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Perioperative self-care ability in patients with acute stroke

Submission date
27/10/2025

Recruitment status
No longer recruiting

Registration date
29/10/2025

Overall study status
Completed

Last Edited
28/10/2025

Condition category
Other

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

Plain English summary of protocol

Background and study aims
This study looks at how a more detailed and personalised type of nursing care—called meticulous or fine nursing—might help people recovering from a stroke take better care of themselves. Stroke can affect movement, speech, and independence, so improving self-care ability is an important part of recovery. Researchers wanted to see if this extra level of nursing support could make a difference compared to standard care.

Who can participate?
People who were diagnosed with stroke and admitted to hospital for treatment—either clot-busting therapy or surgery to remove bleeding—were invited to take part. To be included, patients needed to be stable after surgery, have normal vital signs, be awake and able to communicate clearly.

What does the study involve?
100 patients were randomly split into two groups. One group received regular nursing care, while the other group received regular care plus extra support through meticulous nursing. Researchers collected information before and after the care period, including stroke severity, quality of life, ability to walk, and how well patients could care for themselves.

What are the possible benefits and risks of participating?
Participants may benefit from improved recovery and greater independence if the extra nursing care proves helpful. There were no specific risks mentioned, as all care provided was within normal hospital standards and safety procedures.

Where is the study run from?
Tianjin Fifth Central Hospital in China.

When is the study starting and how long is it expected to run for?
June 2024 to December 2025

Who is funding the study?
Funding came from two sources: the National Key Clinical Specialty Emergency Medicine

Department Construction Project and the Tianjin Key Medical Development Discipline for Emergency Medicine.

Who is the main contact?
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Contact information

Type(s)
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Study information

Scientific Title
The impact of fine nursing intervention on perioperative self-care ability in patients with acute stroke

Study objectives
To explore the effect of meticulous nursing intervention on self-care ability of patients with acute stroke

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 27/08/2025, The ethics committee of Tianjin Fifth Central Hospital (No. 41 Zhejiang Road, Tanggu, Binhai New Area, Tianjin City, 300450, China; +86 022-65665880; wzxyyll@163.com), ref: WZX-EC-KY2025032

Primary study design
Interventional

Study design
Interventional randomized parallel trial

Study type(s)

Quality of life

Health condition(s) or problem(s) studied
Nursing methods for patients with acute stroke

Interventions
This prospective cohort study enrolled 100 stroke patients admitted to our hospital from June 2024 to December 2024 through convenience sampling. Participants were randomly allocated into a control group and an intervention group (50 cases each) using a random number table method.

The control group received conventional perioperative interventions, including establishing intravenous access for administering medications such as intracranial pressure-reducing agents, diuretics, antibiotics, and neurotrophic drugs. The nursing team assisted patients in completing necessary examinations, including lipid profiles, blood pressure monitoring, and imaging studies. Preoperatively, vital signs (respiratory rate, heart rate, blood pressure, and body temperature) were closely monitored, with verification of medication and instrument availability in the operating room. Ambient temperature was maintained at 27-30°C. Intraoperative vital sign monitoring continued consistently. Postoperatively, routine health education was provided, covering dietary guidance, sleep hygiene, and exercise recommendations.

The intervention group received fine nursing combined with clinical nursing pathway interventions in addition to the standard care provided to the control group. (1) establishment of an FN team: A core FN team comprising one head nurse and four staff nurses was organized. The team conducted specialized meetings to clarify the objectives and requirements of FN, develop optimized protocols with detailed implementation methods, and establish standardized nursing procedures. (2) fine health education: Designated nurses provided comprehensive patient education regarding treatment plans, potential complications, preventive measures, and emphasized the importance of rehabilitation training along with specific methodologies. (3) fine psychological intervention: The nursing team assessed patients' psychological status and closely monitored emotional fluctuations. For patients exhibiting negative emotions, immediate psychological counseling was provided. Regular patient support groups were organized, utilizing psychological intervention videos, case analyses, and testimonials from recovered patients to demonstrate the importance of positive mental health for rehabilitation. Family members were encouraged to provide emotional support, with recommendations such as playing soothing music to alleviate distress and foster a positive disease-coping mindset. Each fine psychological intervention session lasted 20 minutes, administered twice weekly. (4) joint-muscle rehabilitation: For medically stable patients, nurses developed early accelerated rehabilitation plans. This included positioning the affected limb functionally, placing a soft pillow under the calf to maintain 35°knee flexion, and guiding patients through ankle circumduction, dorsiflexion, and toe extension-flexion exercises (5-10s contraction, 5-8s relaxation, repeated cycles). This regimen was performed 4 times daily (10-15min/session). After 30-40 minutes rest, muscle contraction training was initiated: patients in supine position performed ankle dorsiflexion and knee extension (5-10s hold), followed by medial thigh muscle contractions (verified by patellar movement, 8-10s hold). This cyclic training lasted 15-25 minutes, 3-4 times daily, continuing for 1-2 weeks.

Intervention Type
Behavioural

Primary outcome(s)

1. Demographic characteristics are measured using patient interviews and hospital records at baseline
2. Surgical parameters are measured using operative reports and hospital records at baseline
3. Neurological impairment is measured using the National Institutes of Health Stroke Scale (NIHSS) at baseline and postoperative day 6
4. Quality of life is measured using the World Health Organization Quality of Life-BREF (WHOQOL-BREF) at baseline and 2 weeks postoperatively
5. Lower extremity motor function is measured using the Fugl-Meyer Assessment (FMA) for lower extremities at baseline and postoperative day 6
6. Ambulation ability is measured using the Functional Ambulation Category (FAC) scale at baseline and postoperative day 6

Key secondary outcome(s)
Self-care agency is measured using the Exercise of Self-Care Agency (ESCA) scale at baseline and 2 weeks postoperatively

Completion date
31/12/2025

Eligibility

Key inclusion criteria
1. Meeting the diagnostic criteria for stroke according to clinical guidelines
2. Hospitalized patients scheduled for stroke surgery (thrombolysis or hematoma evacuation) at our institution
3. Postoperative stable condition with normal vital signs
4. Clear consciousness and normal verbal communication postoperatively

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
50 Years

Upper age limit
75 Years

Sex
All

Total final enrolment
100

Key exclusion criteria

1. Psychiatric disorders
2. Cognitive impairment
3. Severe cardiac, hepatic, or renal insufficiency or malignant tumors

Date of first enrolment
01/06/2024

Date of final enrolment
31/12/2024

Locations

Countries of recruitment
China

Study participating centre
Tianjin Fifth Central Hospital
No. 41 Zhejiang Road, Tanggu, Binhai New Area
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Sponsor information

Organisation
Fifth Tianjin Central Hospital

ROR
https://ror.org/01924nm42

Funder(s)

Funder type
Government

Funder Name
Tianjin Key Medical Development Discipline, Emergency Medicine (TJYXZDXK-3-003D)

Funder Name

National Key Clinical Specialty Emergency Medicine Department Construction Project (No.: 2023283)

Results and Publications

Individual participant data (IPD) sharing plan

All data generated or analysed during this study are included in this article. Further enquiries can be directed to the corresponding author (Yan Yang Email:yangy2025yyan@163.com).

IPD sharing plan summary

Available on request