Practical Experience of Humanistic Care Among Medical Staff in Stroke Wards: A Qualitative Research Study Conducted in China

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Abstract

Background

As a special patient group, stroke patients have a significant attachment to humanistic care. There are, however, still many problems in clinical practice. Medical staff in stroke wards are the main providers of humanistic care. Finding out the opinions of staff that provide the medical service is vitally important for stroke patients that need access to curative and humanistic care.

Objective

The aim of the study was to explore the psychological experiences of doctors, nurses and physiotherapists during the implementation of humanistic care in a stroke ward.

Method

Medical staff including doctors, nurses and physiotherapists were selected from stroke wards in general hospitals (minimum level two) from 13 cities within six provinces in China. A purposive sampling method was used until no new data were generated (n=18). Semi-structured interviews were conducted by using a phenomenological research method. The Colaizzi seven-step method was used for analysis.

Result

The end user's experience incorporated four themes: (1) Gradually improving the perception of humanistic caring in a stroke ward. (2) Required improvement of consciousness and ability of humanistic care implementors in a stroke ward. (3) Main problems and contradictions associated with implementing humanistic care in stroke wards. (4) Critical needs of staff in a stroke ward.

Conclusion

Steady advances have been made in the prevention and treatment of stroke in China. Care behaviour of staff in stroke wards has gradually improved. Nevertheless, while implementing humanistic care in stroke wards, the consciousness and ability of medical staff needs to be improved, in addition to the practical problems and contradictions affecting the development of humanistic care. In order to improve the level of humanistic care in stroke wards, attention should be paid to the overall improvement of the personal qualities of medical staff in stroke wards and the integration of a humanistic management mode.

Background

Stroke is an acute traumatic emergency that endangers human health, which can cause permanent nerve damage and lead to significant change in a patient's daily life^[1, 2]. With increasing incidences year on year^[3], stroke has become the primary leading cause of mortality in China^[4]. Approximately 75% of stroke

survivors have varying degrees of physical and mental disability^[5], which has become a huge burden to families and society^[6, 7].

A study has highlighted that humanistic care not only improves the physical and mental health status of stroke patients but also affects the recovery outcome^[8]. However, there is no uniform standard to evaluate medical humanistic care at the moment. Most of the care processes depend on the conscious awareness of managers and the personal qualities of implementors^[2, 4]. The practical status is not optimistic.

Qualitative research can be an excellent a magnificent way to thoroughly explore the connotations of this phenomenon in the field of humanistic care^[9]. This method has been used to investigate the work of nursing experience^[10] and rehabilitation needs^[11] from the different perspectives of doctors, nurses and therapists in Europe and US. In China, quantitative research focused on patients' quality of life and the effects of intervention occupying mainstream thinking^[12], especially on the mainland. Rarely do qualitative studies of humanistic care for stroke patients in China focus on humanistic care. Instead of studying the experience of the caregivers, most articles concentrate on the needs and feelings of patients and caregivers^[13, 14].

This study is based on previous investigation on the subject of constructing humanistic care practice guidelines for stroke patients. This study will fully consider the experiences of both the care implementors and recipients. As the principal part of humanistic care practice in stroke wards, the feelings of medical staff can affect and even determine their own caring behaviours. In order to thoroughly investigate the details and problems associated with the implementation of humanistic care in stroke wards, this study explored the psychological experiences of doctors, nurses and therapists during the implementation of humanistic care in stroke wards through semi-structured interviews, to improve the overall level of care.

Method

Design

A phenomenological method and thematic analysis were used within qualitative semi-structured interviews, which is part of the part of the practice guideline structure for stroke care. Before starting, the research group defined the practical meaning of humanistic care for stroke survivors. The expertise group consisted of a nursing methodology professor, a director of the hospital nursing department, a director of the neurology department and a chief nurse. This expertise group conducted a feasibility study and quality control analysis regarding the processes of topic selection, study design and potential problem finding in this draft study and put forward suggestions for revision.

Two interviewees were involved in each interview. The main interviewer is the systematic literature evaluation specialist authorised by the Joanna Briggs Institute, who has nearly 10 years of clinical work experience and is competent in the use of communication and interview skills. The interviewer

maintained a neutral attitude throughout the interview, without inducing or hinting to obtain statements from interviewees. The analytical process is suspended, looking at things with an open mind, so as not to be influenced by existing knowledge and experience^[15]. SRQR reporting specification is used to present the research results, and the quality evaluation method of qualitative research is used to review the level of rigor applied.

Participants

The study was conducted from September–October 2019. Participants from stroke wards in general hospitals (graded level two or above) from 13 cities within six provinces engaged in an advanced study in the department of neurology and neurological rehabilitation at a comprehensive hospital in Guangzhou, China. The inclusion criteria were as follows: (a) Certified and valid registered doctors, nurses and rehabilitation technicians. (b) Have formal labour relations with the employing unit. (c) More than three years’ experience in a stroke ward. (d) Provided voluntary consent. People that had left their position for over a year and non-clinical positions (e.g. management positions and the logistics department) were excluded. Recruitment ceased when data saturation was reached, which meant that no new information relating to participants’ perceptions of humanistic care was noted in the transcripts.

Data collection

Based on the previous research, an outline was made of the interview following group discussion, consultation with experts and a pre-interview. The semi-structured interview included four main questions (Table 1).

Table 1
Interview Questions

No.	Question
1	What’s your opinion on the current implementation of the humanistic care in stroke ward?
2	How do you feel about the humanistic care implemented by the stroke department?
3	What are the obstacles of the implementation of the humanistic care in the stroke ward? How do you manage those difficulties?
4	What strategies can help to improve the level of humanistic care in stoke ward?

All of the participants were briefed about the study and informed of their rights and obligations in the study. The first author made appointments with participants after they acquired written consent for the interview from participants. To encourage the participants to describe specific experiences of humanistic care in stroke wards, follow-up questions were asked later by the researcher. The average interview length was 60 minutes (range 30–90 minutes) and an audio recording was made of each interview.

Ethical considerations

This study was approved by the Ethics Committee of the General Hospital of the Southern Theater Command of the Chinese People's Liberation Army. A full explanation of the research purpose and method, rights and obligations, use of recording equipment and other related matters was given to the interviewees. All participants provided a written and signed letter of consent to be interviewed.

Data analysis

Colaizzi's data analysis method was used for clustering themes from the known phenomenon^[16]. Every audio-recording was transcribed verbatim and reviewed as soon as it had finished by the first author (ML). The first author (WJZ), who is fluent in both Mandarin and English, translated the interviews into English after double-checking the transcripts. All the transcripts were read multiple times by first authors in order to reach a common understanding of the perceptions of the participants and gain a deeper understanding of the content. Then, authors continued the data analysis process by labelling the data extracts from all the interviews with a coding system.

Results

General participant information

Eighteen participants were recruited, including five doctors, eight nurses and five rehabilitation technicians. Their average age was 36.66 ± 5.57 years. The average work experience time was 11.83 ± 6.82 years. One of the participants is a follower of Islam, with the others having no religious beliefs.

Themes revealed

Four main themes were extracted from the manuscript: 'Gradually improving the perception of humanistic caring', 'Required improvement of consciousness and ability of humanistic care implementors in stroke wards', 'Main problems and principle contradictions in implementing humanistic care in stroke wards', 'Critical needs of staff in stroke wards'. Table 2 displays both the prime motivators and obstructions to implementing humanistic care in stroke wards.

Table 2
Summary of Themes, Coding Words and Meaningful Units

Summary of Themes, Coding Words and Meaningful Units			
Main Themes	Sub-themes	Coding Words	Meaningful Units and Professional
Gradually improving the perception of humanistic caring in stroke ward	Changes in concept of treatment	Stroke ward	a1, Doctor
		Green channel of stroke	a5, Doctor
		High quality of nursing care	b1, Nurse
		Respect for human rights	b3, Nurse
		Spirituality concern	b4, Nurse
	Solve patients' problem	Dysphagia treatment	b1, Nurse
		Pay for patients' care	b8, Nurse
		Deal with severe constipation and urinary retention	c2, Physiotherapist c4, Physiotherapist
	Initiatively create caring atmosphere	Comfort in holiday	a1, Doctor
		Build communication platform	b7, Nurse
Interaction of medical workers and patients		c2, Physiotherapist	
Required improvement of consciousness and ability of humanistic care implementors in stroke ward	Weak professional value	Distraction of self-emotion on work	b8, Nurse
		Disengagement of work	c4, Physiotherapist
	Insufficient voluntary caring behavior in stroke ward	Neglect of coma patients' care	a3, Doctor
		Perfunctory education	b5, Nurse

Main Themes	Sub-themes	Coding Words	Meaningful Units and Professional
	Inadequate attention and capacity on whole-process rehabilitation	Indifferent care attitude	c5, Physiotherapist
		Lacking early rehabilitation	b1, Nurse
		Indifferent to rehabilitation	b3, Nurse
		Lack of comprehensive skills	a2, Doctor
			b2, Nurse
			b7, Nurse
Main problems and contradiction in implementing humanistic care in stroke wards	Contradiction between reality and demand in management of medical institution	Unbalance allocation of human resource	b1, Nurse
			b6, Nurse
		Unreasonable work flows	b3, Nurse
		Conflict between principle and flexibility in management	b5, Nurse
	Disparity between Rehabilitation conditions and patients' need	Tight amount of beds	a2, Doctor
		Incomplete rehabilitation medical construction	c2 Physiotherapist
Critical need of staff in stroke ward	Additional position setup	Necessary position of psychological consultation	c1 Physiotherapist
		Position of physiotherapists	b6, Nurse
	Effective practical training of humanistic care	Cases and experiences of humanistic care	a4, Doctor
		Training does not fit the reality	b1, Nurse
		Ambiguous content of care	b5, Nurse
	Build a more harmonious	Rigid cognitive	a1, Doctor

Main Themes	Sub-themes relationship between patients and doctors	Coding Words	Meaningful Units and Professional
			b5, Nurse
		Poor compliance	a2, Doctor
		Lack of trust	c3, Physiotherapist

Theme 1: Gradually improving the perception of humanistic caring

Changes in concept of treatment

Due to the widespread nature of stroke prevalence areas, inconsistent service levels and non-standard stroke prevention rescue system, the National Health Commission has established a stroke specialist management system and formed an integrated process of pre-hospital treatment, family recuperation and social rehabilitation by integrating multi-disciplinary advantages, which has changed the traditional pattern of stroke care. In the study, eight participants described how the treatment mode has transformed into multi-disciplinary cooperation, which has also improved the conscious awareness of humanistic care among doctors, nurses and technicians:

'The construction of stroke units has become more mature in our country, which makes a big difference in the care of patients.' (a1, a5)

'Nursing patterns has changed a lot these days, which also put new demand on us, we need to be aware of all aspects of patients.' (b3)

'Some relatives of seriously ill patients put the 'nation flag' like bedspread on the bed and play some scriptures that we could not understand. In the past, we would certainly try to stop them, but now we will not intervene too much.' (b4)

Solving patients' problems

Ten participants agreed that fully addressing the specific problems of dysfunction and hospitalisation is an important way for them to fully experience the core components of humanistic care:

'I have treated a patient with dysphagia very well, and he said I had been his benefactor all his life.' (b1)

'The patient couldn't sleep because the light was too bright, so the nurse bought the patient an eye mask at her own expense.' (b8)

'A post-burn stroke patient was transferred from the primary hospital. After our efforts, his 2-month-long urine and gastric tubes had been removed. He sent us a pennant.' (c4)

Initially create a caring atmosphere

Creating a harmonious and caring atmosphere is the essential condition for humanistic care of stroke patients, which enables patients to feel the medical temperature and enhance their sense of social participation. It is mentioned by all participating professions, and they all took it seriously:

'On some major holidays or their birthdays, we will give gifts or throw parties for patients who cannot be discharged from the hospital, so that they can feel the warmth of home in an unfamiliar environment.' (a1)

'There are patients in our department with similar hobbies, then we will introduce them to each other.' (b7)

'Our director used his rest time to visit the patients and do crafts together... ...' (c2)

Theme 2: Required improvement of conscious awareness and ability of humanistic care implementors in stroke wards

Weak professional value

Consciousness is the subjective impression of objective things, and practice is the internal power of consciousness development. They influence each other and are a reciprocal causation. Doctors are not only the behavioural subjects of medical services, but also the holders of different social roles. Multiple pressures will directly affect their loyalty, sense of responsibility, dedication and sense of achievement, which will be transferred to patients through medical services. Among the participants, seven of them said that their professional honour makes them feel more comfortable, six of them said they only work to support their families, and five complained about their career choice.

Insufficient voluntary caring behaviour in stroke ward

Too much attention is paid to the treatment of the condition instead of treating the person. Six of the participants said that humanistic care was highlighted for many reasons, such as insufficient conscious care behaviour of staff, caring carried out by escorts, and coping with education:

'We couldn't even perform (humanistic care) on lucid (patients), let alone those in a com. What's the point of the care?' (a3)

'At present, patients can only be briefly introduced to the ward environment during admission evaluation, there is nothing else.' (b5)

Inadequate attention and capacity for whole-process rehabilitation

Self-realisation places the highest demand on individuals in Maslow's hierarchy of needs, and rehabilitation is an important way for patients to return to society. The lack of a rehabilitation concept and comprehensive skills will increase their resistance to forming social ties. Nine respondents said that

they felt guilty due to insufficient awareness, implementation and follow-up guidance. In the interview, many interviewees also reflected on the impact of inadequate competence, including professional competence and humanistic practice on the rehabilitation process of stroke patients.

'Because we did not do well in early recovery, a sober patient contracture and shrunk like a ball(because of the complication). Every time I passed his ward, I could not bear to see him (tears in eyes).'' (b1)

'Rehabilitation is so important. But we just overlook it. We don't know whether it does good to patient, and whether there is a difference in the treatment.' (b3)

Theme 3: Main problems and principle contradictions in implementing humanistic care in stroke wards

Contradiction between reality and demand in the management of medical institutions

In this study, a number of participants said that humanistic care attributes were not taken into account in staff selection, existing work processes and management systems, resulting in patients not benefitting from it. Instead, many complaints were lodged, and the staff themselves felt weary and helpless:

'The average number of hospitalized patients is more than 170, with only approximately 20 nurses, and the corridor is full of camp beds... ...' (b1)

'We have to go around and make an inspection every hour. Points will be deducted if the rounds are too short. Patients are disgusted that they cannot get to sleep easily and then are woken up by our rounds (helpless, sigh).'' (b5)

'Some people who are not paraplegic can sit up and move moderately with the help of others, but we really cannot spare the time and energy to help them (helpless).'' (b6)

Disparity between rehabilitation conditions and patients' needs

The social security mechanism and the medical rehabilitation system are gradually improving in China. However, due to past restrictions, an uneven distribution of high-quality medical resources, insufficient total amount and other problems, stroke rehabilitation conditions do not meet the requirements of patients.

'Despite the expansion of hospital areas or the construction of new hospitals every year, the number of rehabilitation beds is still not enough, and it is always full...The patient can't make an appointment for bed, so the rehabilitation treatment is suspended.' (a1)

'The framework for rehabilitation is not yet fully established...It is difficult for therapists to carry out continuous treatment independently of hospitals.' (c2)

'A lot of patients line up at 7am to get a place for physiotherapy...The corridor was jammed and there was a lot of noise.' (b3)

Theme 4: Critical needs of staff in stroke wards

Additional position setup

Compared to other departments in general, the workload of staff in stroke wards is comparatively large, as patients suffer from serious illness and prominent psychological problems and require significant rehabilitation needs. The majority of medical staff hope to change the status of stroke wards through post rearrangement or seamless connection of various departments. The two most urgently needed positions are rehabilitation therapists and psychological counsellors.

Effective and practical training for staff in humanistic care

Reservations about lack of self-knowledge, confusion over solid implementation of humanistic care and a desire for caring guidance are the characteristics most referred to by medical staff. Behavioural guidance and caring paradigms are what they really need:

'Usually there is no special class or training for communication skills, humanistic measures and so on...We won't know what to do.' (b1)

'I was the leader of the humanities group in the ward, but I was confused on what to do with humanistic care...' (b5)

Build a more harmonious relationship between patients and doctors

A good doctor–patient relationship is not only the premise for mutual trust and close cooperation between doctors and patients, but also the basis of a humanistic service. The stereotypical image and false impression of stroke by patients or their families leads to the communication between doctors and patients being blocked, which then affects the harmony between doctors and patients, bringing greater challenges to the implementation of humanistic care. Participants were frustrated with the behaviour of the patient or family member:

'Some patients or family members are very anxious, asked for transfer when the effect is not so significant, admitted to the hospital 1–2 days, looking at the effect is not so obvious immediately, completely not explained.' (a1)

'At the beginning, he took the medicine on time, but as soon as he saw the improvement, he stopped. He relapsed again and again, and his condition became worse. It was because of our poor skills that he

failed to meet his expectation of recovery.’ (a2)

‘Many people do not trust the primary hospitals and even think it is a waste of money to go there. Some of them will guard against medical staffs, so we hardly dare give our hearts to them in the process of care.’ (c3)

Discussion

Improvement of the treatment process is the key to promoting the humanistic experience of patients

Time is the brain. Early endovascular therapy can save lives and reduce disability, which can then maximise the opportunity to return to society. Therefore, establishment of the humanistic stroke rescue process is the basis of humanistic care. Canadian Stroke Best Practice Recommendations for Acute Stroke Management^[17] recommended that emergency centres should speed up the thrombolytic process by means of multidisciplinary collaboration, joint networking centres, optimisation of pre-hospital care procedures and opening of green channels. The establishment of a green channel for emergency stroke care is the first step in process improvement, from strengthening the stroke identification ability to reducing the process for a single disease. By moving the treatment site forward, the time from arrival to treatment initiation (door-to-needle) can be greatly shortened and the treatment efficiency can be improved.

This study concluded that the idea of a single stroke department treatment centre had a subtle effect on stroke ward workers, and the concept of the service was also changed accordingly. In addition to actively creating a caring atmosphere and taking care of patients' personalised needs, the most influential factor was the establishment of a rapid response medical channel. Stroke centres in our country are a multidisciplinary medical mode leading by category of disease^[18]. It effectively integrated the resources and normalised the treatment through the whole process and standardised the management of stroke diagnosis. The treatment process should be reorganised according to the needs of specific diseases, and a humane treatment process should be established to provide patients with faster, safer and fairer services so that personnel participate effectively based on providing good treatment. Furthermore, the role of the nurse should be fully highlighted. As the most capable person to perform humanistic care, the nurse can not only give priority to the care of emergency patients, but also act as the coordinator in the process, guiding and integrating medical resources^[19]. Care should be integrated into the details of the process, and improve the humanistic care of patients by effectively attending to their needs.

Improving the ability of personnel is the foundation of humanistic care

Comprehensively improving the humanistic quality of medical staff is the basis of implementing humanistic care. In many continuing education training programmes, 60% of the content is aimed at

improving medical behaviour rather than focusing on the patients^[20]. Most interviewees during the interview said that 'The failure to pay comprehensive attention to patients in clinical work is mostly related to the lack of caring awareness and ability. Worse still, there are not enough effective knowledge and skill training programmes in hospitals. As a result, their knowledge structure does not meet the needs of patients' care needs.' Related studies^[21, 22] have shown that it is difficult for some medical staff to truly understand patients, with poor overall care consciousness, insufficient communication skills and low humanistic practice ability. The proportion of medical disputes caused by humanistic factors, such as service attitude, service language and medical ethics, is as high as 80%, which has become an important driving force in affecting patients' level of satisfaction with care received^[23].

Researchers believed that education and management of care can be important factors in improving quality of care from workers^[24]. As a consequence, medicine, humanistic care and personal qualities should be a vital integration to provide continued education. To enhance the professional values of medical staff, training programmes should include professional basic knowledge and humanistic ability. A further influence is motivating them to consciously have a people-oriented attitude in their work^[25].

It was reported that, using the same recognised rate of stroke patients among doctors and nurses, there is a difference as nurses take more prompt action. Strengthening professional basic training of nurses is of great importance. The curriculum content should be designed according to varying levels and targeted towards collaborative education. This could further improve the prognosis for stroke patients. In terms of training methods, repetitive active knowledge uptake^[26] and diversified teaching situations^[27, 28] are more conducive to improving the comprehensive care ability of doctors, nurses and therapists in stroke wards.

Optimising stroke ward management systems is a guarantee of a humanistic care service

A people-oriented approach to management is the key to improving care in stroke wards. The research results show that some medical institutions with insufficient humanised management can lead to unreasonable working processes and systems, poor stability of the medical team, insufficient cohesion, and difficulty demonstrating professional value. With the prevailing national conditions of unbalanced doctor–patient ratio and imperfect rehabilitation, limited care time is given to patients. Stroke patients have obvious physical function and emotional disorders. Doctors and nurses in stroke wards with inadequate knowledge of professional rehabilitation treatment or psychological consultation find it difficult to meet the diverse needs of stroke patients, which poses greater challenges to the development of humanistic care.

A collaborative method, put forward by the American Association of Critical Care Nurses, has been widely used in nursing management^[29–31]. From a management perspective, it advocates reasonably equipping human resources by matching the needs of the patient with the ability of nurses and clinical systems, forming a corresponding nursing service process and management system based on the requirements of patients.

Therefore, it is essential to optimise the combination of medical workers and set up necessary specialist positions such as rehabilitation therapists, psychological counsellors, case managers and specialist nurses according to the characteristics of stroke specialty^[32]. This not only makes a positive difference, but also improves their professional value, which then has a positive impact on their job satisfaction and their caring effectiveness. Meanwhile, managers and employees should jointly shape the organisational culture and set a shared vision for motivation. Managers should make full use of 'leading by example' to provide a visible model of behaviour so that employees can be led towards a better professional ethos, which will consequently build a better type of hospital and create a more harmonious medical environment^[33].

Conclusion

Through in-depth interviews with 18 respondents in 13 cities in China, this study found that the implementation of humanistic care in stroke wards was not an optimistic experience from the perspective of medical staff. With many existing problems and contradictions, it posed a challenge to the development of humanistic care in stroke wards. Although great progress has been made in stroke prevention and treatment in China, there is still a gap in humanistic care service. In medical behaviour, medical staff should be keen to capture the psychological responses and needs of patients and solve practical problems for them based on the characteristics of the condition. Medical staff also need to realise that personalised care involves the whole person from psychological needs to specific needs after the stroke. Whole-person nursing for stroke patients with physical, mental, social and spiritual problems can help to alleviate their negative emotions, improve their coping ability and promote physical and mental rehabilitation^[34]. In order to make the respondents more representative and more able to present the uniform distribution of samples with different characteristics, basic data such as the age and educational background of the respondents have been fully considered in the selection criteria. However, samples from third-level hospitals account for the majority, and the data from hospitals and community units below third-level need to be mined to obtain more comprehensive information and provide reference and practical evidence for improving the overall level of care in stroke wards.

Abbreviations

Not applicable.

Declarations

Ethics approval and consent to participate:

This study was conducted in accordance with the Declaration of Helsinki and approved by the ethics committee of General Hospital of Southern Theatre Command.

This study was approved by the ethics committee of the General Hospital of Southern Theatre Command(ethical batch number: [2020] No. 70), and informed consent was obtained from all participants.

Consent to publication:

All authors final approval of the version to be published.

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Conflicts of interest

No conflicts of interest exist.

Authors Contribution

Conception and design of the research: LM, ZWJ. Acquisition of data: YZQ. Analysis and interpretation of the data: LQ, DY. Statistical analysis: CH. Obtaining financing: None. Writing of the manuscript: LM, ZWJ. Critical revision of the manuscript for intellectual content : XHZ, CK.

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References

1. Go, A.S., et al., Heart disease and stroke statistics–2014 update: a report from the American Heart Association. *Circulation*, 2014. 129(3): p. e28-e292.
2. Joynt, K.E., et al., Lack of impact of electronic health records on quality of care and outcomes for ischemic stroke. *J Am Coll Cardiol*, 2015. 65(18): p. 1964-72.

3. Wang, W., et al., Prevalence, Incidence, and Mortality of Stroke in China: Results from a Nationwide Population-Based Survey of 480 687 Adults. *Circulation*, 2017. 135(8): p. 759-771.
4. Zhou, M., et al., Mortality, morbidity, and risk factors in China and its provinces, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet*, 2019. 394(10204): p. 1145-1158.
5. Perna, R. and L. Harik, The role of rehabilitation psychology in stroke care described through case examples. *NeuroRehabilitation*, 2020. 46(2): p. 195-204.
6. Greisenegger, S., et al., Copeptin and Long-Term Risk of Recurrent Vascular Events After Transient Ischemic Attack and Ischemic Stroke: Population-Based Study. *Stroke*, 2015. 46(11): p. 3117-23.
7. Kim, A.S., E. Cahill, and N.T. Cheng, Global Stroke Belt: Geographic Variation in Stroke Burden Worldwide. *Stroke*, 2015. 46(12): p. 3564-70.
8. G., C.Y., et al., A study on the role of family humanistic care in rehabilitation training for stroke patients with hemiplegia. *Chinese Journal for Clinicians*, 2017. 45(10): p. 114-117.
9. Paley, J., An archaeology of caring knowledge. *J Adv Nurs*, 2001. 36(2): p. 188-98.
10. Kirkevold, M., Caring for stroke patients: heavy or exciting? *Image J Nurs Sch*, 1990. 22(2): p. 79-83.
11. Vincent, C., et al., Rehabilitation needs for older adults with stroke living at home: perceptions of four populations. *BMC Geriatr*, 2007. 7: p. 20.
12. Qu, J., X.L. Weng, and L.L. Gao, Bibliometric analysis of literatures on nursing qualitative researches. *Chinese Nursing Research*, 2018. 32(10): p. 1637-1639.
13. Shang, Z.H., et al., Nursing Needs of Patients with Acute Ischemic Stroke at Different Stages:Qualitative Research. *Nursing Journal of Chinese People's Liberation Army*, 2018. 35(18): p. 19-23.
14. Wang, M., F.G. Wang, and W.Y. Lin, Meta-integration of qualitative research on care experience of caregivers of stroke patients in China. *Chinese Evidence-based Nursing*, 2017. 3(5): p. 431-435.
15. Sousa, D., Validation in Qualitative Research: General Aspects and Specificities of the Descriptive Phenomenological Method. *Qualitative Research in Psychology*, 2014. 11(2): p. 211-227.
16. Lopez, K.A. and D.G. Willis, Descriptive versus interpretive phenomenology: their contributions to nursing knowledge. *Qual Health Res*, 2004. 14(5): p. 726-35.
17. Boulanger, J.M., et al., Canadian Stroke Best Practice Recommendations for Acute Stroke Management: Prehospital, Emergency Department, and Acute Inpatient Stroke Care, 6th Edition, Update 2018. *Int J Stroke*, 2018. 13(9): p. 949-984.
18. Chao Baohua, et al., Construction of national stroke center network system. *International Journal of Biomedical Engineering*, 2019. 42: p. 363-366.
19. Sousa, K., et al., Humanization in urgent and emergency services: contributions to nursing care. *Rev Gaucha Enferm*, 2019. 40: p. e20180263.
20. McMahon, G.T., Advancing Continuing Medical Education. *Jama*, 2015. 314(6): p. 561-2.

21. Shang, X.C., et al., Multi-center Survey on Humane Nursing Practice of the Domestic Hospitals. *Chinese Hospital Management*, 2018. 38(5): p. 61-63.
22. zhang, J.H., et al., A survey of humanistic practice ability of nurses. *Journal of Nursing Science*, 2017. 32(6): p. 11-13.
23. Yang, L.B., et al., Investigation and Analysis on Humanistic Quality of Physicians—Take the Example of Nanning, Guangxi. *Medicine & Philosophy*, 2014. 15: p. 75-76, 83.
24. Papastavrou, E., et al., A cross-cultural study of the concept of caring through behaviours: patients' and nurses' perspectives in six different EU countries. *J Adv Nurs*, 2012. 68(5): p. 1026-37.
25. Khademi, M., E. Mohammadi, and Z. Vanaki, A grounded theory of humanistic nursing in acute care work environments. *Nurs Ethics*, 2017. 24(8): p. 908-921.
26. Bluestone, J., et al., Effective in-service training design and delivery: evidence from an integrative literature review. *Hum Resour Health*, 2013. 11: p. 51.
27. Ghanem, O., et al., Closed Facebook™ groups and CME credit: a new format for continuing medical education. *Surg Endosc*, 2019. 33(2): p. 587-591.
28. Salas, E., J.T. Paige, and M.A. Rosen, Creating new realities in healthcare: the status of simulation-based training as a patient safety improvement strategy. *BMJ Qual Saf*, 2013. 22(6): p. 449-52.
29. Carter, K.F. and H.D. Burnette, Creating patient-nurse Synergy on a medical-surgical unit. *Medsurg Nurs*, 2011. 20(5): p. 249-54.
30. Georgiou, G., et al., Assessing the application of the Synergy Model in hematology to improve care delivery and the work environment. *Can Oncol Nurs J*, 2018. 28(1): p. 13-16.
31. Swickard, S., et al., Adaptation of the AACN Synergy Model for Patient Care to critical care transport. *Crit Care Nurse*, 2014. 34(1): p. 16-28; quiz 29.
32. Winstein, C.J., et al., Guidelines for Adult Stroke Rehabilitation and Recovery: A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association. *Stroke*, 2016. 47(6): p. e98-e169.
33. Rider, E.A., et al., Healthcare at the Crossroads: The Need to Shape an Organizational Culture of Humanistic Teaching and Practice. *J Gen Intern Med*, 2018. 33(7): p. 1092-1099.
34. Peng, C.E., Y.Y. CHen, and W.H. Wang, Application status of four integrated care model of physical, mental, social and spirit in cancer patients' care. *Chinese Nursing Management*, 2014. 7: p. 778-780, 781.