

Abdominal Massage to Reduce Constipation in Stroke Patients: Literature Review

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Abstract

Background: Constipation is the dominant gastrointestinal problem post-stroke. This problem is always treated with the use of laxatives and fiber. Abdominal massage can be one of the treatments.

Objective: To determine the effect of giving abdominal massage to reduce constipation in stroke patients.

Methods: This article is a literature review of research articles conducted by summarizing and analyzing related articles. The search method used three electronic databases, namely Science Direct, Willey, and Pubmed with the keywords abdominal massage, constipation, and stroke. The inclusion criteria for writing were free English articles for the last 5 years, research samples in stroke patients, quantitative research, full text articles, relevant related articles, and original articles.

Results: There were four articles that met the inclusion criteria. The findings showed that there was an effect of abdominal massage on the constipation of stroke patients.

Conclusion: This study found that abdominal massage can reduce constipation in stroke patients and can be used as one of the interventions for constipation management.

Keywords: Abdominal massage, constipation, stroke

INTRODUCTION

Stroke causes an estimated 5.5 million deaths annually, making it a critical global health issue (1). Complications that occur in the early days of hospitalisation of stroke patients significantly increase mortality rates (2). Constipation is the dominant gastrointestinal problem after stroke. This problem is always managed with the use of laxatives and fibre. The incidence of constipation is reported to occur in 22.9% to 79% of stroke patients (3). In the acute phase, the incidence of constipation ranges from 33% to 55% and is associated with poor outcome in patients with moderate stroke severity from the outset. Risk factors for new-onset constipation and its impact on acute stroke complications are still not fully understood (4). New-onset constipation in stroke patients is secondary to various factors after the cerebrovascular event. These factors include the use of medications (such as antidepressants, antiepileptics, antihistamines, antispasmodics, anticholinergics, calcium channel blockers, and calcium and iron supplements), metabolic diseases (such as hypothyroidism, hypoparathyroidism, hypercalcaemia, hypokalemia, hypomagnesemia, diabetes mellitus, uremia, and heavy metal poisoning), neuropathy (due to cerebrovascular disease, medullary lesions or neoplasia, multiple sclerosis, autonomic neuropathy, and Parkinson's disease), and other conditions such as cognitive impairment, immobility, and Chagas disease (5).

Management of constipation is usually based on clinical experience and available scientific evidence. The various treatment modalities used include dietary modification, increased fluid intake, bowel exercises,

abdominal massage, and increased mobility in older adults (6). However, there is limited evidence available to assist nurses in making appropriate clinical judgements, selecting effective treatments, or considering all contributing factors in a structured care plan (2). Given the high prevalence of constipation among stroke patients, its negative impact, the responsibility of nurses, and the lack of in-depth research in this area, it is imperative to conduct research that prioritises and updates the role of nursing interventions in managing post-stroke constipation. Therefore, this study aims to find literature on the effectiveness of abdominal massage on constipation especially in stroke patients hospitalised in the acute phase.

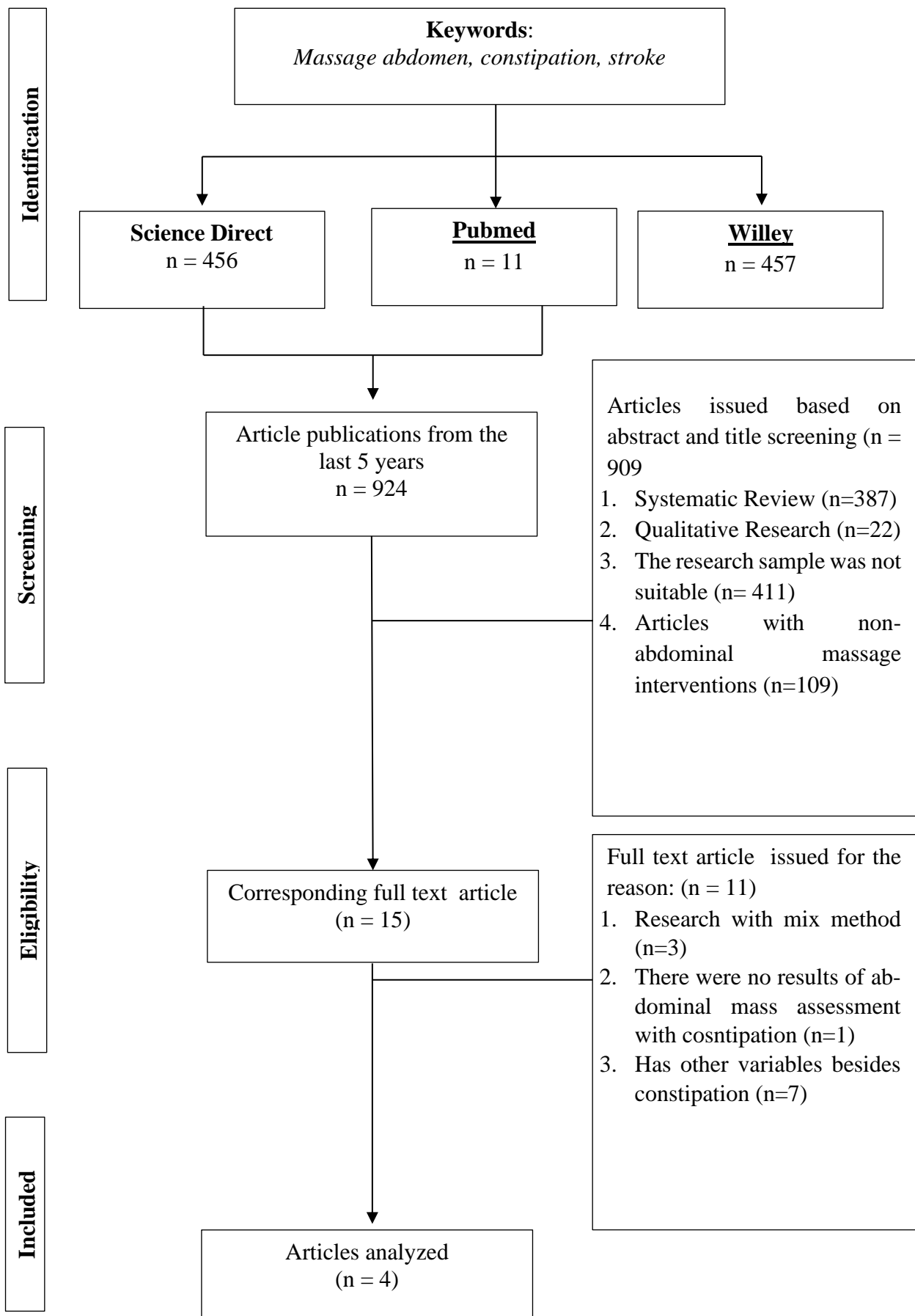
OBJECTIVE

This study aims to determine the effect of giving abdominal massages to reduce constipation in stroke patients.

METODE

This article is a literature review that summarises and analyses the results of related research articles. The literature search method was conducted using three major electronic databases: Science Direct, Wiley, and PubMed, using the keywords "abdominal massage" AND "constipation" AND "stroke". The search was conducted following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol and involved selecting articles based on predefined inclusion criteria. The article search period lasted from January to June 2024. The inclusion criteria in the literature search were as follows: (1) English-language articles that were freely accessible and published within the last five years (2019-2024), (2) studies involving stroke patients, (3) articles using quantitative research methods, (4) articles in full text, and (5) articles that were relevant and original research. The exclusion criteria included articles that did not have a full structure, articles in the form of systematic/literature reviews, and articles with qualitative research methods.

From the search, a total of 924 articles were found, with 456 articles from the Science Direct database, 11 articles from the PubMed database, and 457 articles from Wiley. After initial screening of 91 articles based on the exclusion criteria, 833 articles were eliminated because they did not fulfil the inclusion criteria. Further screening of the remaining 31 articles resulted in 4 articles that met all inclusion criteria and were ready for further analysis.



RESULT

Table 1. Article Extraction Results

No	Judul, Penulis, Tahun	Tujuan	Metode	Hasil	Kesimpulan
1.	Effect of abdominal massage technique on constipation for post stroke patients: As a preventive measure Walaa Abdelwahab Mohamed, Jehan Sayyd Ali, Jehan Ahmed Gamal El-Deen and Sherif Nesnawy 2022	Assessing the effect of abdominal massaging techniques as preventive measures against constipation in post-stroke patients	<p>Research design: quasi-experimental Type of intervention: abdominal massage Number of samples: 60 respondents consisting of (30 intervention group and 30 control group) Sampling method: purposive sampling Inclusion criteria:</p> <ol style="list-style-type: none"> Age between 18 and 64 years old Willingness to participate in the study <p>Exclusion criteria:</p> <ol style="list-style-type: none"> Patients receiving prokinetic drugs such as metoclopramide or faecal softeners, moxibustion and acupuncture, bowel disease, habitual or chronic constipation Patients who have undergone abdominal surgery and radiotherapy in the past 6 weeks <p>Instruments:</p> <ol style="list-style-type: none"> Structured interview sheet to collect 	<ol style="list-style-type: none"> On the third day, the study group showed a statistically significant difference in the prevention of constipation compared to the control group Defecation frequency and faecal consistency improved in the study group after receiving abdominal massage There was a significant improvement in abdominal sounds in the study group 	<p>The results showed that abdominal massage can significantly reduce the incidence of constipation in post-stroke patients. Abdominal massage is recommended as an effective and safe intervention for constipation prevention, and an in-service education programme on abdominal massage is proposed to be implemented</p>

			<p>sociodemographic data and medical data</p> <p>2. Constipation assessment sheet consisting of abdominal distension monitoring (abdominal distension through palpation and percussion) and constipation monitoring (basic constipation data including bowel movement frequency, stool consistency, and auscultation of bowel sounds).</p> <p>How to deliver the intervention:</p> <ol style="list-style-type: none"> 1. Control group received routine hospital care 2. The study group received abdominal massaging techniques performed twice a day for three consecutive days. Abdominal massage for 15 minutes with techniques that included petrissage, effleurage, 	<p>compared to the control group during the three days of intervention</p>	
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			<p>kneading, and vibration of the abdominal wall in a clockwise direction.</p>		
2.	<p>The Effect of Abdominal Massage and Fecal Elimination Exercises in Treating Constipation in Stroke Patients: Case Report</p> <p>Alfina Damayanti Kurnia, Erik Kusuma, Evy Aristawati</p> <p>2024</p>	<p>Knowing the effectiveness of abdominal massage therapy combined with faecal elimination exercises for stroke patients who experience constipation</p>	<p>Research design: case study</p> <p>Type of intervention: abdominal massage and faecal elimination exercises</p> <p>Sampling method: purposive sampling</p> <p>Inclusion criteria:</p> <ol style="list-style-type: none"> Stroke patients who have constipation <p>Exclusion criteria: not specified</p> <p>Instruments:</p> <p>Constipation Analysis Scale (CAS) to assess the level of constipation in stroke patients.</p> <p>Method of intervention:</p> <p>Abdominal massage therapy and faecal elimination exercises were given once a day upon waking for 30 minutes</p>	<p>The results showed that respondents had no complaints of defecation, mushy stool consistency, and an increase in intestinal peristalsis after being given the intervention</p>	<p>Abdominal massage therapy and defecation exercises can treat constipation in stroke patients</p>
3.	<p>The effects of abdominal "I LOV U" massage along with lifestyle training on constipation and distension in the elderly with stroke</p>	<p>Investigating the effects of abdominal massage with "I LOV U" method and lifestyle training on constipation</p>	<p>Study design: Randomised clinical trial</p> <p>Type of intervention: abdominal massage "I LOV U" method</p> <p>Sample size: 68 patients, divided into two groups: control (34)</p>	<p>1. Frequency of Defecation: The frequency of defecation increased significantly in</p>	<p>Abdominal massage with the "I LOV U" method along with lifestyle training can improve constipation and distension and</p>

	<p>Zahra Fekri, nahid Aghebati, Tahereh Sadeghi dan Mohammdd taghi Farzadfard</p> <p>2021</p>	<p>and distension in elderly with stroke</p>	<p>and intervention (34). Finally, 29 elderly people in the intervention group and 34 in the control group completed the study. Sampling method: simple random sampling</p> <p>Inclusion criteria:</p> <ol style="list-style-type: none"> 1. Age 65-90 years, definitive diagnosis of ischaemic stroke, has passed the acute time of stroke at least 72 hours 2. CAS (Constipation Assessment Score) score of 5 or higher 3. Glasgow coma scale above 7 and have a primary carer <p>Exclusion criteria:</p> <ol style="list-style-type: none"> 1. Unwillingness to participate 2. Patients who died 3. Patients who underwent previous abdominal or pelvic surgery, and other corneal diseases 4. The caregiver is unable to continue abdominal massage more than 3 times 5. Patients with NPO (no food or drink), 	<p>the intervention group compared to the control group. Most patients in the intervention group started defecating on day 4 to 5</p> <ol style="list-style-type: none"> 2. CAS Score: CAS score decreased more significantly in the intervention group compared to the control group after 10 days of intervention 3. Abdominal Circumference: Abdominal circumference decreased significantly in the intervention 	<p>increase tolerance of food intake in the elderly with stroke</p>
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			<p>and acute abdominal symptoms</p> <p>Instruments:</p> <ol style="list-style-type: none"> 1. Demographic information and medical history form: contains closed-ended questions about personal information and medical history such as type and location of stroke, chronic diseases, and medication history 2. Constipation Assessment Scale (CAS): This tool consists of 8 questions with 3 levels to assess the severity of constipation. A CAS score between 1-4 indicates mild constipation, 5-9 indicates moderate constipation, and 10 and above indicates severe constipation 3. Meter: used to measure abdominal circumference every day in the morning 4. Food intake and defecation checklist ha 	<p>group during the 10-day intervention</p> <ol style="list-style-type: none"> 4. Food Tolerance: Gavage and oral food tolerance improved faster in the intervention group compared to the control group. 	
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<p>4.</p>	<p>Abdominal massage for constipation relief in stroke patients: A participatory action research</p> <p>Rini Rachmawaty, Ilkafah Ilkafah, Syahrul Syahrul, Yudi Hardianto</p> <p>2021</p>	<p>Investigating the effectiveness of abdominal massages in relieving constipation in post-stroke patients</p>	<p>Research design: participatory action research (PAR) approach</p> <p>Type of intervention: abdominal massage</p> <p>Sample size: 30 stroke patients</p> <p>Sampling method: purposive sampling</p> <p>Inclusion criteria:</p> <ol style="list-style-type: none"> 1. Stroke patients diagnosed with constipation 2. Patients who are willing to participate in the study 3. Patients with stable vital signs <p>Exclusion criteria:</p> <ol style="list-style-type: none"> 1. Patients with severe cognitive impairment and gastrointestinal diseases other than constipation and severe medical conditions that may interfere with the intervention <p>Instruments:</p> <ol style="list-style-type: none"> 1. Constipation questionnaire: to measure the level of constipation in patients before and after the abdominal massage intervention 	<p>The results showed a significant improvement in bowel movement frequency and consistency among stroke patients who received abdominal massage intervention</p>	<p>This study concluded that abdominal massage is an effective non-pharmacological intervention to relieve constipation in stroke patients.</p>
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			<p>2. Abdominal massage guide: a protocol or guide used to perform abdominal massage, specifically designed to reduce constipation</p> <p>3. Observation notes: to record the patient's response and progress during and after the intervention</p> <p>4. Semi-structured interview: to obtain qualitative feedback from patients regarding their experience with the abdominal massaging intervention</p> <p>Mode of intervention delivery: The intervention consisted of a specific protocol for abdominal massage. Trained nurses performed massage on patients for 15 minutes, twice a day, over a four-week period. The massage technique involved gentle circular movements towards the colon, starting from the right lower abdomen, going up to the right upper abdomen, across</p>		
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			the left upper abdomen, and down to the left lower abdomen.		
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PEMBAHASAN

Constipation often occurs after a patient has had a stroke (3). This condition poses a significant risk to the patient, potentially hindering recovery and affecting overall health (7). Various studies have shown that abdominal massaging techniques can be an effective non-pharmacological intervention for constipation in stroke patients. Research by Mohamed et al., (2023) showed that the intervention group who received abdominal massage had a significant increase in bowel movement frequency and consistency compared to the control group. In addition, there was an increase in bowel peristalsis and a significant reduction in constipation symptoms (8). Research by Kurnia et al. (2024) also supports these findings by exploring the combination of abdominal massage therapy and faecal elimination exercises in stroke patients with constipation. The results of the case study showed that this combination of interventions was more effective in improving bowel peristalsis and faecal consistency in patients with stroke (9). Regular abdominal massages have been shown to improve bowel function and reduce gastrointestinal discomfort in patients with neurological conditions, including stroke (10).

The Participatory Action Research (PAR) approach used by Rachmawaty et al. (2022) showed that patients who received abdominal massage for 15 minutes twice a day for four weeks had a significant improvement in bowel movement frequency and consistency (11). Another study by Fekri et al. (2021) explored the "I LOVE YOU" method of abdominal massage alongside lifestyle training in elderly with stroke and showed positive results. This study showed that abdominal massage with the method increased bowel movement frequency, decreased Constipation Assessment Score (CAS), and reduced abdominal circumference (12). This finding is supported by Olgun & Eser (2022), who stated that abdominal massage is an effective non-pharmacological intervention to treat constipation in elderly patients (13).

Overall, evidence from various studies suggests that abdominal massage is an effective and safe intervention to manage constipation in post-stroke patients. This technique increases the frequency and consistency of bowel movements, stimulates intestinal peristalsis, and reduces symptoms of constipation without significant side effects (14). In addition, abdominal massage increases the number of bowel movements per week, reduces abdominal pain, and decreases abdominal distension and flatulence. This massage procedure consists of gentle strokes with hand pressure on the abdomen using a systematic pattern of circular movements for 7 to 8 minutes, 5 days per week for 8 weeks (15).

The implementation of abdominal massages in clinical practice can provide great benefits to patients, improve their quality of life, and reduce the need for pharmacological interventions (16). Further studies with more rigorous designs and larger samples are needed to strengthen this evidence as well as explore the mechanism of action of abdominal massage in addressing constipation in patients with neurological conditions. Thus, abdominal massage may become an integral part of a holistic treatment strategy for post-stroke patients, improving their clinical outcomes and overall quality of life.

CONCLUSION

Based on the results of the study, abdominal massage (massase abdomen) can effectively reduce constipation in stroke patients. However, there are several limitations that need to be considered in this study, including uncontrolled variability of effects, relatively short duration of intervention, combination

of interventions that complicates specific assessment, assessment methods that may lack objectivity, and small sample size. Further research is needed to address these limitations and provide more robust and reliable evidence on the effectiveness of abdominal massages in managing constipation in stroke patients.

CONFLICT OF INTEREST

The authors declare no potential conflicts of interest in relation to the research, authorship and/or publication of this article.

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