Indonesian Journal of Global Health Research
Volume 7 Number 4, August 2025
e-ISSN 2715-1972; p-ISSN 2714-9749
http://jurnal.globalhealthsciencegroup.com/index.php/IJGHR

THE EFFECT OF SWEDISH ABDOMINAL MASSAGE ON CONSTIPATION SCALE IN STROKE PATIENTS

Dewi Suryandari, Dian Nur Wulanningrum, Diyanah Syolihan Rinjani Putri
School of Nursing, Universitas Kusuma Husada Surakarta Jl. Jaya Wijaya No..11, Kadipiro, Banjarsari, Surakarta, Central Java 57136, Indonesia
*dewisuryandarikh@gmail.com

ABSTRACT

In stroke, sudden neurological and functional damage occurs due to reduced or interrupted blood flow to the brain caused by clots or plaque in the blood vessels. Stroke clients experience neuromotor deficits, causing symptoms of paralysis on one side of the body with a level of weakness, so they are at risk of constipation. Constipation is a common problem in patients. Nurses have an important role in overcoming constipation in patients who are on mechanical ventilation during treatment, one of the non-pharmacological therapies that can be done by nurses to overcome constipation is abdominal massage. Objective: Knowing the effect of swedish massage on the constipation scale in stroke Patients at Dr. Moewardi Hospital. Method: This research uses the quasy experiment method with a pretest and posttest approach without control. The population in this study were stroke patients at Dr. Moewardi Hospital. The sampling technique in this study was the Non-Probability Sampling technique with the total sampling technique, namely taking samples equal to the number of populations that have met the inclusion and exclusion criteria made by the researcher. The sample in this study was 20 respondents. Univariate analysis in this study consisted of respondent characteristics, constipation scale before massage and constipation scale after massage. Bivariate analysis in this study was to determine the effect of Swedish massage on constipation scale in stroke patients at Dr. Moewardi Hospital. Data normality test showed pre-normal constipation (p value> 0.05), post-abnormal constipation (p value <0.00) so the data was not normal, so the bivariate test used the Wilcoxon test. Pre and post intestinal peristaltic data were normal, so the bivariate test used the Paired Sample T Test. Results: The analysis results show a p-value of 0.009. Conclusions: There is an effect of Swedish massage on the constipation scale of stroke patients.

Keywords: constipation scale; stroke; swedish massage

How to cite (in APA style)
Suryandari, D., Wulanningrum, D. N., & Putri, D. S. R. (2025). The Effect of Swedish Abdominal Massage on Constipation Scale in Stroke Patients. Indonesian Journal of Global Health Research, 7(4), 335-342. https://doi.org/10.37287/ijghr.v7i4.6110.

INTRODUCTION

One of the diseases that is a medical emergency that is one of the causes of death and disability in the world is stroke. Stroke patients experience sudden neurological and functional damage due to reduced or interrupted blood flow to the brain caused by clots or plaque in the blood vessels. According to Arif, Okraini & Putra (2019), rupture of blood vessels due to sudden high blood pressure to the brain is also a cause of stroke. The prevalence of stroke is estimated to reach 15 million people every year with disability and death. According to Riskesdas data in 2018, the prevalence of stroke was 10.9 per 1,000 population, while in the health profile data for Central Java province in 2015 there were cases of 2.22% of stroke cases (Rosmary, 2019). Yasmara et al (2013) entitled morning water consumption against constipation in immobilized patients, the results of this study stated that constipation occurs mostly in patients aged <45 years as much as 71.4%. Along with increasing age, digestive function will decrease, where the production of digestive enzymes also decreases, so that in late adulthood, complaints of constipation will begin to arise (Santoso and Ismail, 2013). Constipation is the inability to defecate perfectly which is reflected in three aspects, namely reduced frequency of defecation than usual, stool is harder than before and on abdominal palpation, stool mass is felt (skibala) (Muzal, 2017).

Penatalaksaaan kostipasi ada dua yaitu secara farmakologis dan non farmakologis. Penanganan secara farmakologis dapat dilakukan dengan cara meggunakan obat pencahar. Sedangkan untuk non farmakologis dapat dilakukan dengan cara meningkatkan konsumsi asupan serat dan asupan cairan yang cukup, dan dengan melakukan pemijatan pada area perut di area colon yang disebut dengan abdominal massage. Tujuan dilakukan massage abdomen untuk meningkatkan regulasi usus sehingga dapat mengurangi penggunaan obat pencahar untuk mengatasi konstipasi, dalam hal ini pada pasien yang terpasang ventilasi mekanik (Turan & Nuran, 2016).According to Sinclair (2010), abdominal massage can prevent constipation by stimulating the parasympathetic nervous system, thereby reducing abdominal muscle tension, increasing gastrointestinal motility, increasing gastrointestinal secretion, and relaxing the sphincter, so that through this working mechanism it will facilitate and smooth the excretion of feces. Based on the results of a preliminary study, there is a stroke unit at Moewardi Hospital which is specifically designed for stroke patients. The results of a preliminary study at the stroke unit of Dr. Moewardi Hospital showed that the number of stroke patients between 1-31 October 2023 was 20 patients. Based on the background above, the researcher Knowing the Effect of Swedish Massage on the Constipation Scale in Stroke Patients at Dr. Moewardi Hospital.

METHOD

This type of research is quantitative research, namely research that follows scientific principles in the form of rational and systematic with research results obtained in the form of numbers and analysis using statistical methods (Anggreni, 2022). This study uses the Quasy Experiment method with a pretest and posttest without control approach, namely revealing a causal relationship by involving one group of subjects to see the effect of slow deep breathing and soaking feet in warm water on reducing blood pressure in people with hypertension. The population in this study were stroke patients at Dr. Moewardi Hospital. The sampling technique in this study was the Non-Probability Sampling technique with the total sampling technique, namely taking samples equal to the number of populations that have met the inclusion and exclusion criteria made by the researcher. The sample in this study was 20 respondents. The research data were analyzed univariately and bivariately. Univariate analysis in this study consisted of respondent characteristics, constipation scale before massage and constipation scale after massage. Bivariate analysis in this study was to determine the effect of Swedish massage on constipation scale in stroke patients at Dr. Moewardi Hospital. Data normality test showed pre-normal constipation (p value> 0.05), post-abnormal constipation (p value <0.00) so the data was not normal, so the bivariate test used the Wilcoxon test. Pre and post intestinal peristaltic data were normal, so the bivariate test used the Paired Sample T Test. This research has undergone ethical testing at Dr Moewardi Hospital with the number 612/III/HREC/2024.

RESULT

Analisis Univariate

Respondent Characteristics

This research was conducted at Dr. Moewardi Surakarta Hospital with 20 respondents, the following results were obtained:

Age

Table 1.
Frequency distribution based on respondent age (n=20)

	Age			
	Mean	Min	Max	Std Deviation
Valid	56.55	25	77	13.481

Based on table 1 in this study, the average age of respondents was 56.55 years.

Gender

Table 2.
Frequency distribution based on respondent gender (n=20)

Gender	f	%
Male	10	50
Female	10	50
Total	20	100

Based on table 2, the gender distribution is known to be 10 females (50%) and 10 males (50%).

The effect of constipation scale on stroke patients before being given Swedish Massage

Table 3.
The quality of the influence of constipation scale on stroke patients before being given Swedish Massage (n=24)

Skala Konstipasi					
	Frequency	Mean	Min	Max	Std Deviation
Valid	20	6,80	0	12	2,821

Based on table 3, it is known that the average quality of the influence of the constipation scale on stroke patients before being given Swedish massage was 6.8 with a standard deviation of 2.281.

Quality of influence of constipation scale on stroke patients after being given Swedish Massage

Table 4.
The quality of the influence of constipation scale on stroke patients after being given Swedish Massage (n=24)

Skala Konstipasi					
	Frequency	Mean	Min	Max	Std Deviation
Valid	20	3,2	0	9	3,286

Based on table 4, the quality of the influence of the constipation scale on stroke patients after being given Swedish massage is 3.2 with a standard deviation of 3.286.

Bivariate analysis

Bivariate analysis in this study was to determine the effect of Swedish massage on the constipation scale in stroke patients at Dr. Moewardi Hospital. The data normality test showed that pre-normal constipation (p value> 0.05), post-abnormal constipation (p value <0.00) so that the data was not normal, the bivariate test used the Wilcoxon test. Pre and post intestinal peristaltic data were normal, so the bivariate test used the Paired Sample T Test. The bivariate analysis in this study used the Wilcoxon test with values can be seen in the following table:

Table 5.
Uji *Wilcoxon*

	Constipation_Post - Constipation_Pre
Z	-2.623[a]
Asymp. Sig. (2-tailed)	.009

Based on table 5, it shows that the results of data analysis show a p-value of 0.009. This shows that Swedish massage on the constipation scale in stroke patients at Dr. Moewardi Hospital has a significant effect.

DISCUSSION

Univariate Analysis

Respondent Characteristics (age, gender)

Female stroke patients are also prone to constipation due to abnormal intestinal peristalsis which causes abdominal muscle relaxation so that food distributed to the digestive system is reduced (Valentina, Ulfah & Afriyanti, 2019). Based on the results of the study, researchers can conclude that gender differences affect the level of stroke disease. Men and women have different neuro-brain interactions and can cause different responses. 5.2 Intestinal peristalsis in stroke patient respondents before warm compresses and abdominal massage. The results of the study showed that the pretest of stroke respondents with high intestinal peristalsis was 16 respondents (100.0%). Before warm compresses and abdominal massage were carried out, intestinal peristalsis in patients who experienced a decrease, so researchers performed warm compresses and abdominal massage on patients who experienced decreased peristalsis which aimed to normalize their intestinal peristalsis. Giving a warm compress will provide a warm compress will provide a warm impulse received by the temperature receptors under the abdominal skin transmitted to the type C nervous system. The parasympathetic nerves in the stimulated postganglionic neurons will release acetylcholine. The released acetylcholine will be received by the muscarinic receptors in the meintericus plexus. One of the effects of excitatory plexus stimulation is the extension of the intestinal wall, causing faster intestinal peristaltic movement (Asniah Syamsuddin, 2020).

The effect of constipation scale on stroke patients before being given Swedish Massage

Abdominal massage provides a gentle clockwise massage performed on the stomach or abdomen to stimulate intestinal peristalsis where abdominal massage is useful for preventing and reducing gastrointestinal system interference (El-Feky & Ali., 2020). The working mechanism of abdominal massage is to reduce contractions and tension in the abdominal muscles, increase motility, increase secretion in the gastrointestinal system and increase the relaxation effect of the sphincter so that the gastrointestinal work mechanism is easier and facilitates its release (El-Feky & Ali., 2020). Warm compresses can be given in the abdominal area to stimulate increased intestinal peristalsis. Warm bladders are useful in improving blood circulation, reducing pain, providing warmth, stimulating intestinal peristalsis and stretching muscle tone (Utami, 2015). Giving a warm compress is an independent action, the warm effect of the compress can cause vasodilation in the blood vessels which will later increase blood flow to the distribution network (Munthe, 2022).

Abdominal massage has the advantage of being easy to apply because it uses simple techniques but has a good effect on the body's physiology. Abdominal massage is a massage method that focuses on the abdominal area which is useful for reducing nerve hyperactivity which is good for increasing intestinal peristalsis (Edy Septiwibowo, 2019). This decrease in intestinal peristalsis if not treated immediately risks causing complications that are dangerous for the patient himself, one of which is peristaltic ileus. A common stimulus for intestinal peristalsis is intestinal distension, which is when a large amount of food that collects at any point in the intestine, the intestinal wall stretches, it will stimulate the enteric nervous system to cause contractions of the intestinal wall and a contraction ring appears which causes peristaltic movements (Plutzer, 2021). Based on the results, researchers assume that warm compresses and abdominal massage can increase intestinal peristalsis, namely stimulation of the excitatory plexus extended by the intestinal wall, causing faster intestinal peristaltic movements.

The effect of constipation scale on stroke patients after being given Swedish Massage

Stroke patients often experience constipation problems due to lack of body movement, changes in diet, and side effects of drugs. Constipation must be prevented by non-pharmacological therapy, one of which is Swedish abdominal massage which can reduce the incidence of constipation compared to patients who do not undergo abdominal massage (Widiyawati et al., 2021). Swedish abdominal massage is a very effective intervention in treating constipation. This therapy also does not cause dangerous side effects because it is a non-invasive procedure, can be performed by the patient themselves and is relatively inexpensive (Novitasari, et al., 2023). The purpose of abdominal massage is to improve bowel regulation so that it can reduce the use of laxatives to treat constipation. The mechanism of action of abdominal massage stimulates the parasympathetic nervous system so that it reduces tension in the abdominal muscles, increases gastrointestinal motility, increases gastrointestinal secretion and relaxes the sphincter so that through this mechanism it will facilitate and smooth the excretion of feces (Huriani, et al., 2024).

After warm compresses and abdominal massage, intestinal peristalsis in some patients has changed and some has not. Intestinal peristalsis is a movement resulting from muscle contractions in the digestive tract to push food towards the stomach (Plutzer, 2021). Giving warm compresses with warm flasks is based on the therapeutic effects of heat, namely reducing muscle spasms, stiffness and increasing blood flow so as to stimulate intestinal peristalsis. Warm compresses can be given in the abdominal area to stimulate increased intestinal peristalsis. Warm flasks are useful in improving blood circulation, reducing pain, providing warmth, stimulating intestinal peristalsis and stretching muscle tone (Tumiur sormin., 2022). Abdominal massage helps to stimulate intestinal peristalsis and strengthen the abdominal muscles and helps the digestive system so that it can run smoothly. Based on several research results, it shows that abdominal massage is a type of complementary therapy that can prevent and reduce disorders of the gastrointestinal system (Kahraman & Ozdemir, 2015). Abdominal massage can stimulate peristalsis, decrease colonic transit time, increase bowel movement frequency in patients with constipation. Abdominal massage has been found to have an effect on motility issues, such as increased gastric residual volume and abdominal distension in patients with constipation.

Bivariate Analysis

Factors that influence the occurrence of intestinal peristalsis are type of food, age, intestinal health, fluids and type of surgery. Measurement of intestinal peristalsis can be done by auscultating 4 quadrants of the abdomen within 1 minute. Intestinal noises or intestinal peristalsis occur due to the movement of fluid and air in the intestine, normal intestinal frequency is characterized by the sound of intestinal noise 5-34x / minute with a loud sound or the patient is late in flatus (Ajidah., 2013). Abdominal massage is an action of stroking, rubbing and pressing on certain parts of the body to provide comfort and reduce pain and can increase peristalsis. This abdominal massage therapy is effective in stimulating peristaltic movements, reducing colonic transit, increasing the frequency of bowel movements and reducing feelings of discomfort during bowel movements (Lames et al., 2021). Abdominal massage helps to stimulate intestinal peristalsis and strengthen the abdominal muscles and helps the digestive system so that it can run smoothly and is one of the complementary therapies that can prevent and reduce gastrointestinal system disorders (Kahraman & Odzemir, 2015). Intestinal peristalsis is a movement that occurs in the muscles of the digestive tract that causes a wave-like movement that causes the effect of swallowing food that enters the digestive tract. The normal function of the small and large intestines, this movement produces a sound called intestinal noise.

Stroke patients often experience various complications, one of which is constipation or difficulty defecating. This disorder occurs due to reduced mobility, changes in diet, and side effects of medications taken during recovery. Constipation that is not treated properly can cause discomfort, abdominal pain, and even serious complications such as fecal impaction (Ferry & Khomsah, 2022). One non-pharmacological approach that has been proven effective in treating constipation in stroke patients is Swedish abdominal massage, which is an abdominal massage technique that aims to stimulate intestinal peristalsis and facilitate digestion (Hasmi, et al., 2020). Swedish abdominal massage works by stimulating the parasympathetic nervous system, which is responsible for regulating digestive function. This technique involves gentle clockwise massage movements in the abdominal area, which can increase intestinal motility and stimulate the production of enzymes and digestive fluids (Anjar, et al., 2020). In addition, this massage also helps reduce tension in the abdominal muscles, which are often a factor inhibiting smooth bowel movements. With increased intestinal peristaltic activity, patients receiving this therapy tend to experience increased frequency of bowel movements as well as improvements in stool consistency (Huriani, et al., 2024).

In a study conducted by Widiyawati et al. (2021), this therapy was shown to significantly reduce constipation levels without causing dangerous side effects. This makes Swedish abdominal massage a safe and effective alternative to the use of laxatives, which in the long term can cause dependence and electrolyte imbalance in the patient's body. By doing this therapy regularly, patients can achieve a more regular and comfortable bowel movement pattern (Novitasari, et al., 2023).In addition to its physiological benefits, Swedish abdominal massage also has a positive effect on the psychological condition of stroke patients. Many patients experience stress and anxiety due to their inability to move freely, which can ultimately worsen constipation problems. The therapeutic touch provided through this massage can provide a relaxing effect, reduce stress levels, and help patients feel calmer. When the body is more relaxed, the digestive system can work more optimally, thereby speeding up the process of excreting feces and reducing overall constipation complaints (Barreto & Batista, 2017).According to the researcher's opinion, Swedish abdominal massage is a simple but effective method to help stroke patients overcome constipation. With regular massage, patients can experience improvements in bowel movements without having to rely too much on medication. Therefore, this therapy can be part of daily care to improve the comfort and quality of life of stroke patients.

CONCLUSION

This shows that Swedish Massage has an effect on constipation scale

REFERENCES

Adiputra, I. M. S., Trisnadewi, N. W., Oktaviani, N. P. W., Munthe, S. A., Hulu, V. T., Budiastutuik, I., & Faridi, A. (2021). Metodologi Penelitian Kesehatan (R. Watrianthos & J. Simarmata (eds.)). Yayasan Kita Menulis.

Anggreni, D. (2022). Buku Ajar Metodologi Penelitian Kesehatan (E. D. Kartiningrum (ed.); 1st ed.). Stikes Majapahit Mojokerto.

Anjar, F., Setyani, R., Ikaristi, S., Theresia, M., Panti, S., & Yogyakarta, R. (2020). Pengaruh Abdominal Massage Dalam Upaya Pencegahan Konstipasi Pada Lanjut Usia Di Bpstw Abiyoso Yogyakarta. Jurnal Kesehatan Kusuma Husada-Juli, 205–211.

Arniyanti, A., & Nahwaria. (2020). Efektivitas Terapi Slow Deep Breathing Terhadap Kecemasan Anak Leukemia Yang Menjalani Kemoterapi. Jurnal Mitrasehat, X.

Bachrudin, M., & Najib, M. (2016). Keperawatan Medikal Bedah I. In Kemenkes RI (Vol. 1, Issue 1). Kemekes RI.

Barreto, D. M., & Batista, M. V. A. (2017). Swedish Massage: A Systematic Review of its Physical and Psychological Benefits. Advances in mind-body medicine, 31(2), 16–20.

Black, J. M., & Hawks, J. H. (2014). Keperawatan Medikal Bedah Manajemen Klinis Untuk Hasil Yang Diharapkan Edisi bahasa Indonesia (8th ed.). Pentasada Media Edukasi.

Dewi, S. U., & Rahmawati, P. A. (2019). Penerapan Terapi Rendam Kaki Menggunakan Air Hangat Dalam Menurunkan Tekanan Darah. JIKO (Jurnal Ilmiah Keperawatan Orthopedi), 3(2), 74–80. https://doi.org/10.46749/jiko.v3i2.33

Dharma, K. K. (2015). Metodologi Penelitian Keperawatan. CV. Trans Info Media.

Dinas Kesehatan Kabupaten Karanganyar. (2021). Profil Kesehatan Kabupaten Karanganyar 2021. Dinas Kesehatan Kabupaten Karanganyar, 1, 131.

Ferry, & Khomsah, Y. I. (2022). Pengaruh Pemberian Massage Abdomen Terhadap Konstipasi Pada Pasien Stroke Non Hemoragik. Jurnal Keperawata Bunda Delima, 4(2), 27–32.

Hasmi, Waluyo, A., & Barus Ohorella, U. (2020). The Beneficial Effects Of Abdominal Massage On Constipation And Quality Of Life: A Literatur Review. Indonesian Contemporary Nursing Journal, 4(2), 72–82. Https://Doi.Org/10.20956/Icon.V4i2.9193

Huriani, E., Hazimah, A., & Simandalahi, T. (2024). Penerapan Swedish Abdominal Massage Untuk Mengatasi Konstipasi Pada Pasien Kritis. Jurnal Keperawatan Kritis Indinesia.

Kurnia, A. (2020). Self-Management Hipertensi (T. Lestari (ed.)). CV. Jakad Media Publishing.

Notoatmodjo, S. (2018). Metodologi Penelitian Kesehatan. Rineka Cipta.

Novitasari, C., Husain, F., Ika, Y., & Sulistyo, E. (2023). Swedish Abdominal Massage Sebagai Terapi Komplementer Untuk Menjaga Pola Eliminasi Defekasi di ICU RSUD Sukoharjo. Jurnal Keperawatan Duta Medika, 60-66.

Nursalam. (2013). Metodologi Penelitian Ilmu Keperawatan: Pendekatan Praktis. In SalembaMedika (Issue 17). SalembaMedika. http://repository.unpas.ac.id/30547/5/BAB III.pdf

Siyoto, S., & Sodik, A. (2015). Dasar Metodologi Penelitian (Ayup (ed.)). Literasi Media Publishing. http://journal.um-surabaya.ac.id/index.php/JKM/article/view/2203

Sugiyono. (2017). Metode Penelitian Kuantitatif Kualitatif Dan R&D. In Bandung Alf. Alfabeta.

Sukendra, I. K., & Atmaja, I. K. S. (2020). Instrumen Penelitian (T. Fiktorius (ed.)). Mahameru Press.

Sulistyawan, P. M. (2021). Perancangan Sistem pemantau Tekanan Darah Dengan Sensor Tekanan MPX5100GP Berbasis STM32F103. SinarFe 7, 165–170. https://journal.fortei7.org/index.php/sinarFe7/article/view/45/32

Yogiantoro. (2018). Buku Ajar Ilmu Penyakit Dalam Jilid II Edisi V. Pusat Penerbitan Departemen Ilmu Penyakit Dalam FKU.

Wang Xinbo , et al.(2022). Impact of abdominal massage on enteral nutrition complications in adult critically ill patients: A systematic review and meta-analysis. Complementary Therapies in Medicine. No 64 102796.

Widiyawati, Setyani & Ratnawati. (2021). Massage Abdominal Sebagai Terapi Komplementer Untuk Menjaga Keteraturan Pola Eliminasi Defekasi Pada Pasien Di Ruang Icu. Jurnal Kesehatan Kusuma Husada. Volume 12 No 2, Hal 142-148.