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Clinical staff's perceptions of transitional care from hospital to home for stroke patients: a qualitative study

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Abstract

Background The transition from hospital to home is a critical period for stroke survivors and their caregivers. This study explores the clinical staff's attitudes and perspectives on transitional care (from hospital to home) for stroke patients in the neurology department.

Methods This qualitative descriptive phenomenological study involved semi-structured interviews with 15 clinical staff members in the neurology department of a tertiary hospital, conducted either face-to-face or via telephone. Colaizzi's method was used to analyze the data.

Results Five major themes emerged: (1) Clinical staff recognize the importance of transitional care for patients' recovery post-stroke and the value of building strong relationships with stroke patients; (2) There are diverse understandings of the definition of transitional care, doctors generally have a more accurate understanding, while nurses' understanding of transitional care needs improvement; (3) Staff perceive challenges in implementing transitional care, including a lack of self-directed learning, time constraints, and limited opportunities for continuous learning; (4) There is a consistent need for education, both doctors and nurses expressed a desire for training, but nurses require fair opportunities for ongoing learning; (5) The establishment of advanced (nursing) specialists is recommended, including specific work positions or specialized professionals.

Conclusions Clinical staff in the neurology department could recognize the significance of transitional care for stroke patients. However, heavy workloads, inadequate competence, and limited learning opportunities reported by nurses hinder their participation in transitional care. To ensure quality transitional care, nurses, in particular, need equitable access to training in areas such as stroke pathophysiology, rehabilitation, symptom monitoring and evaluation, communication, and educational skills. Guidance from clinical specialists is strongly recommended to enhance the implementation and quality of transitional care.

Keywords Attitude, Clinical staff, Perspective, Stroke, Transitional care

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Background

Stroke is the second leading cause of death worldwide and a major contributor to long-term disability among adults [1]. Up to 86% of stroke deaths and 89% of disability-adjusted life-years (DALYs) lost occur in low- and middle-income countries (LMICs), including China [2]. Despite improvements in stroke mortality rates due to specific programs (e.g., stroke 1-2-0 education, stroke emergency map, and the China Stroke Center Project), the prevalence of stroke in China has increased, with approximately 17.5 million adults over 40 affected [3]. Stroke ranks first in DALYs lost in this population [4]. Among stroke survivors, 55.1% did not return to work within one year after stroke. Of these patients, 31.8% chose to stay at home (engaged in housework) or were reluctant to work, and the most prominent barrier to employment was reported as mobility [5]. Moreover, stroke has a high risk of recurrence, which not only affects the long-term recovery of patients [6], but also imposes a significant economic burden on the healthcare system [7].

In the global context, the average length of hospital stay for acute stroke is typically short, with most patients discharged within two weeks [8]. Over 80% of stroke patients return home due to a lack of rehabilitation centres or high personal cost associated with long-term rehabilitation [9]. Many stroke survivors in LMICs struggle to access essential rehabilitation services and support to manage the ongoing health challenges within their communities [10]. These gaps hinder optimal recovery during the post-acute care period, leading to high readmission rates and negatively impacting long-term outcomes [11]. A systematic review identified several challenges faced by stroke survivors and their caregivers during this critical transition, affecting their home rehabilitation and adaptation to life post-stroke [12]. This transition from hospital to home is often the most challenging time for stroke survivors and their family caregivers as they adapt to self-care [13]. Therefore, enhancing transitional care for stroke patients has become a priority focus to optimize outcomes and reduce the burden on health system [8, 14].

Transitional care has been defined as the safe and timely transfer between different levels or settings of care [15]. While transitional care programs are strongly recommended [16], there is limited literature on their implementation among stroke patients in China. One notable initiative is a nurse-led stroke health coaching program, where trained nurses deliver six specific health coaching components to stroke survivors before discharge [17]. The program included a 12-week follow-up intervention and has shown promise in enhancing health outcomes for stroke survivors and alleviating the burden on family caregivers [17]. However, the program required nurses to undergo additional training and dedicate extra time to provide transitional care, resulting in an increased workload, which diminished their motivation to continue the program after the study concluded [18].

Another important consideration is that the professional clinical staff in the neurology department are often viewed as knowledgeable about transitional care, yet most training tends to focus primarily on patients and their family members [16]. However, it is not uncommon for healthcare providers to lack adequate preparation in the necessary knowledge and skills for effective stroke management [19, 20]. Transitional care requires a series of actions by patients, caregivers, and healthcare providers to ensure continuity of care as patients transfer between different settings [21]. Although several studies have explored the perceptions of stroke survivors toward transition from hospital to community or home [22–24], the perspective of professional care providers, which is equally important, remains unanswered. In addition, many successful interventions highlight the pivotal role of nurses during transitional care periods [15, 25], yet the differences in attitudes between key team members, such as doctors and nurses, are rarely explained. Understanding the perspectives of these frontline stakeholders is essential for the successful implementation of transitional care services.

Therefore, this study aims to fill the existing evidence gap by addressing the following questions regarding doctors and nurses in hospital settings: (1) What are clinical staff attitudes and perspectives towards transitional care for stroke patients? (2) What are their experiences and feelings about implementing transitional care for stroke patients? (3) Are there any differences in the understanding of transitional care between doctors and nurses? The findings will provide valuable insights for designing or improving existing transitional care services for stroke patients, ultimately supporting their long-term quality of life.

Methods

Design

We conducted a descriptive phenomenological qualitative study to explore the attitudes and perspectives of clinical staff in a hospital neurology department regarding care transitions for stroke patients. A total of 15 semi-structured interviews were conducted, either face-to-face or by phone. This study adopted a phenomenological approach, which focuses on understanding and describing the essence of lived experiences by setting aside the research team's preconceived notions and biases [26].

Participants

The study was conducted from January to May 2022 in the neurology department of the highest-level tertiary

hospital[1] in Kaifeng City, central China. Purposive sampling method was adopted to select interviewees [27]. Inclusion criteria were: (1) participants had to be doctors or nurses; (2) had worked in the neurology department for over three years; (3) had experience caring for stroke patients. Participants were excluded if they were unable to attend in-person or telephone interviews during the study period. Prior to the initiation of the study, two authors contacted the department's head nurse to identify potential participants and made prior phone calls to inform them about the study, scheduling the interview times in advance. Data collection and analysis were carried out simultaneously, allowing for continuous monitoring of sample size. Sampling continued until no new information was obtained, indicating that data saturation had been reached [28–31].

Table 1 The interview-guided questions

Number	Questions
1	What is your understanding of "transitional care?" **Probe**: • Have you ever heard of "transitional care"? • What do you think "transitional care" is?
2	How do you perceive " transitional care" for patients recovering from a stroke? **Probe**: • What are your thoughts on the role of transitional care for patients recovering from a stroke?
3	Can you describe your experience providing "transitional care" for stroke patients in your daily work? **Probe**: • Can you share an example or scenario where you provide transitional care for a stroke patient?
4	Based on your observation, how do you think your colleagues' approach "transitional care" for stroke patients? **Probe**: • Have you noticed any variability in how different colleagues approach transitional care? Can you provide some examples?
5	What are your opinions on providing "transitional care" for patients with stroke in the hospital? **Probe**: • What resources do you think are essential for effectively providing transitional care to stroke patients in a hospital setting?
6	How do you interpret the significance of providing transitional care for patients with stroke? **Probe**: • In what ways do you think transitional care impacts patient recovery?
7	What do you identify as the main factors affecting the implementation of "transitional care?" **Probe**: • What do you consider to be the main factors influencing the implementation of transitional care for stroke patients?

[1] Highest-level tertiary hospital: The highest level in the hospital classification in mainland China. It provides high-level specialized medical and health services to multiple regions and undertakes higher education and scientific research tasks.

Data collection

The individual semi-structured interviews were conducted by the main researcher (JYJ) to ensure consistency, with an assistant (GXJ), who has completed courses in qualitative research. The research team developed the initial interview questions based on the literature review. These questions were then reviewed by the principal researcher (LBL), who has extensive practical experience in qualitative research methods. After receiving approval through a focus group discussion within the team, the final interview questions were formulated. Before the formal interview, a pilot test was conducted by the main researcher (JYJ) and the assistant interviewer (GXJ), with the results used to refine the interview guide and data collection procedures. All interview questions were presented in Table 1. To obtain authentic insights from the clinical staff in the neurology department, no explanation of "stroke transitional care" was provided before the interview, and no correction or reminder was offered during the interview. All the interview questions were open-ended, general, and focused on the topic of "stroke transitional care", allowing ample space between questions to encourage thoughtful responses. Additional prompts were used during the interviews to elicit in-depth thoughts from participants, and the interviewer encouraged interviewees to share their experiences freely without concerns.

The head nurse of the department, although not a member of the research team, assisted in contacting the interviewees and scheduling interview times. To protect participants' privacy and enhance the quality of the interviews, each participant was assigned a unique research ID to avoid the use of their real names. Prior to the interviews, a comprehensive explanation of the study's purpose and significance was provided to each participant, and their explicit written informed consent was obtained. Most participants were interviewed in a quiet room within the hospital, except for two nurses who chose to be interviewed by phone from their own homes over the weekend. All interviews were audio-recorded and lasted between 15 and 30 min. Field notes, which documented the interviewees' facial expressions, body language, and reflections, were collected by the assistant interviewer (GXJ) during the interview. This was intended to capture the participants' holistic experiences and assist us in better understanding the nuances of their responses. Since transitional care is not considered a sensitive topic, we didn't find much useful information in the field notes. Therefore, the field notes were included in the data analysis process for this study.

Data analysis

Recordings were manually transcribed verbatim by two interviewers within 24 h of the interviews. After transcription, four out of 15 transcripts were randomly selected for accuracy checks. Colaizzi's method [32] was used to analyze the data, following these seven steps: (1) Each of the transcripts was read and re-read to obtain a general understanding of the content; (2) Significant statements related to the themes were extracted from transcripts; (3) Formulated meaning was derived from these significant statements; (4) Formulated meanings were organized into clusters of themes; (5) Findings were integrated into a comprehensive description; (6) The fundamental structure of the phenomenon was described; (7) Results were fed back to participants for confirmation to enhance the validity of the study. In the data analysis process, no qualitative study software was used; instead, traditional methods such as mind mapping, scissors, and glue were used to develop the final structure of the themes or subthemes. This study adopted member check strategy [33], which involves verifying the accuracy and translation of research results with participants. The two authors (JYJ & LBL) independently reviewed the identified themes for internal homogeneity (i.e., meaningful cohesion of codes) and external heterogeneity (i.e., clear distinctions among themes), and documented the necessary data extracts. If no consensus were reached, a third researcher was invited for discussion (GXJ). Subsequently, all results and relevant quotations were sent to two research participants with bilingual background (QYJ, WSS) for further verification. The research group (except DAC) then discussed and approved the final themes.

Table 2 Demographics characteristics of Doctors and nurses in the neurology department. (*N* = 15)

ID	Degree	Title	Length of work (years)
D1	MD	Attending physician	12
D2	MD	Attending physician	10
D3	PhD	Attending physician	10
D4	PhD	Attending physician	12
N1	BD	Nurse	8
N2	BD	Senior nurse	11
N3	BD	Senior nurse	10
N4	BD	Senior nurse	10
N5	BD	Nurse	4
N6	BD	Senior nurse	10
N7	MD	Nurse in charge	18
N8	BD	Nurse	7
N9	BD	Senior nurse	10
N10	BD	Senior nurse	13
N11	BD	Nurse	7
Median IQR			9.50 (10.00, 12.00)

Note: D = Doctor, N = Nurse; PhD = Doctor of Philosophy; MD = Master's Degree; BD = Bachelor's Degree; IQR = Interquartile range

Research rigor

To establish research rigor, several strategies were used based on relevant criteria [34], including credibility, dependability, transferability, and validity. Credibility was enhanced by interviewing both doctors and nurses. The principal researcher (LBL) conducted the coding, categorization, and analysis of all data to select the most appropriate meaning unit. Dependability was achieved through peer evaluation of transcripts and group discussion to ensure consistent decision-making. Transferability was established by providing clear and distinct descriptions of the culture and context, participant selection and characteristics, data collection, and the analysis process. After completing the data analysis, the textual data was returned to respondents for verification, further enhancing the validity of the results.

Researcher characteristics and reflexivity

Some authors had previously worked as nurses in the neurology department, and all authors had experience caring for stroke patients and conducting qualitative research. This background provided a rich blend of perspectives that enhanced the research process. Given that this qualitative approach emphasizes reflexivity and bracketing, also known as *epoché*, it is crucial for minimizing researcher biases and preconceived notions. Before commencing data collection, the research team conducted a thorough in-depth self-examination. Each member carefully identified and documented their assumptions and potential biases related to stroke patient care, the hospital-home care transition process, and the role of clinical staff. This preliminary exercise enabled the researchers to consciously set aside their biases during data collection and analysis. Throughout the study, regular team discussions and reflections were held. This ensured that the analysis remained firmly grounded in the participants' experiences and perspectives, rather than being influenced by the researchers' expectations.

Results

In total, 15 clinical staff were recruited, including four doctors and 11 nurses, of whom 26.7% were male. The demographic characteristics of the participants are outlined in Table 2.

Following a thorough comparison and summary of the interview data, five major themes were identified and summarized: (1) Recognizing the importance of transitional care; (2) Diverse understandings of the definition of transitional care; (3) Challenges in implementing transitional care; (4) The consistent need for education; and (5) Recommendations for advanced (nursing) specialists, as shown in Fig. 1.

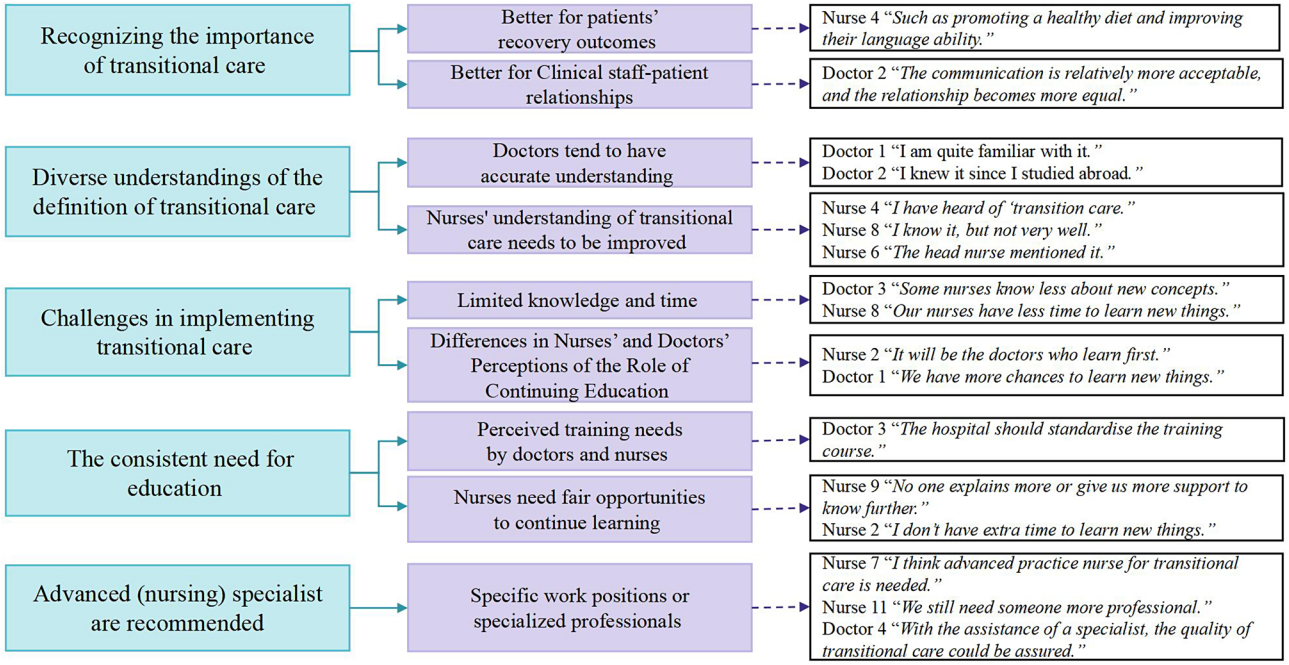

Fig. 1 The main themes, sub themes, and representative quotations

Theme 1: recognizing the importance of transitional care

Better for patients' recovery outcomes

Nurses believed that incorporating transitional care into the health management for stroke patients would positively affect their patients' physical and psychological well-being. They also noted that transitional care would enhance patients' social recovery and support long-term rehabilitation.

"*There will be some good impacts on the patient's lives, such as promoting a healthier diet and improving their language abilities.*" (Nurse 4)

"*By providing such service and psychological care, patients can improve their self-care abilities and social functioning.*" (Nurse 8)

"*It's a good chance to provide education or guidance to ensure long-term recovery after discharge.*" (Nurse 10)

Similar findings were observed among doctors, who believed that transitional care improves health outcomes by preventing complications and fostering long-term care relationships between patients and healthcare providers.

"*It can prevent complications, improve the disease prognosis, and enhance patients' quality of life.*" (Doctor 4)

"*Based on the transition care, we could know the patients' health conditions in a timely manner, and patients tended to contact us when they need assistance. Such connections could support to patients' long-term recovery.*" (Doctor 3)

Better for clinical staff-patient relationships

Transitional care was perceived as an opportunity for clinicians to build strong, reliable relationships with patients. One participant reported that patients felt '*happy*' during the transitional care period, with some patients even '*gave flowers or banners to nurses*' to express their appreciation (Nurse 4). The compliments received from patients served as motivation for nurses, and the doctors expressed similar feelings and viewpoints.

"*In the implementation of transitional care, communication is generally more effective, leading to a more equitable relationship. Patients also know that the nurses are really helpful to their physical recovery, and patients' attitude toward our clinical staffs improved significantly (usually they misunderstood that we want earn their money by arranging tests or treatments).*" (Doctor 2)

In contrast to the unequal treatment dynamic often seen during the acute phase, the transition period allowed the clinical staff to invite patients to participate in decision-making and provide more individualized guidance. This approach enhanced patients' sense of being valued and respected.

"*At this stage, patients are no longer passively receiving treatments. Instead, they can participate in the decision-making process of their own rehabilitation. This equal communication method makes patients feel respected and valued, changing the traditional concept that healthcare workers only perform procedural treatments.*" (Nurse 6)

Meanwhile, the benefits of transitional care are mutual for both patients and clinicians. A stronger clinician-patient relationship can encourage patients to actively

participate in follow-up care, providing clinical staff with more accurate and detailed data. This, in turn, supports the progress of their clinical research.

"*It helps us to collect high-quality data for research, and we can really see the benefits. Plus, these activities also enhance our work enthusiasm.*" (Doctor 3 laughs)

Theme 2: diverse degrees of understanding of the definition of transitional care

Doctors tend to have accurate understanding

The healthcare professionals surveyed showed varying levels of understanding regarding the definition of transitional care. Doctors demonstrated a comprehensive understanding of the concept of "transitional care" for stroke patients. Through interviews with doctors, it was observed that while they accurately explained transitional care, they frequently employed phrases like 'need to,' 'like to,' and 'have to,' which reflected their sense of responsibility in accepting and understanding new knowledge.

"*I am quite familiar with it (transitional care). I think doctors need to master more knowledge.*" (Doctor 1)

"*Transitional care is very important for the recovery of stroke patients, I knew it since I studied abroad. Our doctors also always like to take part in different seminars at hospitals.*" (Doctor 2)

"*The daily work is busy, but we have to spend time to study with great effort, it's depending on self-discipline.*" (Doctor 3)

Nurses' understanding of transitional nursing needs to be improved

Nurses exhibited a greater diversity of perspectives. While some nurses could articulate the fundamental concepts of transitional care, their understanding of the details and practical aspects was less thorough. Additionally, some nurses seemed to conflate transitional care with standard nursing duties, potentially undermining the unique role and importance of transitional care in patient recovery.

Nurses' primarily derived their understanding of transitional care from knowledge manuals, journal articles, and information provided by head nurses. However, their understanding of this term often remains superficial, lacking depth and practical application.

"*I know transitional care. I liked reading the brochures about stroke in the reception when I am free, so I have heard of 'transition care.*'" (Nurse 4)

"*I like to read new publications in nursing journals, so I know it, but not very well.*" (Nurse 8)

"*The head nurse mentioned it, but I can't remember what it means.*" (Nurse 6)

In clinical nursing training, there may be a knowledge gap regarding the transitional period, as some nurses have never been taught about transitional care unless they proactively seek out this information.

"*I can only understand this concept deliberately. Or I even didn't know there was a transition period for patients with stroke.*" (Nurse 1)

"*Transitional period? I haven't heard of it. I don't know much about it.*" (Nurse 3)

Some nurses expressed their understanding of transitional care based on their own experiences, often confusing it with the concepts of rehabilitation.

"*I thought the care after discharge should be named as 'rehabilitation nursing', or it might refer to a recovery period, or it could be the transition from bed to chair?*" (Nurse 1)

"*After discharge, the patients went to the rehabilitation department for further rehabilitation, I think that was transitional care.*" (Nurse 5)

Theme 3: challenges in implementing transitional care

Limited knowledge and time

Both doctors and nurses believed that clinical staff would encounter challenges in implementing transitional care for stroke patients if they had limited knowledge. Knowledgeable clinical staff were more likely to gain patients' trust, then improving compliance with medical advice.

"*I think this factor lies in the fact that the some of our clinical staff do not understand 'transitional care' very well, including its definition, contents, procedures, and meaning.*" (Doctor 1)

"*When we can't answer patients' questions or needs about transitional care, patients may feel that it is unnecessary, which will hinder its implementation.*" (Nurse 8)

"*Some nurses know less familiar with new concepts.*" (Doctor 3)

Additionally, nurses often have less free time during work. Compared with doctors, nurses have fewer opportunities to learn new things.

"*Our nurses have less time to learn new things.*" (Nurse 8)

"*Our hospital always organized lectures which benefits for doctors and nurses, but nurses said they didn't receive any notice to participate. So maybe there's a very limited chance for nurses to learn new things.*" (Doctor 3)

Differences in nurses' and doctors' perceptions of the role of continuing education

In this study, some nurses demonstrated limited engagement in self-learning, which may be related to factors such as their work environment, the availability of learning opportunities, and their perceptions of continuing education.

"*If there is some new model of care, it will be the doctors who learn first and then nurses.*" (Nurse 2)

"*Some nurses follow the doctor's orders, it seems that they don't like exploring fresh knowledge even after work, it would affect the effectiveness if we conduct transition care thoroughly.*" (Doctor 3)

In contrast, doctors demonstrated greater enthusiasm for self-learning, likely due to their roles within the healthcare system and the professional development opportunities they have access to.

"*We usually have some informal lectures, but it mostly depends on self-conscious.*" (Doctor 3)

"*I think doctors need to master more knowledge than nurses, also we have more chances to learn new things.*" (Doctor 1)

Theme 4: the consistent need for education

Perceived training needs by doctors and nurses

Adequate learning resources and a supportive training environment are essential for addressing the professional development needs of clinical staff. Some clinical staff lack a comprehensive understanding of transitional care, including its definition, content, procedures, and overall significance. This situation highlights the need for in-depth training programs.

"*I think this factor lies in the fact that the some of our clinical staff do not understand 'transitional care' very well, including its definition, contents, procedures, and meaning.*" (Doctor 1)

"*I have been only working for a short time, I need more training courses to know how to provide transitional care service.*" (Nurse 6)

"*The available learning sources are scarce, so it would be beneficial for us to have more chances for training.*" (Nurse 6)

Participants advocated for the hospital to provide standardized training and establish corresponding evaluation mechanisms. This approach would enhance clinical staff's focus on transitional care and ensure its proper implementation.

"*We must be trained to do it within a multidisciplinary team, and the hospital should standardize the training course.*" (Doctor 3)

"*If there was an evaluation of training, clinical staff would pay more attention to the training, and transitional care would be assured.*" (Doctor 3)

Nurses need fair opportunities to continue learning

Transitional care is a multidisciplinary team approach in which nurses play an essential role. Although three nurses mentioned that they knew about or had heard of transitional care, most of the nurses interviewed were unfamiliar with it because of their busy daily workloads and limited learning opportunities. Additionally, nurses have fewer continuing education opportunities. Therefore, enhancing the information support for nurses and providing a fair learning opportunity should be the top priority for hospital managers.

"*The head nurse would hold lectures occasionally or forward some online courses for us to learn. These are the ways we can learn new things.*" (Nurse 5)

"*I just heard this concept from some pamphlets issued by the hospital or lectures, but no one explains more or give us more support to know further.*" (Nurse 9)

"*I don't have extra time to learn new things.*" (Nurse 2)

"*Our nurses have less time to learn new things.*" (Nurse 8)

Theme 5: advanced (nursing) specialist are recommended

To provide detailed suggestions for future implementation of transitional care, participants' insights were gathered.

Some nurses indicated that they spent most of their working time on therapeutic treatment and fundamental nursing (including executing medical advice, conducting health education, observing the patients' conditions, administering infusions, and performing hygiene care), leaving them with little time for transitional care. This situation underscores the need for dedicated professionals to take on transitional care responsibilities.

"*I think advanced practice nurse for transitional care is needed, we don't have extra time to provide individualized health education or any complex discharge plans.*" (Nurse 7)

"*We usually spend more time supporting therapeutic treatment and fundamental nursing, so I think we need someone who are competent specialists.*" (Nurse 11)

Nurses have expressed concerns about their knowledge and competencies in providing transitional care, especially for stroke patients. They advocate for the inclusion of specialized personnel, such as cerebrovascular management experts, to enhance the quality of care delivered during this critical phase. Addressing these gaps through targeted training and interdisciplinary collaboration could significantly improve patient outcomes.

"*We are not good at that, so some specialists should work better.*" (Nurse 7)

"*We still need someone more professional, such as cerebrovascular managers (persons with tailored training experience), who specialize in managing stroke patients.*" (Nurse 11)

Meanwhile, doctors also stated that the fundamental treatment and care for stroke patients is time-consuming, and the addition of professional personnel is crucial for ensuring the quality of transitional care.

"*The hospital should employ advanced practice nurses who have more knowledge, like nurses with master's degree; they can help when our nurses are not sufficiently knowledgeable and are busy with fundamental care.*" (Doctor 1)

"*The fundamental treatment and care of stroke patients in the hospital have been cumbersome. We were overwhelmed. At this time, with the assistance of a specialist, the quality of transitional care could be assured.*" (Doctor 4)

Discussion

The findings reveal that both nurses and doctors hold a positive attitude toward transitional care, recognizing its significant impact on the rehabilitation and adaptation of stroke patients. Clinical staff universally recognize that transitional care can improve patients' physical and psychological well-being, enhance disease prognosis, and ultimately improve the quality of life for patients. These insights align with existing literature [17, 35], highlighting the critical role of transitional care in the rehabilitation process of patients. Furthermore, transitional care fosters a strong clinician-patient relationship. During the period of transitional care, patients' involvement in decision-making reflects a patient-centered approach, leading to increased trust and respect for healthcare providers. This improvement not only enhances patients' perceptions of nursing but also helps dismantle traditional barriers between physicians and patients, promoting more humanized healthcare services. However, significant challenges remain, including insufficient provision of transitional care [8], as well as the heavy workload and time constraints faced by healthcare professionals [18]. To resolve these issues, a wide variety of intervention strategies, such as health coaching programs [36], discharge plans [37] or organized transition care plans [38], are needed to improve communication, care coordination, and continuity [39] as patients move across different care settings.

Although transitional care is considered to be one of the most practical models to support patients and their caregivers during the early days following discharge [8, 40, 41], there is variability in the understanding of transitional care among neuroscience staff. Specifically, nurses have a lower awareness of transitional care compared to physicians. This discrepancy may be attributed to differences in educational background, as only one nurse had a master's degree while all participating physicians held either a master's or doctoral degree). Additionally, work experience may play a role, as two of the three nurses who had never heard of transitional care had been practicing for less than 10 years (4 and 8 years, respectively). Studies suggest that nurses, as key players in the transitional care process, should enhance their professional knowledge and skills. It has been recommended that hospitals assign dedicated personnel to oversee the entire process of transitional care [18, 35]. Our study support these findings. In addition, the underdevelopment of hospital-to-home transitional care in China may contribute to this phenomenon [42].

In this study, limited knowledge and insufficient learning time are identified as significant barriers to implementing transitional care. This perspective aligns with previous research [43, 44], which highlights specific challenges within the healthcare setting, particularly in the context of stroke patients [45, 46]. Ensuring the quality of care in a busy medical environment has thus become a critical issue that requires attention. For the effective execution of transitional care, optimizing management, organization, and personnel allocation is essential. Strategies that enhance education and training, ensure equitable learning opportunities for doctors and nurses, and establish dedicated personnel to oversee the entire transitional care process could improve the quality and efficiency of transitional care. In addition, cultivating advanced practice nurses in stroke care is a feasible approach. These nurses possess solid theoretical knowledge and extensive clinical experience. After completing systematic training and obtaining relevant certifications, they are capable of undertaking the professional responsibilities associated with transitional care for stroke patients, ultimately providing more professional and safer nursing services. Future research should evaluate the effectiveness of these strategies in real-world scenarios and exploring innovative care models that integrate technology and interdisciplinary collaboration to enhance treatment outcomes for patients during critical transitional stages.

Limitations

Due to the difference in the number of doctors and nurses at the hospital, the number of interviewed doctors is lower than that of nurses. However, the data was achieved, ensuring sufficient information for analysis. While the study was conducted in a top-tier hospital, which may represent the current state of transitional care, recruiting from a single hospital may limit the transferability of the findings. Meanwhile, we found that participants held misconceptions of transitional care. Although all participants recognized its importance, this suggests the need for further exploration of their perceptions. Given the significant role of physiotherapists, dietitians and other clinical staff in stroke patients' transitional care, their experiences and perspectives should also be explored. Such insights could inform the development of structured training courses or specialized roles for advanced practice nurses in transitional care.

Conclusions

In summary, this study conducted in-depth interviews with fifteen medical staff in the neurology department using qualitative research methods. It explored their

attitudes and understanding of the transitional care for stroke patients. The study revealed that the majority of physicians and nurses acknowledged the benefits of transitional care for both patients and caregivers. However, due to potential influencing factors such as time constraints and knowledge gaps, there was a varying degree of understanding among nurses and physicians regarding transitional care. A key insight from this study underscores the necessity for enhanced training in transitional care, the establishment of specialized advanced practice nursing roles in transitional care, and the implementation of a rational division of labor between nurses and doctors to ensure that high-quality transitional care services are provided to patients.

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Author contributions
All authors contributed to the study design except for DAC, but all contributed to the interpretation of data and commented on the final manuscript. JYJ and GXJ conducted data collection. LBL, JYJ and QYJ led the data analysis, while WSS, ZZX and ZLL participated in the discussion during data analysis. LBL, JYJ drafted the initial manuscript. DAC critically revised it for intellectual content. All authors reviewed and approved the final version of the paper.

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Data availability
The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
Voluntary informed consent was also sought from the selected participants, prior to signing the consent form to participate in the study, the fifteen participants were provided ample time to raise questions and concerns. The participants were informed that the proceedings during the in-depth interviews were recorded. They were aware of potential risks and benefits and could withdraw from the study, or the survey could be stopped at any time. Participant identities were replaced by numbers to protect anonymity, and only researchers have access to the digital audio tapes and transcripts. The research project was approved by the Ethics Committee of Zhengzhou University (ZZURIB2020-08). We conducted the research in accordance with the ethics guidelines set out in the Declaration of Helsinki.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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