Nursing Frontiers Research and Practice
2026.Vol.1, No.2, (44-55)
https://doi.org/10.35730/4paf1f23

Application of Shaker Exercise For Reduce Disturbance Swallowing in Non- Hemorrhagic Stroke Patients : A Report Case

Cica Purnama Sari[1] , Elfira Husna[2] , Asrul Fahmi[3]
[1] Nursing Professional Education Study Program , Faculty of Nursing and Public Health, Prima Nusantara University, Bukittinggi ;
[2,3] Faculty of Nursing and Public Health, Prima Nusantara University , Bukittinggi

Article type : Report Case

ARTICLE INFORMATION

Received : July 28th 2026
Revised : August 4th 2026
Approved : September 10th 2026
Available online: September 30th 2026

KEYWORDS

Care nursing , dysphagia , *shaker exercise* , *non-* hemorrhagic stroke

WRITER CORRESPONDENCE

Name : Cica Purnama Sari

Email : : cicapurnama2502@mail.com

ABSTRACT

Background : Dysphagia is complications common non-hemorrhagic stroke that increases risk malnutrition , dehydration , and aspiration pneumonia . *Shaker exercise* , namely exercise strengthening muscle suprahyoid , potentially repair function swallow , but seldom implemented routinely by nurses on site study. **Objective:** To analyze care nursing (assessment , diagnosis, intervention , implementation , and evaluation) in non- hemorrhagic stroke patients with disturbance swallow who gets *Shaker exercise*. **Method:** Report case in one patient man aged 56 years at Dr. Drs. M. Hatta Brain Hospital Bukittinggi, May 12–14, 2026. Under the care of refers to SDKI, SLKI, and SIKI. *Shaker exercise* (phase isometric and isotonic) given twice a day during three day as part from intervention Prevention Aspirations , together routine household actions pain (thermal tactile stimulation and oral exercises). Function swallow assessed with the Swallowing Function Communication Measure (SFCM) scale 1–8. **Results:** Patients experience dysphagia with disorders of cranial nerves IX, X, and XII, weakness extremities right , and talk pelo ; MRI shows infarction extensive in the frontotemporal-insular lobe and left basal ganglia. Four nursing diagnoses enforced . The SFCM score was 5 (moderate) on the day first and second , then 7 (light) on the day third ; cough moment drink No found again and strength muscle extremities right increase from 3 to 4. Intake Eat still around three spoon eat per time eat . **Conclusion:** Improvements function swallow happen simultaneously with giving *Shaker exercise* and other therapies so each person's contribution has not been can separated . *Shaker exercise* worthy considered as part care dysphagia post-stroke and need tested with design that has group comparison .

INTRODUCTION

Stroke is reason main death and disability in the world, and their burden Keep going increasing in developed countries and develop along change pattern life [1,2]. The World Stroke Organization estimates more from 12.2 million new stroke cases every years and more of 101 million people living post-stroke , with about 62% of incidents new in the form of ischemic stroke [2]. Non- hemorrhagic stroke happen when clot or blockage in the blood vessels blood brain stop flow blood so that network

brain experience ischemia [3,4]. Depending on the extent and location lesions , survivors can recover fully alive with disability , or die .

In Indonesia, the prevalence of stroke is highest in the elderly group . 75 years old to above (41.3%), followed by aged 65–74 years (35.4%) and 55–64 years (23.6%) [5]. The 2023 Indonesian Health Survey reported The prevalence of stroke in West Sumatra was 8.8% (13,042 cases) [6]. Installation Data Record Dr. Drs. M. Hatta Brain Hospital , Bukittinggi show stroke cases are increasing from 1,840 cases in 2020 to 4,294 cases in 2024. In January–May 2026, 2,040 cases of non- hemorrhagic stroke were recorded , and 427 of these patients experience disturbance swallow [7].

One of the most common impact of stroke is dysphagia . The incidence reported ranges from 37–78% depending on the method assessment [8]. In non- hemorrhagic stroke , ischemia regarding the cortex area and structure stem the brain that regulates swallow so that coordination muscle oropharynx and larynx disturbed . Cranial nerves IX (glossopharyngeus), X (vagus), and XII (hypoglossal) play a role important in this process [9,10]. Swallowing reflex decreased muscle swallow weakening , and closing glottis No perfect so that risk aspirations increased [9]. The symptoms including coughing or choking moment eating and drinking , food stuck in the mouth , sound hoarse , and difficult control saliva [11]. Intake nutrients and fluids that are not adequate put patients at risk malnutrition , dehydration , and aspiration pneumonia that slow down recovery [12,13].

Management dysphagia post-stroke covers stimulation reflex swallowing , maneuvering swallowing , modification texture food , setting positions and exercises muscle swallow [14–16]. Among exercise said , *Shaker exercise* is exercise active For strengthen muscle suprahyoid through phase isometric and isotonic . Strengthening muscle This increase movement hyoid and larynx to up and down front moment swallow so that sphincter esophagus part on open more width and bolus more easy enter to esophagus [17–19]. Shaker et al . reported improvement opening sphincter esophagus over and over aspirations post-swallowing in patients dysphagia [17]. Logemann et al . compared it with therapy swallow conventional in randomized trials [20], and studies in stroke survivors continue evaluate effects [21,22]. In Indonesia, several studies report repair ability swallow after *Shaker exercise* [19,23,24].

Although Thus , its implementation in practice nursing daily Not yet evenly . At Dr. Brain Hospital. Drs. M. Hatta Bukittinggi, common action For patient dysphagia in the form of nasogastric tube (NGT) insertion , soft diet , Mendelsohn maneuver , massage , and *thermal tactile stimulation* . Nurse state seldom do *Shaker exercise* Because Lots patient come with decline awareness and direct fitted with NGT so that exercise No can given optimally [7]. Therefore required description detailed implementation , from assessment until evaluation , as references for nurses to patients who are still aware and able swallow part through mouth .

Framework conceptual report This combining two things . First , the nursing process (assessment , diagnosis, planning , implementation , evaluation) with Language SDKI, SLKI, and SIKI standards [25–

27]. Second , the pathophysiological model swallow post-stroke : lesions ischemic in the area that regulates swallow cause disturbance nerve cranial nerves IX, X, and XII, which lower elevation hyolarynx and opening sphincter esophagus on as well as increase risk aspiration [9,17]. Relationship intervariable in report This walk from infarction and disorders nerve cranial , to disturbance swallow as problem nursing , to *Shaker exercise* in intervention Prevention Aspiration , then to external in the form of SFCM score , reflex swallowing , coughing moment drinking , and intake Eat .

Report This expected give example implementation *Shaker exercise* that can done nurse in a way independent in space care , strengthen competence nurse in assessment neurological and prevention aspirations , as well as support compilation procedure care dysphagia post-stroke based evidence at home sick . Purpose of the report This is analyze care nursing , including assessment , diagnosis, intervention , implementation , and evaluation in non- hemorrhagic stroke patients with disturbance swallow who gets *Shaker exercise* at Dr. Brain Hospital. Drs. M. Hatta Bukittinggi 2026 .

METHOD

1. Research Design

Study This is report case (study case descriptive) care nursing in one patient . Care arranged follow the nursing process with SDKI, SLKI, and SIKI references [25–27]. Evaluation documented with SOAP format [28].

2. Temporal and Spatial Parameters Study

Patient arrives at home sick on May 11, 2026 at 16.00 WIB. Assessment conducted on May 12, 2026 and under the care of nursing given during three day , May 12–14, 2026 (day repatriation), in the Merapi Room, 1st Floor, Dr. Drs. M. Hatta Brain Hospital, Bukittinggi, West Sumatra.

3. Population and Sample

Subject is One patient (Mr. I) who was assigned in a way purposive with a medical diagnosis of non- hemorrhagic stroke accompanied by dysphagia . Based on assessment , patient aware , able swallow part through mouth without NGT, and no own contraindications *Shaker exercise* according to the SOP used , namely decline awareness , improvement pressure intracranial , endotracheal tube placement or tracheostomy , and injury cervical [29]. Because it is in the form of report case single , no done calculation big sample , randomization , group control , as well as *blinding* .

4. Intervention , Ethics, and Bias Control

Intervention main for diagnosis of disorders swallow is Prevention Aspiration (SIKI I.01018) [27]: monitoring level consciousness , cough , vomiting , ability swallowing , and breath sounds ; semi-Fowler position 30–45° for 30 minutes before oral intake ; food sized small and soft ; oral medication in form liquid ; education Eat slowly and technically chew or swallowing ; and *Shaker exercise* . The exercise is done on the side. place sleep by the author First , students of the Nursing Professional Education Study Program , twice a day (morning and afternoon) for three day

according to SOP [29]. Home action walking sickness simultaneously and recommended doctor is *thermal tactile stimulation* and oral exercises . Other diagnoses were given Monitoring Neurological , Support Mobilization and Promotion Communication : Deficit Talk [27].

5. Instrument Study

Function swallow assessed with *Swallowing Function Communication Measure* (SFCM), a scale of 1–8 that describes track dietary intake and consistency : score 1–3 disturbances severe , 4–5 moderate , and 6–8 light [30]. Another instrument is the assessment format nursing , Glasgow Coma Scale (GCS, score 3–15), scale strength muscles 0–5, and SOP *Shaker exercise* [29].

6. Data analysis

Data analyzed in a way descriptive narrative . Assessment data grouped into subjective and objective data , analyzed become a nursing diagnosis , then development day first , second , and third compared . No statistical tests were performed Because subject only one person.

RESULTS AND DISCUSSION

Results

Characteristics and assessment . Mr. I, 56- year-old male , trader , arrived with gurney on May 11, 2026 with complaint dizziness , weakness member movement right since One day before enter House sick , talk pelo , a little difficult swallowing , coughing moment drink , and tongue felt heavy . He has history hypertension , disease heart , and stroke one month previously , and smoke more from two packs per day until stop One month last . Index mass body 24.5 kg/m² and body weight not changed in six month . Findings complete presented in Table 1.

Table 1. Patient Characteristics and Initial Assessment Data (May 12, 2026)

Aspect	Findings
Identity	Male , 56 years old , trader ; height 175 cm, weight 75 kg (BMI 24.5 kg/m²)
Medical diagnosis and MRI	hemorrhagic stroke with dysphagia . MRI: infarction wide with transformation hemorrhage in the frontotemporal–insular lobe –left basal ganglia
Complaint main	Dizzy ; weak member movement right since 1 day before hospitalized (May 10, 2026); talk pelo ; a little difficult swallowing ; coughing moment drink ; tongue felt heavy
Medical history	Hypertension , disease heart , stroke 1 month previously ; smoker >2 packs / day , quit 1 month ; no There is allergies
Vital signs	BP 130/90 mmHg; pulse 80 x/ minute ; respiration 20 x/ minute ; temperature 36.5 °C
Neurological	GCS 14 (E4V4M6); Isocor pupil 3 mm, reflex light +/+; Broca's aphasia ; power muscle right 3 (top and bottom), left 5; reflex physiological right negative ; reflex pathological right positive (including Babinski)
cranial nerves	IX and X: reflexes swallow disturbed , coughing moment drinking , abnormal voice . XII: dysarthria , movement tongue disturbed . V: muscle chew disturbed
Nutrition and swallowing	Appetite Eat decreased ; MSRG diet, consumed ±3 spoons eat per time eating ; oral medication dissolved ; without NGT; SFCM 5 (moderate)
Other functions	Eating, bathing, dressing , toileting assisted by others; no capable walking ; haven't had a bowel movement since treated ; sleep 5 hours/ day and often woke up

Aspect	Findings
Laboratory (May 11–12)	Eosinophils 8.5–8.8% (increased); potassium 3.4 mmol/L (decreased); Hb 12.6 g/dL (decreased); triglycerides 169 mg/dL (increased); HDL 28.4 mg/dL (decreased); total cholesterol 118 mg/dL (decreased)
Therapy	Mannitol tappering 4-3-2-1 + furosemide ½ (4 × 125 cc IV); citicoline 2 × 1 (250) IV; ranitidine 2 × 1 IV; NaCl 0.9% per 12 hours IV; Beneuron 1×1, lansoprazole 1×1, gemfibrozil 1×1 (oral)

Note : GCS = Glasgow Coma Scale; SFCM = Swallowing Function Communication Measure; MSRG = home diet code Sick in accordance notes assessment ; IV = intravenous .

Patient No NGT installed and receiving food filter or steamed rice through mouth , but only use up around three spoon eat per time food and oral medication should be disbursed . All activity base need assistance , and patients Not yet can walking . Initial SFCM score is 5 (disorder swallow currently).

Diagnosis and planning . Four nursing diagnoses enforced and prioritized as following (Table 2). Disorders swallow become priority main Because related direct with focus intervention and risk aspirations .

Table 2. Nursing Diagnoses, Outcomes , and Primary Interventions

No	Nursing diagnosis	Supporting data main	Output (SLKI)	Intervention main (SIKI)
1	Disturbance swallow bd disturbance nerve cranial	Swallowing reflex disturbed ; cough moment drink ; tongue felt severe ; N. IX, X, XII are disturbed ; SFCM 5	Swallowing status getting better : food stuck in the mouth ↑, reflex swallow ↑, cough ↓	Prevention Aspirations (I.01018), including *Shaker exercise*
2	Perfusion risk cerebral No effective dd embolism	Dizziness ; history hypertension , disease heart , stroke 1 month ; BP 130/90 mmHg; GCS 14	Consciousness ↑, cognitive ↑, pain head ↓, restlessness ↓, BP and reflexes nerve getting better	Monitoring Neurological (I.06197)
3	Disturbance mobility physique bd disturbance neuromuscular	Strength muscle right 3; activity assisted ; movement limited	Movement extremity ↑, strength muscle ↑, ROM ↑	Support Mobilization (I.05173)
4	Disturbance verbal communication bd decline circulation cerebral	Talk pelo ; sound not enough clear ; tongue felt severe ; Broca's aphasia	Ability speech and hearing ↑, slurred speech ↓, aphasia ↓	Promotion Communication : Deficit Speak (I.13492)

Implementation of *the* *Shaker exercise* given twice a day in the morning and afternoon day during May 12–14, 2026 with protocol in Table 3. On the day first , practice given gradually in accordance tolerance Because weakness muscle oropharynx . Other interventions are performed every day in accordance plan : monitoring neurological every shift, practice movement active – passive and lying down with help family , and communication with talk slow and simple . Referral to therapist speech planned .

Table 3. Protocol Shaker *Exercise* Applied

Phase	Procedure	Dose
Preparation	verification , washing hand , greeting , explain objectives and procedures , contracts time , ask willingness patient	Before exercise
Isometric	Lie down lying on one's back without pillow , shoulders flat with place sleep . Lift head ±30° with chin to towards the chest (toes visible) and hold ; lower head and rest	Hold 60 seconds , rest 60 seconds , 3 times

Phase	Procedure	Dose
Isotonic	Position same . Lift head with chin to towards the chest, then quick lower to position back to the beginning	30 repetitions
Frequency and duration	Morning and afternoon days First given gradually in accordance tolerance	2 times/ day , 3 days
Termination	Evaluation actions and contracts action carry on	After exercise

Evaluation . Development daily presented in Table 4 and Figure 1. The SFCM score remained 5 on the day first and second , then to 7 (disorder swallow light) on the day third . Swallowing reflex No Again disturbed and coughing moment drink No found on the day third , and texture food changed become soft . Intake Eat No changed , namely around three spoon eat per time eating . Dizzy disappear and pressure blood down from 130/90 to 120/90 mmHg. Strength muscle extremities right up from 3 to 4, and talk pelo reduce so that patient start communicate verbally without signal . Diagnosis of disorders swallow assessed Not yet fully resolved and intervention continued ; three other diagnoses resolved part and education plan go home given .

Table 4. Development Patient on Day One until Third

Parameter	Day 1 (12/5)	Day 2 (May 13)	Day 3 (May 14)
SFCM Score	5 (medium)	5 (medium)	7 (light)
Swallowing reflex	Disturbed	Still a little disturbed	Undisturbed
Coughing while drink	There is, a little	Still a little	n't any
Intake eat per time Eat	±3 spoons Eat	±3 spoons Eat	±3 spoons Eat
Texture food	Strain / steamed rice	Strain / steamed rice	Mushy
Dizzy	There is	Reduce	n't any
BP (mmHg) and GCS	130/90; 14	120/90; 14	120/90; 14
Strength muscle extremities right	3	3	4
Speech and tongue	Pelo, low volume , wearing gesture ; tongue heavy	Still slurred speech A little heavy	Pelo decreases , the word begins clear , without gesture ; tongue No heavy
Disorder diagnosis status swallow	Not yet resolved	Resolved part	Not yet resolved completely ; intervention to be continued

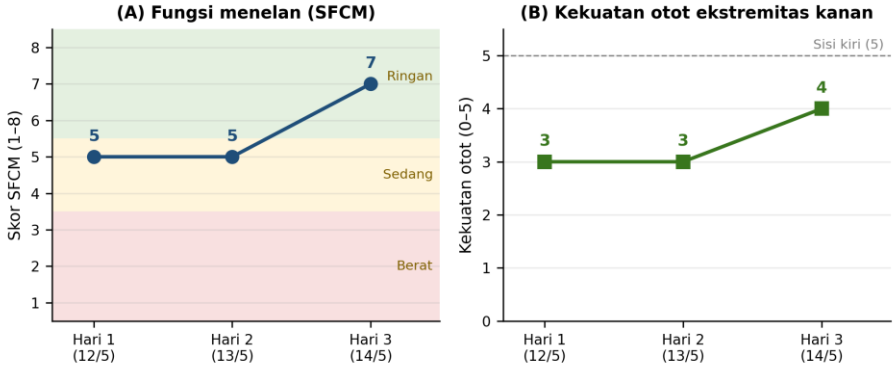


Figure 1. Changes SFCM scores and strengths muscle extremities right on days 1–3

Discussion

Assessment . The findings on Mr. I are in accordance with description dysphagia in non-hemorrhagic stroke . Infarction area in the frontotemporal lobe , insula, and left basal ganglia explains weakness extremities right , Broca's aphasia , dysarthria , and dysphagia with involvement of nerves IX, X, and XII [9,10,31]. The risk factors found are : hypertension , disease heart , previous stroke , age 56 years , type sex male , and history smoke heavy , in line with factor risk of stroke in patients care hospitalization [2.32]. Patient come in condition conscious , without NGT, and still can accept food through mouth . Condition this is what makes it possible exercise active given , different from description common on site study place Lots patient direct fitted with NGT [7].

Two things need recorded at the stage This . First , SFCM assesses function swallow from path and consistency intake so that No can detect aspirations hidden (*silent aspiration*); examination additional on the side place Sleep or instrumental is required when available [8,33]. Second , MRI shows transformation bleeding and patients accept mannitol , while the SOP *Shaker exercise* list improvement pressure intracranial as contraindications [29]. Training is given when condition hemodynamics relatively stable and accompanied monitoring neurological (GCS remains 14, isocoric pupils , blood pressure blood pressure 120–130/90 mmHg). In cases similar , decision start exercise should consulted with doctor guarantor answer .

Nursing diagnosis . Four diagnoses were established based on subjective and objective data according to SDKI [25]. Disorders swallow set as priority Because related direct with focus intervention and because aspirations can threaten safety patient in time short , in line with height incident dysphagia in the phase acute stroke [8]. Risk diagnosis perfusion cerebral No effective based on factors risk hypertension , disease heart disease , and recurrent strokes , which remain There is after repatriation [34]. Disturbance mobility physical and disorders verbal communication is consequence lesions left hemisphere that affects independence patients and their participation in therapy [35,36].

Intervention and basis proof . *Shaker exercise* chosen as part from Prevention Aspiration Because involving movement active muscle suprahyoid , whereas arrangement position and cleanliness mouth more nature supportive [15]. The expected mechanism is increasing elevation hyolarynx and opening sphincter esophagus above [17,18]. The results for Mr. I are in line with other reports : Audina et al . noted repair degrees dysphagia from heavy become light after *Shaker exercise* and *effortful swallow* twice a day for five days [24]; quasi-experimental test on 68 patients report difference meaningful GUSS scores before and after *Shaker exercise* [22]; and review based practice nursing proven refers to a meta- analysis of 37 studies (2,656 participants) that reported benefits on strength muscle suprahyoid and aspiration [37]. Another case study in Indonesia also applied *Shaker exercise* in stroke patients [38–40].

However , the dose given to Mr. I (twice a day) during three day) far more short than the six program week in study original [17], and a Cochrane review assessed certainty proof therapy

swallowing in acute and subacute stroke Still limited [16]. Some patients also do not capable lift head from position lying down ; exercise alternative like *chin tuck against resistance* developed as replacement *Shaker exercise* [41]. Another component in Prevention Aspiration , namely semi-Fowler, food small and soft , and medicine liquid , is step basics of management dysphagia [14,42].

Implementation . Success implementation *Shaker exercise* according to our observations are supported by the attitude cooperative patients and involvement family in remind timetable training . Monitoring neurological every shift possible detection early deterioration in patients with infarction area and factors risk cardioembolic [43]. Pressure blood pressure drops to 130/90 to 120/90 mmHg without a reduction target aggressive ; AHA/ASA guidelines state benefit lower pressure blood in a way aggressive in the first 48–72 hours Not yet Certain when pressure blood below 220/120 mmHg [44]. For mobility , therapy physique post-stroke give benefits on motor function [45,46]. The AVERT study showed very early mobilization with dose tall in the first 24 hours precisely associated with less output good on three month [47], so that in the case of This mobilization started gradually with lying down and training movement in accordance tolerance . Family involved since early , in line with role family in stroke management [48].

Evaluation and other contributing factors . SFCM scores increased from 5 to 7, reflex swallow recover , and cough moment drink lost on the day third . Improvement This No can associated only with Shaker exercise. *Thermal tactile stimulation* , oral exercises , adjustments texture food , setting position , therapy medicine and recovery spontaneous in phase beginning post-stroke walk simultaneously . The SFCM score also rose two levels at a time from day second to third , and scale This ordinal in nature with psychometrics that are not reported . What is needed attention , repair swallow Not yet followed improvement intake : patient still only use up around three spoon eat per time Eat until day third . Collaboration with expert nutrition and nutritional status monitoring still required [12]. Repair strength muscles (3 to 4) and speech can also be reflect recovery neurological early and stimulation by nurses and family [36,45]. Risk of perfusion cerebral still maintained as problem Because factor risk hypertension and disease heart Not yet resolved .

Implications , limitations , and suggestions. Case This show that nurse can apply the Shaker exercise independent in stroke patients who are conscious and still can swallow part through mouth , with monitoring neurological and consultation doctor to patient with risk pressure intracranial . Application can integrated to in SIKI Prevention Aspirations and documented with SDKI, SLKI, and SIKI. Training is necessary continued at home with help family Because rehabilitation swallow ongoing weeks . Limitations report This is subject single , observation only three day , no There is comparison , intervention double , assessor No blinded , SFCM without psychometric data , no There is instrumental examination of swallowing , and not There is action carry on after repatriation . Research furthermore recommended use design quasi-experiment or randomized trials with group control , duration more

length , instrument validated , and follow up carry on post-discharge . Hospital recommended prepare SOP Shaker exercise which includes criteria patients and contraindications .

CONCLUSION

From this study Mr. I, a non- hemorrhagic stroke patient with dysphagia, resulting in four nursing diagnoses with disturbance swallow as priority . Shaker exercise is given twice a day during three day in intervention Prevention Aspirations , together action House other illnesses. During period That SFCM score increased from 5 (moderate) to 7 (mild), reflex swallow recover , cough moment drink lost , and power muscle extremities right up from 3 to 4, while intake Eat Not yet increased . Because the subject single and exist other ongoing therapies simultaneously , the results This show accompanying improvements implementation of Shaker exercise and not yet prove its effectiveness . Shaker exercise is worth it considered in care dysphagia post - stroke in conscious and unconscious patients contraindications , and necessary tested more carry on with design in groups comparison.

AUTHOR CONTRIBUTION

Cica Purnama Sari was contributed in conceptualization research , design methodology and investigation in the form of implementation care nursing care for non- hemorrhagic stroke patients with implementation *shaker exercise* at Dr. Drs. M. Hatta Brain Hospital Bukittinggi and do curation and formal analysis of the resulting data assessment and evaluation (including SFCM score), prepare source Power research , making data visualization , as well as compile draft beginning script . Elfira Husna was contributed in conceptualization and design methodology , conducting supervision during the research process, validating interventions and outcomes findings , managing administration projects , as well as review and edit script. Asrul Fahmi was contributed to supervise study concept and writing report.

ACKNOWLEDGEMENT

Author say accept love to Muhammad Hatta Brain Hospital Bukittinggi on permits and facilities granted to patients and families who are willing participate, and to the Nursing Professional Education Study Program, Prima Nusantara University, Bukittinggi.

BIBLIOGRAPHY

1. Saraswati DR, Khariri . Transition epidemiology of stroke as reason death to all group age in Indonesia. Journal Medicine . 2021;2(1):81–5.
2. Feigin VL, Brainin M, Norrving B, Martins S, Sacco RL, Hacke W, et al. World Stroke Organization (WSO): global stroke fact sheet 2022. Int J Stroke. 2022;17(1):18–29. doi:10.1177/17474930211065917

3. Sari NP. *Shaker exercise* in overcome disturbance Dysphagia in stroke patients . Nursing Media Research. 2023. Available from: https://ojs.stikessaptabakti.ac.id/jrmk/article/view/77/312
4. Junaidi I. Stroke, be aware the threat . Edition revision . Yogyakarta: Andi Offset; 2022.
5. Muhamad N. Beware , this group vulnerable age stroke [Internet]. Databoks ; 2024.
6. Ministry of Health of the Republic of Indonesia. Indonesian Health Survey (SKI) 2023. Jakarta: Ministry of Health of the Republic of Indonesia; 2023.
7. Installation Record Dr. Drs. M. Hatta Brain Hospital Bukittinggi . Visit data stroke and disorder patients swallow 2020–2026 . Bukittinggi : Dr. Drs. M. Hatta Brain Hospital; 2026.
8. Martino R, Foley N, Bhogal S, Diamant N, Speechley M, Teasell R. Dysphagia after stroke: incidence, diagnosis, and pulmonary complications. Strokes. 2005;36(12):2756–63. doi:10.1161/01.STR . 0000190056.76543.eb
9. Vinsensia JD, Gala WD, Dien GC. Foster Care nursing care for non- hemorrhagic stroke patients with dysphagia [Written work scientific]. Makassar: STIK Stella Maris; 2021.
10. Cahyani CR. The concept of stroke [Written work] scientific]. Ponorogo : Muhammadiyah University of Ponorogo ; 2021.
11. Nuning M, Maryati NIE. Foster Care nursing patients with non- hemorrhagic stroke with problem nursing disturbance swallowing at Bethesda Hospital Yogyakarta [Written work scientific]. Yogyakarta: STIKES Bethesda; 2023.
12. Masitha D, Nugrohowati AK, Candra A, Subagio HW, Murbawani EA. Incidence of dysphagia, diet suitability, and incidence of malnutrition in young stroke patients at Dr. Kariadi General Hospital , Semarang. JNH (Journal of Nutrition and Health). 2021;9(1):1–14.
13. Komang N, Wiratningrum D, Imanto M. Etiology and diagnosis of dysphagia . Medulla . 2024;14(1):90–5.
14. Ueha R, Cotaoco C, Kondo K, Yamasoba T. Management and treatment for dysphagia in neurodegenerative disorders. J Clin Med. 2024;13(1):156. doi:10.3390/jcm13010156
15. Wianandari F, et al. The effectiveness of shaker exercise on Dysphagia in stroke patients : an integrative literature review. Journal Forikes Voice Health Research . 2022;13(April):290–7.
16. Bath PM, Lee HS, Everton LF. Swallowing therapy for dysphagia in acute and subacute stroke. Cochrane Database Syst Rev. 2018;(10):CD000323.
17. Shaker R, Easterling C, Kern M, Nitschke T, Massey B, Daniels S, et al. Rehabilitation of swallowing by exercise in tube-fed patients with pharyngeal dysphagia secondary to abnormal UES opening. Gastroenterology. 2002;122(5):1314–21. doi:10.1053/gast.2002.32999
18. Easterling C, Grande B, Kern M, Sears K, Shaker R. Attaining and maintaining isometric and isokinetic goals of the Shaker exercise. Dysphagia. 2005;20(2):133–8. doi:10.1007/s00455-005-0004-2
19. Mayestika P, Hasmira MH. The Influence application of shaker exercise to Dysphagia in non- hemorrhagic stroke patients at Siti Fatimah Regional Hospital , Jakarta Province South Sumatra . Journal Perspective . 2021;4(4):519. doi:10.24036/ perspective.v 4i4.466
20. Logemann JA, Rademaker A, Pauloski BR, Kelly A, Stangl-McBreen C, Antinoja J, et al. A randomized study comparing the Shaker exercise with traditional therapy: a preliminary study. Dysphagia. 2009;24(4):403–11. doi:10.1007/s00455-009-9217-0

21. Choi JB, Shim SH, Yang JE, Kim HD, Lee DH, et al. Effects of Shaker exercise in stroke survivors with oropharyngeal dysphagia. NeuroRehabilitation . 2017;41(4):753–7.
22. El Sayed RAE, Ewees AMK. Effect of Shaker exercise on dysphagia level among patients with cerebral vascular stroke. Egyptian Journal of Health Care. 2020;11(1):477–90. doi:10.21608/ejhc.2021.144291
23. Rahmanti A, D AF. Application of shaker exercise and training swallow with jelly against ability Swallowing in stroke patients at Sunan Kalijaga Regional General Hospital, Demak. Udayana Medical Health Journal . 2020;6(1):66–79. doi:10.47859/ jmu.v 6i1.195
24. Audina R, Upoyo AS, Taufik A. The effect of Shaker exercise and effortful swallowing on changes in the degree of dysphagia in patients with stroke: a case study. Int J Biomed Nurs Rev. 2025;4(1):16–21. doi:10.20884/1.ijbnr .2025.4.1.10633
25. Unity Indonesian National Nurses ' Standards . Indonesian Nursing Diagnosis Standards : Definitions and Indicators diagnostics . Edition 1. Jakarta: DPP PPNI; 2017.
26. Unity Indonesian National Nurse Standards Indonesian Nursing Outcomes : Definition and Criteria results Nursing . Edition 1. Jakarta: DPP PPNI; 2018.
27. Unity Indonesian National Nurse Standards Indonesian Nursing Interventions : Definition and Actions Nursing . Edition 1. Jakarta: DPP PPNI; 2019.
28. Yustiana O, Ghofur A. Documentation nursing : a nursing process approach . 4th Edition. Yogyakarta: Nuha Medika; 2023.
29. Kanda RL, Tanggo WD. Foster Care nursing care for patients with non- hemorrhagic stroke in the Santo Yoseph 6 room , Stella Maris Hospital, Makassar [Written work scientific]. Makassar: STIK Stella Maris; 2022.
30. Tarihoran Y. The effect of shaker exercise on ability swallowing in stroke patients with dysphagia . Indonesian Trust Health Journal. 2020.
31. Muttaqin A. Foster Care nursing client with disturbance system Nerves . 3rd Edition. Jakarta: Salemba Medika; 2021.
32. Dwilaksono D, Fau TE, Siahaan SE, Siahaan CSPB, Karo KSPB, Nababan T. Factors related to with the occurrence of ischemic stroke in patients care hospitalization . Journal Study Nurse Professional . 2023;5(2):449–58. doi:10.37287/ jppp.v 5i2.1433
33. Wirth R, Dziewas R, Beck AM, Clavé P, Hamdy S, Heppner HJ, et al. Oropharyngeal dysphagia in older persons: from pathophysiology to adequate intervention. Clin Interv Aging. 2016;11:189 –208.
34. Karina W. Foster Care nursing non- hemorrhagic stroke patients with problem nursing risk perfusion cerebral No effective in the Stroke Center Room of Abdul Wahab Sjahranie Regional Hospital, Samarinda [Written work scientific]. Samarinda : Poltekkes Ministry of Health of East Kalimantan; 2024.
35. Yolara SI. Foster Care nursing care for non- hemorrhagic stroke patients with disturbance mobility physical examination at Arifin Achmad Regional Hospital, Pekanbaru [Written work scientific]. Pekanbaru ; 2023. Available from: http://repository.pkr.ac.id/3624/
36. Brady MC, Kelly H, Godwin J, Enderby P, Campbell P. Speech and language therapy for aphasia following stroke. Cochrane Database Syst Rev. 2016;(6):CD000425.
37. Saputra MKF, Agung RN, Yunitri N, Jumaiyah W, Mulyatsih MGE. Application of evidence-based nursing practice: Shaker exercise for swallowing ability in stroke patients with dysphagia. Journal Indonesian Nursing Science . 2024;14(4). doi:10.33221/ jiiki.v 14i04.3664

38. Bimantara PA. Analysis care nursing implementation shaker exercise therapy and training swallow honey in stroke patients with dysphagia at Prof. Dr. Margono Soekarjo Hospital [Written work scientific]. Gombong : Muhammadiyah University of Gombong; 2024.
39. Helen M. Implementation deep shaker exercise therapy overcome disturbance dysphagia in stroke patients [Report task end]. Sapta Bakti College of Health Sciences ; 2023.
40. Ismoyowati TW. Shaker exercise intervention strategy for ability Vagus nerve function in stroke patients during the pandemic in Yogyakarta in 2022 [Written work] scientific]. Yogyakarta: STIKES Bethesda Yakkum ; 2022.
41. Liu J, Wang Q, Tian J, Zhou W, Gao Y, Chen X, et al. Effects of chin tuck against resistance exercise on post-stroke dysphagia rehabilitation: a systematic review and meta-analysis. Front Neurol. 2023;13:1109140 . doi:10.3389/fneur.2022.1109140
42. International Dysphagia Diet Standardization Initiative. The IDDSI framework, version 2.0 [Internet]. 2019. Available from: https://iddsi.org
43. Ministry of Health of the Republic of Indonesia. Guidelines national service Stroke management . Decree of the Minister of Health Number HK.01.07/MENKES/394/2019. Jakarta: Ministry of Health of the Republic of Indonesia; 2019.
44. Powers WJ, Rabinstein AA, Ackerson T, Adeoye OM, Bambakidis NC, Becker K, et al. Guidelines for the early management of patients with acute ischemic stroke: 2019 update to the 2018 guidelines. Strokes. 2019;50(12):e 344–418.
45. Veerbeek JM, van Wegen E, van Peppen R, van der Wees PJ, Hendriks E, Rietberg M, et al. What is the evidence for poststroke physical therapy? A systematic review and meta-analysis. PLOS One. 2014;9(2):e 87987. doi:10.1371/journal.pone .0087987
46. Astuti E. Practical analysis clinic nursing care for non- hemorrhagic stroke patients with intervention innovation application of rubber ball ROM exercise For increase strength muscle handheld patient [Written work scientific]. 2020.
47. Bernhardt J, Langhorne P, Lindley RI, Thrift AG, Ellery F, Collier J, et al. Efficacy and safety of very early mobilization within 24 h of stroke onset (AVERT): a randomized controlled trial. Lancet. 2015;386(9988):46–55.
48. Widiani GAR, Yasa IMM. Correlation level knowledge to ability detection early stroke symptoms with attitude family to Pre-hospital care . Bina Generasi : Journal of Health. 2023;14(2):25–30. doi:10.35907/ bgjk.v 14i2.255