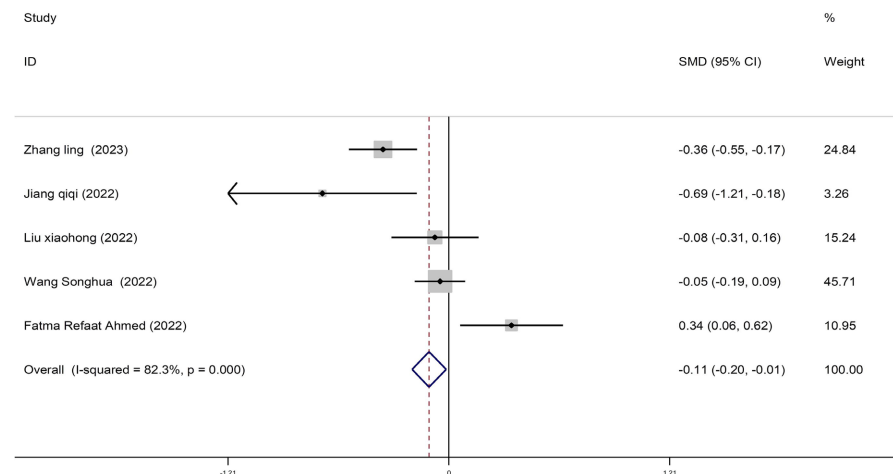

Figure 2. About the combined average forest plot of the impact of nurses with different educational backgrounds on humanistic care abilities.

4. Discussion

As far as we are aware, this is the first quantitative meta-analysis on the impact of nurses' educational background on their humanistic care ability, involving 5 medium or high-quality cross-sectional studies (involving 2763 nurse participants from two countries). In our meta-analysis, a more systematic and comprehensive analysis was conducted on how nurses' educational background has a
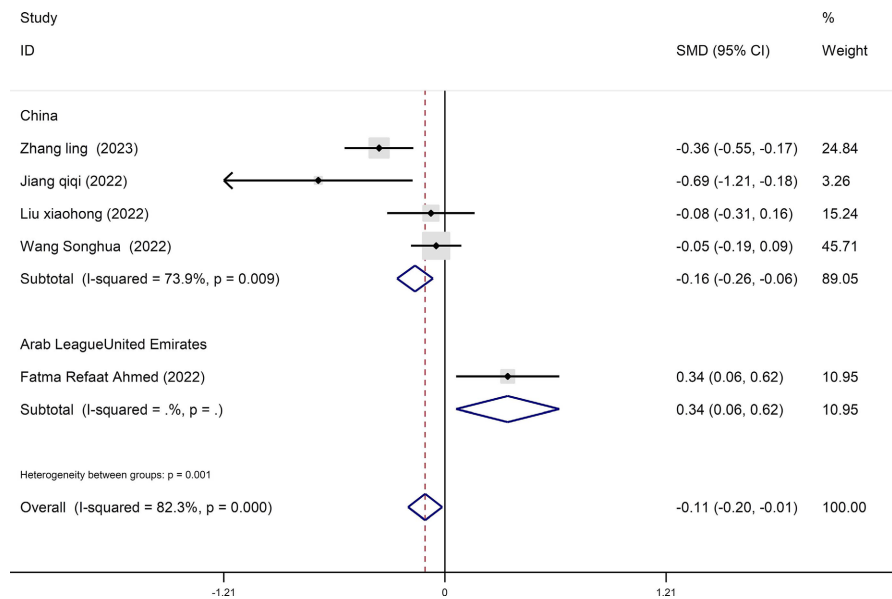
certain impact on their humanistic care ability. Overall, this impact appears to be positive.

To our knowledge, there are multiple factors that influence nursing humanistic care abilities. This review found that the higher a nurse's educational background, the higher their humanistic care ability score. This could be due to variations in the impact of nurses' humanistic care abilities across different years, countries, regions, and types of studies. Therefore, we further conducted subgroup analyses on these factors, and the results are presented in Figure 3, Figure 4, and Figure 5. Based on the data we have collected, it appears that the year, country, and type of study do not significantly impact the humanistic care abilities of nurses. Nevertheless, understanding a nurse's educational background and developing corresponding humanistic care training programs based on their educational background can enhance their humanistic care abilities (Hu et al., 2023).
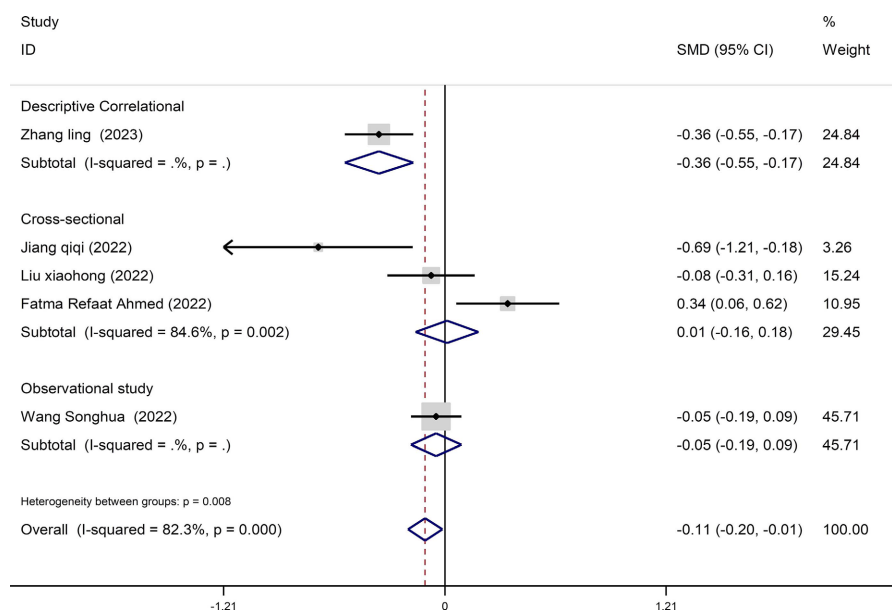
Enhancing a nurse's humanistic care abilities can be achieved by influencing their educational background (Mohamadi Asl et al., 2022). Continued emphasis on nursing education and professional development is crucial for improving humanistic care and patient satisfaction (Liu et al., 2023). In the future, we can provide more comprehensive and detailed training on humanistic care abilities for our clinical nurses by stratifying them based on their different educational backgrounds (Antonini et al., 2021). Encouraging clinical nurses to continuously improve their educational backgrounds can enhance the quality of our nursing care and reduce the occurrence of adverse nursing events. We recommend that nursing schools and hospital clinical departments focus on the cultivation of nursing humanistic care ability while also strengthening nurses' professional skills. Let our nurses care for our patients in a better humanistic environment.
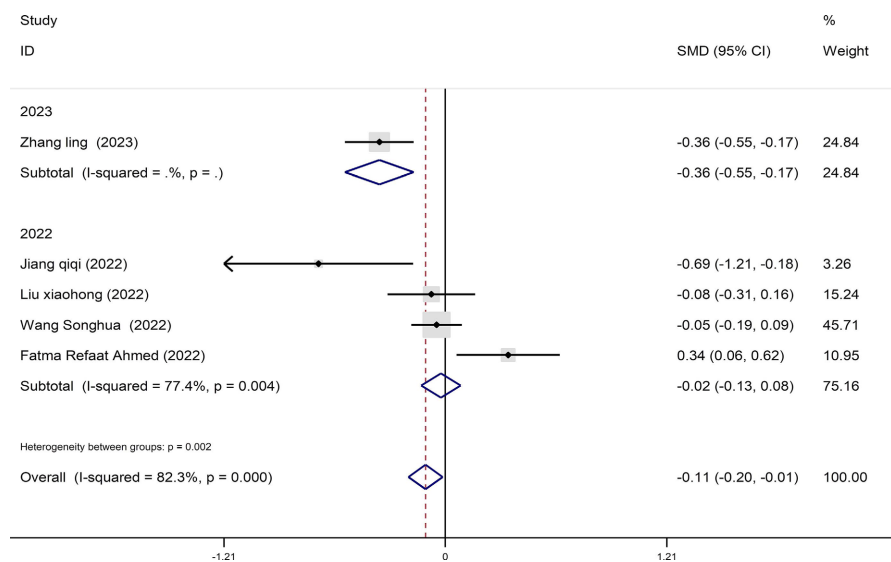
Figure 3. Subgroup analysis of the impact of study years on nurses' humanistic care abilities.

Figure 4. Subgroup analysis of the impact of different countries on nurses' humanistic care abilities.

Figure 5. Subgroup analysis of the impact of different study types on nurses' humanistic care abilities.

5. Conclusion

The purpose of this review is to systematically analyze the impact of a nurse's educational background on the humanistic care abilities of clinical nurses. Additionally, nurses with higher education levels are positively correlated with humanistic care abilities. These findings can provide important insights for nurse educators and clinical nurse educators to timely adjust nursing humanistic care education strategies. It calls for nurses to improve their educational background and receive more education on humanistic care to enhance their humanistic care

abilities. The limitations of this study include the inclusion of only Chinese and English articles from the past five years, resulting in a small sample size. Additionally, most of the studies in this category were conducted within China. Future research topics may involve end-of-life care, narrative nursing, patient satisfaction, etc., which reflect nursing humanistic care in other countries and regions. In the future, we aim to explore how to enhance the humanistic care abilities of nurses by improving their educational backgrounds both domestically and internationally, thus enhancing the overall quality of nursing humanistic care.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Ahmed, F. R., Saifan, A. R., Dias, J. M., Subu, M. A., Masadeh, R., & AbuRuz, M. E. (2022). Level and Predictors of Caring Behaviours of Critical Care Nurses. *BMC Nursing, 21,* Article No. 341. https://doi.org/10.1186/s12912-022-01125-4

Antonini, M., Bellier-Teichmann, T., O'reilly, L., Cara, C., Brousseau, S., Weidmann, J. et al. (2021). Effects of an Educational Intervention to Strengthen Humanistic Practice on Haemodialysis Nurses' Caring Attitudes and Behaviours and Quality of Working Life: A Cluster Randomised Controlled Trial. *BMC Nursing, 20,* Article No. 255. https://doi.org/10.1186/s12912-021-00729-6

Hu, J., Chang, R., Du, J., & He, M. (2023). Effect of Training on the Ability of Nurses to Provide Humanistic Care: Systematic Review and Meta-analysis. *The Journal of Continuing Education in Nursing, 54,* 430-436. https://doi.org/10.3928/00220124-20230816-12

Jian, S., Ya, M., Qian, Z., Meihua, Y., Cao, X., & Dela Rosa, R. D. (2022). Research Progress on Humanistic Care Ability and Influencing Factors of Intern Nursing Students. *European Review for Medical and Pharmacological Sciences, 26,* 8637-8643.

Jiang, Q. Q., Zhang, Y., Qiao, L., Zha, Q. H., Xie, L., & Luo, Z. Z. (2022). A Cross-Sectional Survey and Analysis of Influencing Factors of Humanistic of the Current Status of Humanistic Care Ability of Burn Specialist Nurses. *Chinese Journal of Burns, 38,* 1073-1078.

Létourneau, D., Goudreau, J., & Cara, C. (2020). Humanistic Caring, a Nursing Competency: Modelling a Metamorphosis from Students to Accomplished Nurses. *Scandinavian Journal of Caring Sciences, 35,* 196-207. https://doi.org/10.1111/scs.12834

Létourneau, D., Goudreau, J., & Cara, C. (2021). Nursing Students and Nurses' Recommendations Aiming at Improving the Development of the Humanistic Caring Competency. *Canadian Journal of Nursing Research, 54,* 292-303. https://doi.org/10.1177/08445621211048987

Liu, X., Li, C., Yan, X., & Shi, B. (2022). Psychological Capital Has a Positive Correlation with Humanistic Care Ability among Nurses. *Frontiers in Psychology, 13,* Article ID: 955627. https://doi.org/10.3389/fpsyg.2022.955627

Liu, Y., Zhang, F., Guan, C., Song, B., Zhang, H., Fu, M. et al. (2023). Patient Satisfaction with Humanistic Nursing in Chinese Secondary and Tertiary Public Hospitals: A Cross-Sectional Survey. *Frontiers in Public Health, 11,* Article ID: 1163351.

https://doi.org/10.3389/fpubh.2023.1163351

Mohamadi Asl, S., Khademi, M., & Mohammadi, E. (2022). The Influential Factors in Humanistic Critical Care Nursing. *Nursing Ethics, 29,* 608-620. https://doi.org/10.1177/09697330211043274

Patel, D. (2004). *Celiac Disease* (pp. 1-6). Evidence Reports/Technology Assessments, No. 104, Agency for Healthcare Research and Quality (US). https://www.ncbi.nlm.nih.gov/books/NBK35149/

Ren, Y., Guo, S. J., Guo, Y. F., Zhu, R. J., & Zhao, P. F. (2023). Survey on the Current Situation and Influencing Factors of Humanistic Care Ability of Outpatient and Emergency Nurses in Tertiary Grade A Hospitals in Zhengzhou City. *Chinese Journal of Industrial Hygiene and Occupational Diseases, 41,* 413-416.

Wang, Z., Xie, L., Liang, Z., Fan, J., Fan, L., Deng, J. et al. (2022). Perceived Stress and Humanistic Care Ability among Chinese Healthcare Workers: The Chain Mediating Role of Social Support and Life Satisfaction. *Frontiers in Psychology, 13,* Article ID: 1029265. https://doi.org/10.3389/fpsyg.2022.1029265

Zhang, L., Li, J., Yang, M., Zhang, Q., Wu, X., & Wang, Q. (2023). Investigation of Medical Humanistic Practice Ability of Nurses and Factors Affecting Their Practices: A Questionnaire-Based Analysis of 1196 Cases in a General Hospital in Hunan Province. *Journal of Southern Medical University, 43,* 139-144.

Zhong, X., Liu, X., & Sheng, Y. (2021). The Effect of the Humanistic Care Teaching Model on Nurse Patient Conflict and Nurse Turnover Intention in a Pediatric Outpatient Department: Results of a Randomized Trial. *Translational Pediatrics, 10,* 2016-2023. https://doi.org/10.21037/tp-21-214