LAMPIRAN

Lampiran 1. Jurnal

Ners Muda
https://jurnal.unimus.ac.id/index.php/nersmuda

Studi Kasus

Penerapan Terapi Massage Abdoment Pada Lanjut Usia

Munira Munira[1], Siti Aisah[2]

[1,2] Program Studi Pendidikan Profesi Ners, Fakultas Ilmu Keperawatan dan Kesehatan, Universitas Muhammadiyah Semarang

Informasi Artikel

Riwayat Artikel:
- Submit 19 Mei 2020
- Diterima 26 Desember 2020

Kata kunci:
Pijat abdomen; Lansia; Konstipasi

Abstrak

Penurunan struktur dan fungsi pada sistem gastrointensinal lansia dapat menyebabkan konstipasi, hal ini karena waktu pengosongan lambung menjadi lebih lama, peristaltik usus melemah dan kemampuan absorbsi menurun. Konstipasi harus segera ditangani karena akan berdampak robeknya kulit pada dinding anus yang menyebabkan buang air besar berdarah. Tujuan studi kasus ini adalah memberikan asuhan keperawatan dengan intervensi massage abdomen dalam penurunan tingkat konstipasi pada usia lanjut. Metode penulisan ini menggunakan desain studi kasus dengan pendekatan proses keperawatan yang meliputi pengkajian, analisa data, intervensi keperawatan, implementasi dan evaluasi. Populasi dalam studi kasus ini adalah semua lansia di ruang Cempaka Rumah Pelayanan Sosial Lanjut Usia Pucanggading Semarang yang berjumlah 38 responden. Jumlah sampel yang digunakan dalam studi kasus ini sebanyak 2 responden yang diambil menggunakan teknik Purposive sampling. Penerapan dilakukan selama 7 hari dengan pemberian tindakan keperawatan berupa terapi massage abdomen dengan frekuensi 1 kali sehari selama 15 menit dipagi hari. Pengumpulan data menggunakan teknik wawancara. Kriteria hasil menggunakan Constipation Scoring System (CSS). Setelah dilakukan massage abdomen selama 7 hari, terjadi penurunkan konstipasi pada lansia yang di buktikan dari hasil pengukuran menggunakan Constipation Scoring System (CSS). Kedua Pasien mengalami peningkatan frekuensi defekasi, mengedan saat defekasi menurun, merasa tuntas setelah defekasi, perasaan tidak nyaman pada perut menjadi hilang. Kesimpulannya adalah teknik massage abdomen dapat menurunkan tingkat konstipasi.

PENDAHULUAN

Pada tahun 2010, prevalensi lansia di Indonesia sebanyak 18.043.712 jiwa atau 7,59% dari total penduduk (Statistik, 2010), sedangkan pada tahun 2014, jumlah mencapai 20,24 juta jiwa atau 8,03% dari total penduduk Indonesia dan diperkirakan angka tersebut akan terus meningkat setiap tahunnya (Statistik, Statistik Penduduk Lanjut Usia, 2014). WHO menyatakan bahwa penduduk lansia di Indonesia diperkirakan akan mencapai 11,34% dari total populasi pada tahun 2020 atau sekitar 28,8 juta orang sehingga mengakibatkan Indonesia memiliki jumlah lansia terbanyak di dunia (Sholikah, 2013). Namun, meningkatnya jumlah lansia berarti meningkat juga kemungkinan naiknya kasus penyakit degeneratif, seperti penyakit gastrointestinal hingga konstipasi (Driessen, 2013). Insiden konstipasi akan meningkat seiring dengan pertambahan usia, khususnya untuk orang-orang yang berusia 65 tahun ke atas (Rao Jorge T G, 2010).

Corresponding author:
Munira
munirailham01@gmail.com
Ners Muda, Vol 1 No 3, Desember 2020
e-ISSN: 2723-8067
DOI: https://doi.org/10.26714/nm.v1i3.5811

Penurunan struktur dan fungsi pada sistem gastrointensinal lansia dapat menyebabkan konstipas (Nugroho, 2008). Hal ini karena waktu pengosongan lambung menjadi lebih lama, peristaltik usus melemah dan kemampuan absorbsi menurun. Konstipasi pada lansia juga turut disebabkan oleh penurunan asupan cairan, konsumsi makanan rendah serat, penurunan mobilitas dan penggunaan beberapa jenis obat (Mubarak, 2012).

Konstipasi adalah kondisi di mana feses mengeras sehingga susah dikeluarkan melalui anus, dan menimbulkan rasa terganggu atau tidak nyaman pada rectum, konstipasi di tandai juga dengan buang air besar kurang dari 3 kali dalam satu minggu (Brown, 2011).

Penyebab konstipasi pada lansia juga disebabkan adanya peristaltik usus yang lemah, sehingga pengeluaran feses berjalan secara lambat sehingga usus besar mengabsorbsi air pada feses berlebihan, dan feses menjadi keras serta susah dikeluarkan. Selain itu penurunan kekuatan otot abdomen juga dapat memicu perlambatan waktu yang dibutuhkan feses untuk berpindah dari kolon ke rectum. *Massage* abdomen dapat menstimulasi saraf parasimpatis yang berada diarea abdomen, sehingga akan meningkatkan mekanisme gerakan peristaltik menjadi lebih cepat dan memperkuat otot-otot abdomen serta membantu sistem pencernaan sehingga dapat berlangsung dengan lancar (Ginting, 2015)

Berdasarkan studi kasus yang telah dilakukan di ruang Cempaka Rumah Pelayanan Sosial Lansia Pucanggading Semarang terdapat 38 lansia yang di dominasi dengan lansia yang memiliki ketergantungan berat dengan rata rata usia 60-90 tahun, dua di antaranya memiliki konstipasi dengan memenuhi kriteria inklusi responden yaitu pasien sadar dan bisa berkomunikasi , tidak mengalami penurunan funsi memori teridentifikasi mengalami konstipasi melalui *constipasi scoring system*, tidak sedang mengalami peradangan pada sistem gastrointestinal, sistem perkemihan, dan sistem metabolik, tidak terdapat massa pada abdomen, dan bersedia menjadi responden.

Mengacu pada kasus diatas tujuan studi kasus ini adalah memberikan asuhan keperawatan dengan intervensi *massage* abdomen dalam penurunan tingkat konstipasi pada usia lanjut.

METODE

Metode penulisan ini menggunakan desain studi kasus dengan pendekatan proses keperawatan yang meliputi pengkajian, analisa data, intervensi keperawatan, implementasi dan evaluasi. Populasi dalam studi kasus ini adalah semua lansia di ruang Cempaka Rumah Pelayanan Sosial Lanjut Usia Pucanggading Semarang yang berjumlah 38 responden yang di dominasi dengan lansia yang memiliki ketergantungan berat dengan rata rata usia 60-90 tahun. Sampel yang digunakan dalam studi kasus ini sebanyak 2 yaitu Ny.D dan Ny.S yang memiliki konstipasi dan tidak defekasi selama 3-4 hari dengan memenuhi kriteria inklusi responden yaitu pasien sadar dan bisa berkomunikasi, tidak mengalami penurunan fungsi memori, teridentifikasi mengalami konstipasi melalui *constipation scoring system*, tidak sedang mengalami peradangan pada sistem gastrointestinal, sistem perkemihan, dan sistem metabolik, tidak terdapat massa pada abdomen, dan bersedia menjadi responden. Pengambilan sampel menggunakan teknik *Purposive sampling*. Penerapan dilakukan selama 7 hari dengan pemberian tindakan keperawatan berupa terapi *massage* abdomen dengan frekuensi 1 kali sehari selama 15 menit dipagi hari. Pengumpulan data menggunakan teknik wawancara. Kriteria hasil menggunakan *Constipation Scoring System* (CSS). Studi kasus ini dilakukan dari tanggal 18 November 2019 sampai dengan 25 November 2019.

HASIL

Hasil Studi kasus diperoleh setelah dilakukan Asuhan Keperawatan menggunakan *Evidance Based Nursing Practice.* Teknik terapi *massage* abdomen dilakukan dengan gerakan memutar serah jarum jam meliputi (1) Pengusapan pada area saraf vagus merangsang persarafan sistem pencernaan sehingga merangsang gerakan peristaltic. (2) Pengusapan pada kolon menuju rektum merangsang pergerakan feses ke dalam rektum; (3) Pemerasan pada kolon memecahkan feses terutama pada feses yang menumpuk di rektum sehingga feses lebih mudah dikeluarkan; (4) Pengusapan kolon mendorong feses bergerak ke rektum kembali; serta (5) Vibrasi pada dinding abdomen membantu pengeluaran gas (NHS, 2014) selama 15 menit di pagi hari dengan masing-masing 7 hari implementasi yang dilakukan terhadap pasien Ny.N dan Ny.S yang berjenis kelamin perempuan. Ny.N berusia 76 Tahun dan Ny.S berusia 69 Tahun .

Pengkajian subjektif yang dilakukan pada pasien Ny.N mengatakan ± 3 hari ini sudah tidak buang air besar (BAB), psien juga mengatakan terasa sakit ketika BAB (BAB keras), makan 3 x sehari , jenis makanan nasi,tahu,tempe,ikan, mengatakan tidak nafsu makan dan perutnya terasa penuh. Mengatakan jarang mengosumsi air putih,kebiasaan BAB 1 x sehari. Pengkajian objektif : Inspeksi pembesaran abdomen, Palpasi perut teraba keras ada impaksi feses, Perkusi redup, Auskultasi bising usus 4 x/menit. tampak kondisi gigi sudah tanggal semua, tampak menggunakan popok, tidak pernah berolahraga , indeks katz adalah F (ketergantungan pada orang lain untuk 6 aktivitas)

Pengkajian subjektif yang dilakukan pada pasien Ny.S. Ny.S mengatakan sulit BAB dan sakit ketika BAB ,Ny.S juga mengatakan perutnya terasa penuh, sudah sering merasakan hal seperti ini, terkadang sembuh sendiri, tapi kadang kadang kembali sulit BAB lagi, Ny.S mengatakan sudah 4 hari merasakan sulit BAB. Makan 3 x sehari, jenis makanan nasi,ikan,tahu,tempe, nafsu makan baik, kebiasaan minum ±2 gelas/hari, kebiasaan BAB 1 kali sehari. Mengatakan tidak pernah olahraga. Pengkajian objektif Pemeriksaan abdoment Inspeksi : pembesaran abdomen, Palpasi : perut teraba keras ada inpaksi feses, Perkusi redup, Auskultasi bising usus tidak terdengar, gigi sudah tanggal separuh, index KATZ A(mandiri). Diagnosa keperawatan berdasarkan pengkajian didapatkan fokus diagnosa konstipasi(D.0149) berhubungan dengan penurunan motilitas gastrointestinal. Intervensi dan implementasi yang diberikan pada pasien Ny.N dan Ny.S yaitu anjurkan peningkatan asupan cairan, jika tidak ada kontra indikasi (1.04155) dan berikan *masage* abdomen (1.04155).

Berdasarkan tabel 2 diketahui bahwa sebelum pasien mendapatkan terapi *massage* abdomen kedua pasien mengalami penurunan frekuensi defekasi, mengalami peningkatan mengedan saat defekasi , merasa tidak tuntas setelah defekasi, kadang merasakan nyeri atau tidak nyaman pada perut, lama berlangsungnya proses defekasi meningkat, tidak berhasil defekasi dalam 24 jam sebanyak 1 sampai 3 kali.

Berdasarkan tabel 2 diketahui bahwa setelah Pasien mendapatkan terapi *massage* abdomen kedua Pasien mengalami peningkatan frekuensi defekasi, mengedan saat defekasi menurun , merasa tuntas setelah defekasi, perasaan nyeri atau tidak nyaman pada perut menjadi hilang, lama berlangsungnya proses defekasi menurun, tidak berhasil defekasi dalam 24 jam menjadi skor 0.

Tabel 1
Evalusi *Evidance Based Nursing Practice* Pasien dengan Terapy Masssage Abdomen

Evaluasi	Hari	*Evalusi Evidance Based Nursing Practice*
Kasus 1 (Ny.N)	1	Subjektif : Ny.N mengatakan tidak BAB sudah 3 hari, mengatakan sulit dan sakit ketika BAB, Ny.N mengatakan jika setelah makan ia hanya berbaring di temapat tidur, mengatakan jarang sekali minum air putih hanya ketika sehabis makan atau haus saja, mengatakan baru kali ini di lakukan pemijatan perut padanya Objektif : Pasien tampak menjelaskan pola BAB, Tampak lebih banyak berbaring daripada duduk atau berjalan, Pasien kooperatif dan mau di lakukan terapi *massage* abdomen, Tampak penggunaan popok, tampak pembesaran abdomen, perut teraba keras dan ada inpaksi feses, perkusi redup , bising usus 4x/menit.
	7	Subjektif : Ny.N mengatakan sudah bisa BAB 1 kali dalam sehari tanpa merasakan sakit dan sulit BAB lagi, pasien mengatakan feses berwarna kuning, mengatakan akan selalu mengosumsi air putih yang banyak, mengatakan akan melakukan *massage* abdomen sendiri jika ia mengalami kesulitan dalam BAB lagi, mengatakan sudah mengingat Gerakan Gerakan yang peragakan perawat dalam pemijatan perut Objektif : Inspeksi tidak terlihat pembengkakan, palpasi perut teraba lembek dan tidak ada inspaksi feses perkusi timpani , auskultasi terdengar bising usus 8x/menit tampak penggunaan popok.
Kasus 2 (Ny.S)	1	Subjektif : Ny.S mengatakan sulit BAB , pasien mengatakan nyeri anus pada saaat BAB, mengatakan sudah sering merasakan ini, namun terkadang sembuh dengan sendirinya, mengatakan perut terasa kembung , mengatakan baru pertama kalinya di lakukan *massage* abdomen pada pasien, mengatakan sangat senang ketika di pijat, mengatakan malas berolahraga Objektif : pasien kooperatif, pasien terlihat menahan nafas ketika di lakukan pemijatan, terlihat lebih banyak berbaring daripada duduk, pemeriksaan abdomen inspeksi tampak bembesaran abdomen, palpasi teraba keras ada inpaksi feses, perkusi redup, auskultasi bisisng usus tidak terdengar
	7	Subjektif: Ny.S mengatakan merasa legah, perutnya tidak terasa penuh setiap saat, terasa penuh hanya setelah selsai makan saja, mengatakan jika ia mengalami konstipasi lagi PM akan melakukan *massage* abdomen seperti yang di lakukan perawat, pasien juga mengatakan sudah menghafal Gerakan yang di peragakan saat pemijatan perut, mengatakan akan banyak mengosumsi air putih dan banyak berolahraga Objektif : Pemeriksaan abdoment inspeksi tidak ada pembesaran abdomen, palpasi lembek dan tidak ada inpaksi feses, perkusi timpani , auskultasi terdengar bising usus 10x/menit.

Tabel 2
Constipation Scoring System (CSS)

Item Penelitian	Skor	Ny.N		Ny.S	
		Sebelum	Setelah	Sebelum	Setelah
Frekuensi defekasi	a. 1 – 2 kali perhari dan/atau 3 kali perminggu (0) b. 2 kali seminggu (1) c. 1 kali seminggu (2) d. Kurang dari sekali seminggu (3) e. Kurang dari sekali sebulan (4)	2	1	2	1
Kesulitan defekasi: mengedan saat defekasi	a. Tidak pernah (0) b. Jarang (1) c. Kadang-kadang (2) d. Sering (3) e. Selalu (4)	3	2	3	2
Merasa tidak tuntas setelah defeksi	a. Tidak pernah (0) b. Jarang (1) c. Kadang-kadang (2) d. Sering (3) e. Selalu (4)	3	1	3	1

Item Penelitian	Skor	Ny.N		Ny.S	
		Sebelum	Setelah	Sebelum	Setelah
Nyeri atau rasa tidak nyaman pada perut	a. Tidak pernah (0) b. Jarang (1) c. Kadang-kadang (2) d. Sering (3) e. Selalu (4)	1	0	1	0
Lama berlangsungnya proses defekasi	a. Kurang dari 5 menit (0) b. 5 – 10 menit (1) c. 10 – 20 menit (2) d. 20 – 30 menit (3) e. Lebih dari 30 menit (4)	3	1	3	1
Bantuan yang digunakan saat defekasi	a. Tidak ada (0) b. Laksatif (1) c. Enema (2)	0	0	0	0
Tidak berhasil defekasi dalam 24 jam	a. Tidak pernah (0) b. 1 – 3 kali (1) c. 3 – 6 kali (2) d. 6 – 9 kali (3) e. Lebih dari 9 kali (4)	1	0	1	0
Riwayat konstipasi dalam setahun terakhir	a. Tidak pernah (0) b. 1 – 5 kali (1) c. 5 – 10 kali (2) d. 10 – 20 kali (3) e. Lebih dari 20 kali (4)	1	1	2	2

PEMBAHASAN

Berdasarkan hasil pengkajian didapatkan data bahwa kedua Pasien mengalami konstipasi dapat ditandai dengan adanya penurunan frekuensi defekasi, mengalami peningkatan mengedan saat defekasi, merasa tidak tuntas setelah defekasi, kadang merasakan nyeri atau tidak nyaman pada perut, lama berlangsungnya proses defekasi meningkat, tidak berhasil defekasi dalam 24 jam sebanyak 1 sampai 3 kali. Adanya pembesaran abdomen, perut teraba keras adanya inpaksi feses, perkusi redup dan auskultasi bising usus 4 kali permenit. Sebagian besar keluhan yang dirasakan responden mengarah pada tanda- tanda adanya konstipasi (Dickinson, 2011). Beberapa faktor yang mempermudah terjadinya konstipasi pada lansia antara lain, defisiensi serat, kurangnya intake cairan, kurang aktifitas fisik, depresi, penggunaan obat-obatan. Aktivitas fisik lansia yang melemah sebagai akibat dari proses penuaan yang terjadi menyebabkan keterbatasan lansia dalam beraktivitas. Penurunan aktivitas fisik ini akan mengakibatkan terjadinya kelemahan tonus otot dinding saluran cerna, dapat juga mengakibatkan terjadinya penurunan gerak peristaltik, dapat menyebabkan melambatnya feses menuju rectum dalam waktu lama dan terjadi reabsorpsi cairan feses yang mengakibatkan feses mengeras sehingga akan terjadi konstipasi (Oktariyani, 2013).

Penanganan yang dapat dilakukan untuk meningkatkan defekasi pada lansia yang mengalami konstipasi salah satunya menggunakan terapi *massage* abdomen. *Massage* abdomen merupakan intervensi yang efektif untuk mengatasi konstipasi tanpa menimbulkan efek samping. *masage* abdomen dapat meningkatkan tekanan intra-abdomen. Pada kasus-kasus neurologi, *masage* abdomen dapat memberikan stimulus terhadap rektal dengan *somato-autonomic reflex* dan adanya sensasi untuk defekasi (Liu, 2005). *Massage* ini dilakukan selama 7 hari 10-15 menit dengan tekanan ringan sampai dengan sedang. Pijat ini juga

menggunakan gerakan memutar searah jarum jam dengan arah naik pada kolon *asenden* dan *transfersum* kemudian menurun pada kolon *desenden* (Kyle, 2014).

Setelah Pasien mendapatkan terapi *massase abdomen* kedua Pasien mengalami peningkatan frekuensi defekasi, mengedan saat defekasi menurun , merasa tuntas setelah defekasi, perasaan nyeri atau tidak nyaman pada perut menjadi hilang, lama berlangsungnya proses defekasi menurun. *Massage* abdomen dapat meningkatkan fungsi sistem pencernaan . Selain itu, setiap teknik gerakan yang digunakan dalam *massage* abdomen memberi efek positif yang berbeda terhadap sistem pencernaan Fungsi tersebut meliputi (1) Pengusapan pada area saraf vagus merangsang persarafan sistem pencernaan sehingga merangsang gerakan peristaltic. (2) Pengusapan pada kolon menuju rektum merangsang pergerakan feses ke dalam rektum; (3) Pemerasan pada kolon memecahkan feses terutama pada feses yang menumpuk di rektum sehingga feses lebih mudah dikeluarkan; (4) Pengusapan kolon mendorong feses bergerak ke rektum kembali; serta (5) Vibrasi pada dinding abdomen membantu pengeluaran gas (NHS, 2014)

Hasil studi kasus ini menunjukan bahwa *Massage* abdomen yang dilakukan satu kali sehari selama 7 hari mampu meningkatkan defekasi pada konstipasi yang dialami oleh Ny.N dan Ny. S Hasil studi ini sama dengan hasil penelitian lain yang menjelaskan bahwa *massage* abdomen dapat menurunkan tingkat konstipasi (Suwandi, 2019). Hasil sejalan juga dijelaskan dalam penelitian lain yang menemukan bahwa *massage* abdomen sebagai pencegahan konstipasi pada pasien yang menjalani rawat inap (Theresia, 2017). Hal ini sejalan dengan hasil penelitian Ginting (2015) bahwa terapi *massage* abdomen efektif mengatasi konstipasi pada pasien yang mengalami kelemahan anggota gerak seperti pasien Stroke.

Massage abdomen dapat dilakukan mandiri oleh pasien maupun dengan bantuan keluarga. Penurunan kondisi fisik pada lansia, membuat keluarga menjadi orang terdekat yang dapat membantu memenuhi kebutuhan dasar lansia, salah satunya yaitu kebutuhan eliminasi. Hasil sebuah studi mengemukakan bahwa sebagian besar lansia berada pada tingkat kemandirian mandiri (57,9%) dan ketergantungan moderat 42,1%, dimana 89,5% diantaranya mendapatkan dukungan yang baik dari keluarga (Romadlani et al., 2013). Berdasarkan kondisi ini maka tindakan perawat dapat melakukan edukasi pada keluarga untuk melakukan massage abdomen pada lansia yang memiliki keterbetasan fisik.

SIMPULAN

Berdasarkan hasil studi kasus asuhan keperawatan pada lansia di Rumah Pelayanan Sosial Lansia Pucang Gading Semarang didapatkan Menurut hasil constipation scoring system (CSS), dapat disimpulkan bahwa terdapat perbedaan antara sebelum di beri terapi massage abdomen dan setelah di beri terapi massage abdomen pada kelompok responden yang mengalami konstipasi.

UCAPAN TERIMAKASIH

Terimakasi kepada responden yang bersedia ikut serta dalam studi kasus ini, Terimakasih kepada dosen pembimbing KIAN yang selalu bersediah membimbing dan memberikan ilmunya kepada saya, terimakasih kepada seluruh Dosen Universitas Muhammadiyah Semarang yang tidak pernah lelah untuk selalu mengajarkan, mendidik seluruh mahasiswanya.

REFERENSI

Brown. (2011). *Hubungan Aktifitas Fisik Dengan Kejadian Konstipasi.*

Dickinson. (2011). *Pijat Perut Menurunkan Tingkat Konstipasi Pada Lanjut Usia.*

Driessen. (2013). *Preschool Physical Activity and Functional Constipation.* http://journals.1ww.com/jpgn/Abstact/2013/12000/Preschool_Physical_Activity_and-Fuctional.15.aspx.

Liu, S. T. (2005). *Mechanism Of Abdominal Massage For Difficult Defecation Patient in Witth Myelopathy.*

Rao Jorge T G, S. (2010). *Clinical Intervention in again dovepress update on the manajement of constipation in the elderly rentrieved.* https://www.ncbi.nlm.nih.gov/pmc/articels/PMC2920196/pdf/cia-5-163.pdf.

Sholikah. (2013). *Keperawatan pada Lansia.* Jakarta: EGC.

Statistik, B. P. (2010). *Badan Pusat Statistik.* Jakarta: www.bps.go.id.

Statistik, B. P. (2014). *Statistik Penduduk Lanjut Usia.* Jakarta: www.bps.go.id.

Suwandi, S. L. (2019). *Pijat Perut Menurunkan Tingkat Konnstipasi pada Lanjut Usia.* Retrieved From.

Ginting, D. B. (2015). *Mengatasi Konstipasi Pasien Stroke Dengan Masase Abdomen Dan Minum Air Putih Hangat.*

Kyle, G. (2014). *constipation: review of manajement and treatment.*

Mubarak, W. . (2012). *ilmu keperawatan komunitas konsep dan aplikasi.* Salemba Medika.

NHS, foundation trust. (2014). *abdominal massage for constipation.*

Nugroho, H. . (2008). *keperawatan gerontik dan geriatri.* EGC.

Oktariyani. (2013). *analisis praktik klinik keperawatan kesehatan masyarakat perkotaan dengan masalah konstipasi di wisma bungur sasana tresna werdha karya bahakti cibubur.*

Romadlani, R., Nurhidayati, T., & Syamsianah, A. (2013). Hubungan Dukungan Keluarga Dan Kemandirian Lansia Dengan Konsep Diri Lansia Di Kelurahan Bambankerep Kecamatan Ngaliyan Kota Semarang. *Jurnal Keperawatan Komunitas*, *1*(1), 104420.

Theresia, S. I. M. (2017). *Pengaruh Massage Abdominal Dalam Upaya Pencegahan Konstipasi Pada Pasien Yang Menjalani Rawat Inap.*

Jurnal Kesehatan Kusuma Husada – Juli 2020

PENGARUH *ABDOMINAL MASSAGE* DALAM UPAYA PENCEGAHAN KONSTIPASI PADA LANJUT USIA DI BPSTW ABIYOSO YOGYAKARTA

Fransisca Anjar Rina Setyani [1)], Siwi Ikaristi Maria Theresia [2)]

[1,2] STIKes Panti Rapih Yogyakarta
e-mail: fransiscaanjarrina@gmail.com

ABSTRAK

Salah satu gangguan pola eliminasi defekasi adalah konstipasi. Dari 20 lansiadi BPSTW Abiyoso, ternyata 9 diantaranya mengungkapkan mengalami kesulitan untuk buang air besar. Tujuan penelitian ini adalah mengetahui pengaruh abdominal massage untuk mencegah konstipasi pada lansia di BPSTW Abiyoso Yogyakarta dan faktor counfounding yang mempengaruhi pola eliminasi defekasi lansia di BPSTW Abiyoso Yogyakarta. Penelitian ini menggunakan desain quasi experimental, dimana peneliti membandingkan perbedaan pola eliminasi defekasi pada kelompok kontrol dan intervensi. Sampel dalam penelitian ini sebanyak 32 responden yang dibagi menjadi dua kelompok yaitu 16 responden pada kelompok kontrol dan 16 responden pada kelompok intervensi. Hasil uji t-independen menunjukkan bahwa ada perbedaan yang signifikan score defekasi pada kelompok kontrol dan intervensi artinya ada pengaruh pemberian abdominal massage pada lansia terhadap keteraturan pola eliminasi defekasi pada lansia (p value = 0.049; α = 0.05). Perawat dapat menggunakan abdominal massage sebagai salah satu terapi non farmakologi untuk menjaga keteraturan pola eliminasi defekasi pada lansia.

***Kata kunci**: abdominal massage, konstipasi, lansia.*

ABSTRACT

One disruption of the pattern of elimination of defecation is constipation. Elderly and someone who has a decreased physical ability are at risk for constipation. The purpose of this research is to know the effect of abdominal massage to prevent constipation toward elderly at BPSTW Abiyoso in Yogyakarta. This research uses quasi experimental, which compares the differences of elimination defecation patterns between kontrol and intervention groups. The number of sampels were 32 respondents, divided into 2 groups, i.e. 16 respondents in the kontrol group and 16 respondents in the intervention group. Independent t-test results showed significant difference defecation scores between the kontrol and intervention groups, meaning that there is the effect of abdominal massage to prevent constipation towrad elderly (p value = 0.049; α = 0.05). Confounding variables related with the pattern of elimination is physical activity.

***Keywords**: abdominal massage, constipation, elderly*

1. PENDAHULUAN

Salah satu gangguan pola eliminasi defekasi adalah konstipasi. Konstipasi adalah frekuensi defekasi kurang dari 3 kali per minggu disertai dengan konsistensi feses yang keras dan kecil-kecil kadang – kadang disertai dengan kesulitan saat mengeluarkan feses (Pranaka, 2014; Black & Hawks, 2009; *American College of Gastroenterology*, 2010). Setiap individu memiliki pola eliminasi yang berbeda-beda, dimana pola eliminasi tersebut dipengaruhi oleh beberapa faktor antara lain: kurangnya asupan serat dalam makanan yang dikonsumsi, asupan cairan, penurunan aktivitas fisik, usia, prosedur pembedahan, kebiasaan menggunakan pencahar, faktor psikologis (stres dan depresi), trauma rectal dan anus (Smeltzer & Bare, 2013). Konstipasi yang terjadi sesekali, mungkin tidak berdampak pada gangguan sistem tubuh, namun bila konstipasi ini terjadi berulang–ulang dan dalam jangka waktu yang lama dapat menimbulkankomplikasi atara lain terjadinya vena hemoroidalis dan penurunan nafsu makan oleh karena ketidaknyamanan pada lambung (Smeltzer & Bare, 2013).

Hasil penelitian menunjukkan bahwa kejadian konstipasi meningkat sebesar 17 –

51% pada usia dewasa yang mengalami penurunan kemampuan fisik (Emerson & Baines, 2010). Kejadian konstipasi pada lansia yang tinggal di masyarakat dan di Panti Wreda meningkat, demikian juga penggunaan laksatif meningkat seiring dengan meningkatnya kejadian konstipasi pada lansia (McLane & McShane, 2011 dalam Maas, Buckwalter, Hardy, Reimer-Tripp, dan Specht, 2011).

Dari hasil survey pendahuluan bulan Juni 2016 di BPSTW Abiyoso Yogyakarta, dari 20 lansia yang tinggal diwisma ternyata 9 diantaranya mengungkapkan mengalami kesulitan untuk buang air besar. Lansia mengungkapkan frekuensi defekasi seminggu 1 kali dengan frekuensi feses yang keras dan untuk defekasi harus mengejan kuat. Lansia mengungkapkan sudah makan buah dan sayur yang disediakan oleh pihak pengelola panti, namun untuk olah raga secara teratur hanya beberapa lansia saja yang melakukan oleh karena banyak lansia yang sudah mengalami penurunan kemampuan fisik. Penurunan aktivitas fisik dapat menyebabkan penurunan sirkulasi darah pada sistem pencernaan sehingga berdampak pada penurunan peristaltik usus ditambah dengan waktu transit feses di dalam kolon sigmoid dan rektum yang lebih lama pada lansia oleh karena penurunan fungsi tubuh hal ini akan meningkatkan risiko konstipasi pada lansia (McLane & McShane, 2011 dalam Maas, et.al., 2011).

Salah satu terapi komplementer yang dapat dilakukan untuk mencegah dan mengatasi masalah konstipasi adalah dengan melakukan *abdominal massage*. *Abdominal massage* merupakan salah satu management keperawatan untuk mengatasi konstipasi yang sudah dilakukan sejak tahun 1870 dan pada perkembangannya, *abdominal massage* merupakan intervensi yang efektif untuk mengatasi konstipasi tanpa menimbulkan efek samping. Hasil penelitian menunjukkan bahwa terjadi penurunan kejadian konstipasi setelah dilakukan *abdominal massage* selama sepuluh hari pada pasien lansia yang mengalami konstipasi, namun efek tersebut berakhir pada hari ke tujuh sampai dengan hari ke sepuluh setelah tindakan *abdominal massage* dihentikan (Kim, et. al., 2005 dalam Sinclair, 2010). Tenaga kesehatan yang ada di klinik merekomendasikan *abdominal massage* sebagai salah satu cara untuk mengatasi konstipasi, karena mereka mempercayai bahwa penekanan pada dinding abdomen bagian anterior dapat memberikan penekanan pada sistem pencernaan sehingga dapat menstimulasi peristaltik usus (Fernandez, 2006 & Sinclair, 2004 dalam Sinclair, 2010).

Mekanisme *abdominal massage* dapat menurunkan kejadian konstipasi belum dapat dipahami sepenuhnya, kemungkinan disebabkan oleh adanya efek kombinasi dari stimulasi dan relaksasi. Tekanan secara langsung pada dinding abdomen secara berurutan dan kemudian diselingi dengan waktu relaksasi dengan cepat dapat meningkatkan reflek gastrokolik dan meningkatkan kontraksi dari intestinal dan rectum (Brooks, et al., 2004, dalam Sinclair, 2010). *Abdominal massage* dapat menurunkan konstipasi melalui beberapa mekanisme yang berbeda-beda antara lain dengan menstimulasi sistem persyarafan parasimpatis sehingga dapat menurunkan tegangan pada otot abdomen, meningkatkan motilitas pada sistem pencernaan, meningkatkan sekresi pada sistem intestinal serta memberikan efek pada relaksasi sfingter (Lamas, et. al. 2009). Penelitian terkait *abdominal massage* sudah banyak dilakukan untuk menjaga keteraturan pola eliminasi defekasi, namun belum pernah dilakukan di BPSTW Abiyoso. Penelitian ini dilakukan untuk mengidentifikasi pengaruh *abdominal massage* dalam upaya pencegahan konstipasi pada lansia di BPSTW Abiyoso Yogyakarta dan faktor *confounding* yang mempengaruhi pola eliminasi defekasi lansia di BPSTW Abiyoso, Yogyakarta.

2. METODE PENELITIAN

Penelitian ini menggunakan desain *Quasi eksperimental.* Penelitian dilakukan di BPSTW Abiyoso, Yogyakarta pada 10 sampai dengan 16 Agustus 2017. Populasi dalam penelitian ini adalah semua lansia di BPSTW Abiyoso. Sampel yang digunakan dalam penelitian adalah lansia, yang memenuhi kriteria inklusi:

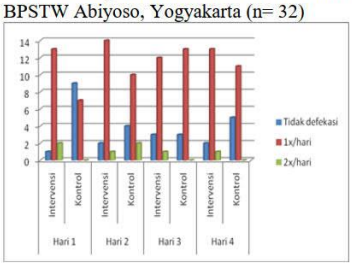
a. Tidak mengalami penurunan kesadaran.
b. Tidak mendapatkan terapi laksativ.
c. Tidak terdapat tumor pada area abdominal.
d. Tidak terdapat obstruksi illeus.

e. Tidak mengalami netropenia.
f. Tidak mengalami perdarahan pada intestinal.
g. Tidak mendapatkan terapi radiasi pada area abdomen.
h. Tidak mengalami tindakan pembedahan pada area abdomen.

Jumlah sampel dalam penelitian ini adalah 32 sampel dengan pembagian 16 sampel pada kelompok kontrol dan 16 sampel pada kelompok intervensi. Peneliti melakukan *abdominal massage* dengan teknik *efflurage* pada kelompok intervensi selama tiga hari berturut-turut, sedangkan pengkajian eliminasi defekasi dilakukan mulai hari pertama sampai dengan hari keempat. Instrumen yang digunakan dalam pengambilan data adalah format observasi pola eliminasi defekasi dan format pengkajian faktor-faktor yang mempengaruhi eleminiasi defekasi yang sudah dilakukan uji validitas isi terhadap alat ukur penelitian yaitu dengan melakukan konsultasi dengan dokter spesialis penyakit dalam konsultan gastroenterologi di RSCM Jakarta. Analisis data untuk mengetahui adanya pengaruh *abdominal massage* dalam upaya pencegahan konstipasi menggunakan uji independent T-test.

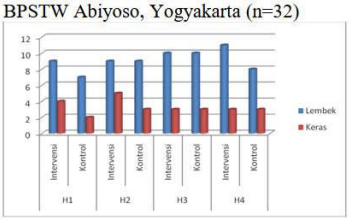
3. HASIL DAN PEMBAHASAN

Gambar 1. Karakteristik frekuensi defekasi lansia kelompok kontrol dan intervensi di BPSTW Abiyoso, Yogyakarta (n= 32)



Bila dilihat dari frekuensi defekasi selama empat hari berurut-turut menunjukkan bahwa pada kelompok kontrol, jumlah responden yang tidak bisa defekasi tertinggi pada hari pertama, sedangkan pada hari kedua dan ketiga mengalami penurunan jumlah responden yang tidak bisa defekasi, namun pada hari keempat, jumlah responden yang tidak bisa defekasi mengalami peningkatan. Pada kelompok intervensi, jumlah responden yang tidak bisa defekasi pada hari pertama sampai dengan hari keempat dalam jumlah yang hampir sama, rata-rata 1 sampai dengan 2 responden. Banyaknya jumlah responden kelompok kontrol yang tidak bisa defekasi pada hari pertama kemungkinan disebabkan oleh faktor pola eliminasi defekasi responden adalah 2-3 hari sekali, sedangkan sebelum dilakukan pengkajian hari pertama, sebagian besar responden terakhir kali defekasi adalah satu hari yang lalu. Pola eliminasi defekasi 2-3 hari sekali membuat massa feses lama di dalam rektum, hal ini menyebabkan absorbsi air yang terkandung dalam feses meningkat yang membuat feses semakin keras konsistensinya. Konsistensi feses yang keras akan membuat feses sulit dikeluarkan dari rektum, hal inilah yang membuat responden kelompok kontrol banyak yang tidak defekasi pada hari pertama. Dalam waktu 24 jam kolon akan menyerap air rata-rata 2,5 liter; Na: 55 mEq; Klorida: 23 mEq, jumlah air yang diabsorbsi tergantung dari kecepatan pergerakan kolon, apabila pergerakan kolon cepat maka proses absorbsi air juga sedikit (Price & Wilson, 2005). Menurut McLane & McShane (2011 dalam Maas, et.al. 2011), menyatakan bahwa waktu transit feses yang lama di dalam kolon sigmoid dan rektum akan meningkatkan risiko konstipasi oleh karena absornsi air banyak terjadi di kolon.

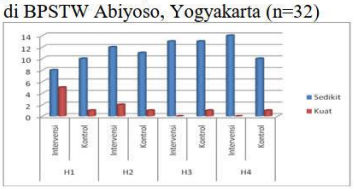
Gambar 2. Karakteristik konsistensi feses lansia kelompok kontrol dan intervensi di BPSTW Abiyoso, Yogyakarta (n=32)



Berdasarkan pada konsistensi feces yang dikeluarkan responden setiap kali defekasi, menunjukkan bahwa sebagian besar konsistensi feces responden kelompok kontrol dan intervensi selama empat hari berturut-turut adalah lembek. Konsistensi

feces yang dikeluarkan oleh responden tergantung olah beberapa faktor antara lain asupan serat yang meningkatkan massa feces dalam rectum sehingga bisa menstimulasi peristaltik usus. Gerakan peristaltik usus yang baik akan menurunkan waktu transit feces dalam rectum. Penurunan waktu transit feces dalam rektum akan menurunkan reabsorbsi air dalam kolon sigmoid dan rectum sehingga konsistensi feces yang dikeluarkan lembek. Kandungan serat yang cukup dalam makanan yang dikonsumsi setiap hari akan meningkatkan massa feces dalam resctum, hal ini akan meningkatkan peristaltik usus dan mambuat waktu transit feces dalam rektum menjadi lebih pendek (Orozco, Orenstein, Sterler dan Stoa, 2012). Waktu transit feces yang pendek di dalam kolon sigmoid dan rektum akan menurunkan risiko konstipasi oleh karena tidak terjadi reabsorbsi air yang berlebih di kolon, hal ini akan mempengaruhi konsistensi feces yang dikeluarkan dari rectum (McLane & McShane, 2011 dalam Maas, et.al. 2011). Selain asupan serat yang terkandung dalam makanan yang dikonsusi responden, konsistensi feces yang lembek juga dipengaruhi oleh faktor aktivitas, dimana sebagian besar responden kelompok kontrol dan intervensi selalu melakukan olah raga secara rutin dengan rata-rata durasi melakukan olah raga adalah 28,13 menit pada kelompok kontrol dan 18,75 menit pada kelompok intervensi. Keteraturan menjalankan aktivitas olah raga akan menjaga peristaltik usus dalam batas normal, dimana gerak peristaltik ini diperlukan untuk mendorong massa feces dalam kolon. Gerakan peristaltik usus yang baik akan menurunkan waktu transit feces dalam rektum sehingga konsistensi feces yang dikeluarkan responden adalah lembek. Hal ini sesuai dengan teori yang menyatakan bahwa aktivitas fisik yang teratur dapat meningkatkan tonusitas otot yang diperlukan untuk pengeluaran feses (LeMone, Burke, Bauldoff, 2015).

Gambar 3. Kekuatan mengejan saat defekasi pada lansia kelompok kontrol dan intervensi di BPSTW Abiyoso, Yogyakarta (n=32)



Berdasarkan pada kekuatan mengejan saat defekasi, menunjukkan bahwa sebagian besar responden kelompok kontrol dan kelompok intervensi hanya menggunakan kekuatan mengejan sedikit saat defekasi. Kekuatan mengejan saat defekasi dipengaruhi oleh konsistensi feces yang dikeluarkan oleh responden saat defekasi. Pada hasil observasi konsistensi feces responden kelompok kontrol dan intervensi, menunjukkan bahwa sebagian besar konsistensi feces yang dikeluarkan setiap kali defekasi selama empat hari berturut-turut adalah lembek. Konsistensi feces yang dikeluarkan oleh responden dipengaruhi oleh frekuensi defekasi, dimana frekuensi defekasi yang teratur akan membuat konsistensi feses yang dikeluarkan lembek, hal ini disebabkan oleh karena waktu transit feces di kolon menjadi lebih pendek sehingga absorbsi air di kolon juga lebih sedikit.

Tabel 1. Perbedaan Pola Eliminasi Defekasi Lansia Kelompok Kontrol dan Intervensi Di BPSTW Abiyoso, Yogyakarta (n=32)

Kelompok responden	n	Mean	Min- Max	SD	Mean diff
Kontrol	16	6,38	3 - 14 (dalam 4 hari)	3,99	2,68
Intervensi	16	9,06	0 – 12 (dalam 4 hari)	3,37	

Berdasarkan hasil analisis data didapatkan rata-rata skor pola eliminasi defekasi pada responden kelompok kontrol adalah 6,38 (selama 4 hari observasi), sedangkan skor pola eliminasi defekasi pada kelompok intervensi lebih tinggi yaitu 9,06. Dimana perbedaan rata-rata skor pola eliminasi defekasi responden kelomok kontrol dan intervensi adalah 2,68. Hasil statistik dengan menggunakan uji independen T-test menunjukkan hasil Pv = 0,049 (Pv < 0,05), dapat disimpulkan bahwa ada perbedaan yang signifikan skor pola eliminasi defekasi antara kelompok kontrol dan kelompok intervensi, artinya ada pengaruh pemberian *abdominal massage* pada lansia terhadap keteraturan pola eliminasi defekasi pada lansia. *Abdominal Massage* adalah suatu tindakan untuk mendorong isi rectum yang dilakukan dengan cara meningkatkan tekanan intraabdominal (Liu, et al., 2005, dalam McClurg, 2011). *Abdominal massage* dapat menurunkan konstipasi melalui beberapa mekanisme yang berbeda-beda antara lain dengan: menstimulasi sistem persyarafan parasimpatis sehingga dapat menurunkan tegangan pada otot abdomen, meningkatkan motilitas pada sistem pencernaan, meningkatkan sekresi pada sistem intestinal serta memberikan efek pada relaksasi sfingter (Lamas, et. al., 2009). Hal ini diperkuat oleh Wong (2013), yang menyatakan bahwa abdominal massage dapat meningkatkan pergerakan usus/intestinal sehingga pergerakan massa feces dalam usus juga meningkat.

Pemberian tekanan secara langsung pada dinding abdomen secara berurutan dan kemudian diselingi dengan waktu relaksasi dengan cepat dapat meningkatkan reflek gastrokolik dan meningkatkan kontraksi dari intertinal dan rectum (Brooks, et.al., 2004, dalam Sinclair, 2010). Menurut Liu, et. al (2005 dalam Sinclair, 2010), menyatakan bahwa *abdominal massage* dapat mendorong terjadinya defekasi bukan hanya karena pengaruh aktivasi pada sistem intestinal namun juga karena pengaruh refleks *somato-autonomic*.

Tabel 2. Hubungan asupan cairan dengan pola defekasi lansia di BPSTW Abiyoso, Yogyakarta (n=32)

Kategori asupan cairan	Kelompok Responden	n	Skor Defekasi		P *Value*
			Mean	SD	
<1500 cc	Intervensi	11	9,00	3,661	0,239
	Kontrol	12	7,08	3,895	
≥1500cc	Intervensi	5	9,20	4,031	0,073
	Kontrol	4	4,25	3,033	

Hasil analisis data menunjukkan tidak ada hubungan antara konsumsi cairan selama 24 jam yang dikonsumsi oleh responden dengan skor pola defekasi responden, ditunjukkan dengan hasil P value untuk kategori cairan < 1500 cc adalah 0,239 (α = 0.05) dan P value untuk kategori cairan > 1500 cc adalah 0,073 (α = 0.05). Artinya cairan yang dikonsumsi oleh lansia tidak berhubungan dengan keteraturan pola eliminasi defekasi lansia. Pada penelitian ini, jumlah asuapan cairan yang dikonsumsi lansia sebagian besar kurang dari 1500 cc per hari, maka bila hasilnya tidak berhubungan, hal ini sesuai dengan teori yang ada. Konsumsi cairan responden penelitian ini sama dengan data hasil penelitian yang dilakukan oleh Cahyani (2014), yang menyatakan bahwa rata-rata konsumsi cairan pada lansia yang tinggal di BPSTW Kubu Raya Tanjungpura adalah sebanyak 1310,1 ml. Menurut Kozier, Erb, Berman, Snyder (2010), menyatakan bahwa masukan cairan sedikitnya 2 - 3 liter sehari untuk mempertahankan pola usus dan mempertahankan konsistensi dari feses, apabila intake cairan kurang maka akan memperlambat perjalanan kime disepanjang usus, hal ini akan menyebabkan konsistensi feces menjadi keras.

Tabel 3. Hubungan aktivitas olah raga dengan pola defekasi lansia di BPSTW Abiyoso, Yogyakarta

Variabel	Kelompok Responden	r	p *value*
Lamanya melakukan olah raga	Kontrol	0,809	0,044
	Intervensi		

Hasil analisis korelasi spearman menunjukkan terdapat hubungan yang signifikan dan kuat antara lamanya melakukan aktivitas olah raga dengan skor pola eliminasi defekasi responden (Pv: 0,044, Pv < 0,05). Artinya semakin lama melakukan aktivitas olah raga maka lansia semakin tidak berisiko mengalami konstipasi. Aktivitas olah raga yang teratur diperlukan oleh seseorang untuk menjaga tonusitas otot dan menjaga peristaltik usus agar frekuensinya dalam batas normal. Peristaltik usus diperlukan untuk passage feces disepanjang kolon, apabila peristaltik usus dalam frekuensi yang normal yaitu 5-35 kali/menit, hal ini akan membuat waktu transit feces di sepanjang colon sigmoid dan rectum akan pendek, sehingga konsistensi feces akan lembek dan mudah untuk dikeluarkan. Menurut Kozier, et.al (2010), aktivitas fisik yang kurang akan menyebabkan penurunan pada tonus otot dimana hal ini akan menyebabkan penurunan fungsi otot abdominal dan otot panggul, hal ini menyebabkan penurunan tekanan intraabdominal selama defekasi atau dalam mengontrol defekasi sehingga menyebabkan terjadinya konstipasi.

4. KESIMPULAN

Hasil analisis data didapatkan rata-rata skor pola eliminasi defekasi pada kelompok kontrol adalah 6,38, sedangkan pada kelompok intervensi adalah 9,06. Perbedaan rata-rata skor pola eliminasi defekasi antara kelompok kontrol dan intervensi adalah 2,68. Hasil statistik dengan menggunakan uji independen T-test menunjukkan hasil Pv = 0,049 (Pv < 0,05), dapat disimpulkan bahwa ada perbedaan yang signifikan skor pola eliminasi defekasi antara kelompok kontrol dan kelompok intervensi, artinya ada pengaruh pemberian *abdominal massage* pada lansia terhadap keteraturan pola eliminasi defekasi pada lansia. Variabel konfounding yang berhubungan dengan pola eliminasi defekasi lansia adalah aktivitas fisik. Untuk asupan serat tidak dapat dianalisis oleh kerena keterbatasan dalam penelitian.

5. SARAN

Hasil penelitian ini dapat digunakan sebagai sumber informasi bagi perawat dan petugas kesehatan lain untuk menjaga keteraturan pola eliminasi defekasi dengan memberikan terapi komplementer *abdominal massage* secara teratur minimal satu hari sekali bagi lansia yang tinggal di Panti Werdha atupun di masyarakat.

6. TERIMA KASIH

a. LLDIKTI wilayah V Yogyakarta yang telah memberikan pembiayaan dalam kegiatan penelitian.
b. Veronika Yulian Jati dan Karina Sukmaningtyas mahasiswi STIKes Panti Rapih Yogyakarta yang telah membantu dalam proses pengumpulan data.

REFERENSI

American College of Gastroenterology. 2010. *Digestive disease specialist committed to quality in patient care.* Diunduh dari http://www.acg.gi.org.

Black, Joyce M. & Hawks. 2009. *Medical-Surgical Nursing Clical Management for Positive Outcomes* (8th ed.). Singapore: Elsevier (Singapore) Pte Ltd.

Cahyani, V, Triharja, A.A., Natalia, D. 2014. Konsumsi Cairan dan Status Hidrasi Pada Lanjut Usia di BPSTW Mulia Dharma Kabupaten Kubu Raya. Repositori Naskah Publikasi

Emerson, E. & Baines, S. 2010, *Health Inequalities & People with Learning Disabilities in the UK: 2010*. Retrived from:http://www.improvinghealthandlives.org.uk/.

Kozier, B, Erb, G, Berman, A & Snyder, SJ. 2010. *Buku ajar: Fundamental keperawatan*

konsep, proses, & praktik, Vol. 2, Ed.7, Jakarta, EGC.

Lamas, K, Lindholm, L, Stenlund, H, Engstro B, Jacobsson C. 2009. 'Effects of abdominal massage in management of constipation--a randomized controlled trial' *International Journal of Nursing Studies*, Vol. 46, no.6 doi:10.1016/j.ijnurstu.2009.01.007

LeMone, P, Burke, KM, Bauldof, G. 2015. *Buku Ajar: Keperawatan Medikal Bedah,* Jakarta, EGC.

Maas, ML, Buckwalter,KC, Hardy , MD, Reimer-Tripp, T, Titler,MG & Specht, JP. 2011. *Asuhan Keperawatan Geriatrik,* Jakarta, EGC.

McClurg D., Lowe-Strong A. 2011. Does abdominal massage relieve constipation? *Research Review in Nursing Times,* 107 (12), 20-22. Retrived from: http://www.ncbi.nlm.nih.gov/pubmed/

Orozco, GJF, Orenstein, AEF, Sterler, SM & Stoa, JM. 2012. 'Chronic constipation in the elderly', *The American Journal of Gastroenterology*, Vol 107, DOI: 10.1038/ajg.2011.349.

Pranaka, K. 2014. *Geriatri : Ilmu Kesehatan Usia Lanjut,* Ed.5, Badan Penerbit FKUI, Jakarta.

Price, SA & Wilson, LM. 2005. *Patofisiologi konsep klinis proses-proses penyakit,* Ed. 6, Jakarta, EGC.

Sinclair, Marybetts LMT. 2010. '*The Use of* Abdominal Massage to Treat Chronic Constipation. *Journal of Bodywork & Movement Therapies'*, www.elsevier.com. doi: 10.1016/j.jbmt.2010.07.007.

Smeltzer, SC & Bare, BG. 2013. *Keperawatan Medikal Bedah,* Ed.8, EGC, Jakarta.

Wong, Kar Yan Alice. 2013. The Effects of Abdominal Massage and Bowel Recipe for the Relief of Constipation among Resident in a Care and Attention Home for Person with Physical Disability in Hong Kong. 24th International Nursing Reserach Congress.

JUIPERDO
JURNAL ILMIAH PERAWAT MANADO
Alamat Penerbit: Poltekkes Kemenkes Manado Jurusan Keperawatan Jl R.W Monginsidi, Malalayang II, Manado
Email : Jurkepjurnal@gmail.com
Volume 08 No.01, Juli 2020
e-ISSN : 26559382
p-ISSN : 22524843

PENANGANGAN KONSTIPASI PADA LANSIA DENGAN URUT PERUT DAN LATIHAN ELIMINASI (UPLANASI)

[MANAGEMENT OF CONSTIPATION IN ELDERY WITH ABDOMINAL MESSAGE AND TOILET TRAINING OR UPLANASI]

Kristamuliana[1], Juniati Sahar[2], Etty Rekawati[3]
Program Studi Ilmu Keperawatan Fakultas Kedokteran Universitas Sam Ratulangi Manado[1]
Fakultas Ilmu Keperawatan Universitas Indonesia[2,3]
e-mail : kristamuliana@unsrat.ac.id
DOI : 10.47718/jpd.v8i01.893

ABSTRAK

Latar Belakang: Konstipasi merupakn salah satu gangguan sistem pencernaan dan sistem eliminasi yang sering dialami oleh lansia. Hal ini terjadi sebagai akibat dari penurunan fungsi sistem pencernaan dan eliminasi karena proses penuaan. Sekitar 74 -45 % lansia yang tinggal di PSTW dan sekitar 50% lansia yang tinggal di komunitas mengalami konstipasi. **Tujuan:** Penelitian ini bertujuan untuk mengetahui pengaruh uplanasi terhadap konstipasi pada lansia di PSTW di DKI Jakarta. **Metode:** Desain penelitian yang digunakan adalah *quasi experiment pre – post test with control group*. Jumlah sampel sebanyak 64 lansia, 32 lansia untuk intervensi dan 32 lansia untuk non-intervesi. Sampel dipilih melalui metode random sampling. Instrumen penelitian yang digunakan adalah Constipation Skoring System. **Hasil:** Hasil penelitian menunjukkan adanya pengaruh uplanasi terhadap konstipasi pada lansia (p = 0,000). Frekuesni defekasi meningkat secara signifikan (p = 0,000), lama proses defekasi menurun secara signifikan (p = 0,003) dan kenyamanan saat defekasi meningkat secara signifikan (p = 0,000). **Kesimpulan:** Urut perut dan latihan eliminasi layak dijadikan sebagai salah satu intervensi keperawatan untuk menangani masalah konstipasi pada lansia.

Kata Kunci: Urut Perut; Latihan Eliminasi; Lansia; PSTW; Konstipasi.

JUIPERDO
JURNAL ILMIAH PERAWAT MANADO
Alamat Penerbit:
Poltekkes Kemenkes Manado
Jurusan Keperawatan
Jl R.W Monginsidi, Malalayang II, Manado
Email : Jurkepjurnal@gmail.com
Volume 08 No.01, Juli 2020
e-ISSN : 26559382
p-ISSN : 22524843

ABSTRACT

Introduction: Constipation is one of problems in digestive system and elimination system in elderly. Constipation accur because of ageing process. There are 74 – 75% elderlies in nursing home and 50% in community have constipation. **Aim:** The aims of this research is to know effect of uplanasi in Elderly who live in Nursing homes in DKI Jakarta. **Method:** Desain of this research was quasi experiment pre – post test with control group. Total samples were 64 elderlies, 32 erderlies for intervension group and 32 elderlies for control group. Samples were choosen by way of random sampling. The instruments that were used in this research were Constipation Scoring System (CSS). **Results:** The results showed that uplanasi have significant influence to handle constipation in elderly (p = 0,000). The uplanasi incrase frequency of defecation (p = 0,000), decreasing time of defecation (p = 0,003) and increasing comfort during defecation (p = 0,000). **Conclution:** Uplanasi could be one of nursing intervenstions to handle constipation in elderly.

Key words: Uplanasi, elderly, nursing home, constipation

PENDAHULUAN

Pertambahan usia pada manusia mengakibarkan terjadinya penurunan fungsi berbagai sistem dalam tubuh. Salah satunya adalah sistem pensernaan dan eliminasi. Penurunan fungsi sistem pencernaan dan eliminasi salah satunya dapat menyebabkan terjadinya konstipasi.

Prevalensi kejadian konstipasi sebesar 50% untuk lansia yang tinggal di masyarakatdan 74 - 75% untuk lansia yang tinggal di Panti Sosial (*Clinical Intervention in Aging*, 2010, Rogers, 2013). Di Indonesia khususnya di DKI Jakarta menurut pengkajian Wulandari (2014) di Wisma Cempaka PSTW Budi Mulia 1 Cipayung ditemukan sebanyak 13,7 % lansia mengalami kontipasi dan

JUIPERDO
JURNAL ILMIAH PERAWAT MANADO
Alamat Penerbit:
Poltekkes Kemenkes Manado
Jurusan Keperawatan
Jl R.W Monginsidi, Malalayang II, Manado
Email : Jurkepjurnal@gmail.com
Volume 08 No.01, Juli 2020
e-ISSN : 26559382
p-ISSN : 22524843

pengkajian Sari at al (2014) di Wisma Melati PSTW Budi Mulia III Ciracas ditemukan sebanyak 41,9% lansia yang mengalam konstipasi.

Tindakan yang sudah dilakukan di *Nursing Homes* khususnya di Luar Negeri untuk mengurangi konstipasi adalah diet tinggi serat dan pemberian laksatif (Strutzel & Elmafda 2008; Fosnes, 2012). Tindakan-tindakan tersebut efektif, namun kurang cocok diterapkan di Panti Sosial di Indonesia karena membutuhkan biaya yang besar. Selain itu, pemberian makanan berserat bagi lansia dapat terkendala pada masalah gigi. Penurunan jumlah gigi akibat proses penuaan membuat lansia cenderug menghindari makanan yang sulit dikunya. Sementara itu, penggunaan laksatif yang terlalu sering dapat menyebabkan ketergantungan serta dapat pula menimbulkan diare.

McClurg (2011) melakukan tindakan urut perut pada klien multiple skerosis yang mengalami konstipasi. Sebanyak 15 responden intervensi yang diberikan tindakan urut perut dan nasehat tentang pola hidup dan 15 responden kontrol yang hanya diberikan nasehat tentang pola hidup. Hasil uji statistik sebelum dan setelah tindakan pada kelompok intervensi menunjukkan p value = 0,03 ($p < 0,05$) dan hasil uji statistik pada kedua kelompok setelah tindakan menunjukkan p value = 0,01 ($p < 0,05$). Hal ini menunjukkan bahwa ada pengaruh urut perut terhdap konstipasi pada penderita multiple sklerosis. Penelitian ini diperkuat pula oleh Bromley (2013) pada anak dengan disabilitas yang

JUIPERDO
JURNAL ILMIAH PERAWAT MANADO
Alamat Penerbit:
Poltekkes Kemenkes Manado
Jurusan Keperawatan
Jl R.W Monginsidi, Malalayang II, Manado
Email : Jurkepjurnal@gmail.com
Volume 08 No.01, Juli 2020
e-ISSN : 26559382
p-ISSN : 22524843

mengalami konstipasi. Hasilnya menunjukkan bahwa tindakan ini dapat meningkatkan kualitas hidup klien, mengurangi gejala konstipasi sebesar 87,5% dan mengurangi penggunaan laksatif sebesar 41%.

Penelitian lain terkait penanganan konstipasi antara lain penelitian Sakakibara et al (2010) tentang pengaruh posisi tubuh terhadap defekasi pada manusia. Hasil penelitian ini menunjukkan bahwa posisi jongkok atau *squatty potty* yaitu posisi defekasi dengan sudut anorektal yang lebih sempit dapat meningkatkan tekanan pada abdomen dan menyebabkan pembukaan pada rektum sehingga tinja dapat terdorong ke luar.

Penelitian yang sama yang dilakukan oleh Taylor (2014) pada klien yang rata-rata sudah mengalami konstipasi selama 10 – 12 tahun. Berdasarkan *Constipation Scoring System (CSS)*, hasil penelitian ini menunjukkan bahwa posisi defekasi *squatty potty* signifikan meringankan masalah konstipasi. Penelitian yang sama yang dilakukan oleh Sikirov (2003) tentang perbedaan kesulitan defekasi pada posisi duduk dan posisi jongkok. Hasilnya menunjukkan bahwa duduk membuat proses defekasi lebih sulit dibandingkan dengan posisi jongkok

METODE PENELITIAN

Desain penelitian yang digunakan adalah *quasi experiment pre – post test control group*. Jumlah sampel sebanyak 64 lansia, 32 lansia untuk intervensi dan 32 lansia untuk kontrol. Sampel dipilih melalui metode *random sampling*. Instrumen penelitian yang digunakan adalah kuisioner. Kuisioner diisi oleh peneliti

JUIPERDO
JURNAL ILMIAH PERAWAT MANADO
Alamat Penerbit: Poltekkes Kemenkes Manado Jurusan Keperawatan Jl R.W Monginsidi, Malalayang II, Manado
Email : Jurkepjurnal@gmail.com
Volume 08 No.01, Juli 2020
e-ISSN : 26559382
p-ISSN : 22524843

melalui proses wawancara dengan responden. Nama responden tidak dituliskan secara langsung pada lembar kuisioner melainkan hanya menggunakan inisial untuk menjaga privasi responden. Penelitian ini tidak menimbulkan resiko apapun serta mampu menangani masalah konstipasi pada lansia. Tindakanyang dilakukan adalah mengintegrasikan urut perut dan latihan eliminasi. Tindakan ini dalakukan selama 15 hari berutut-turut dan dilakukan evaluasi pada hari ke-16.

HASIL DAN PEMBAHASAN

Tabel 1. Perbedaan setelah uplanasi pada kelompok intervensi dan non-intervensi

Variabel	Intervensi (n=32)		Non-Intervensi (n=32)		P Value
	N	%	n	%	
Konstipasi					0,000
-Ya	1	3,1	29	90,6	
-Tidak	31	96,9	3	9,4	
Frekuensi Defekasi					0,000
-Tidak Normal	6	18,8	31	96,9	
-Normal	26	81,3	1	3,1	
Lama defekasi					0,003
-Tidak normal	24	75,0	32	100,0	
-Normal	8	25,0	0	0,0	
Kenyamanan					
-Tidak Nyaman	5	15,6	30	93,8	0,000
-Nyaman	27	84,4	2	6,3	

Hasil analisis pada tabel di atas menunjukkan bahwa terjadi perbedaan antara kelompok intervensi dan kelompok non-intervensi setelah tindakan uplanasi. Sebagian besar responden pada kelompok intervensi bebas dari konstipasi, memiliki

JUIPERDO
JURNAL ILMIAH PERAWAT MANADO
Alamat Penerbit:
Poltekkes Kemenkes Manado
Jurusan Keperawatan
Jl R.W Monginsidi, Malalayang II, Manado
Email : Jurkepjurnal@gmail.com
Volume 08 No.01, Juli 2020
e-ISSN : 26559382
p-ISSN : 22524843

frekuensi defekasi nomal, kenyamanan saat defekasi, dan beberapa responden memiliki lama proses defekasi normal. Sementara itu, pada kelompok non-intervensi, sebagian besar responden mengalami konstipasi, memiliki frekuensi dan lama defekasi yang tidak normal serta ketidaknyamanan saat defekasi. Hasil uji statistik *Mann Whitney Test* menunjukkan ($p < 0,05$) yang artinya bahwa ada perbedaan yang signifikan mengenai konstipasi, frekuensi defekasi, lama proses defekasi dan kenyamanan saat defekasi pada kelompok intervensi dan non-intervensi setelah tindakan uplanasi.

Hasil penelitian ini sama dengan penelitian yang dilakukan oleh McClurg (2010) yang melakukan urut perut pada klien multiple skerosis. Sebanyak 15 responden intervensi yang diberikan tindakan urut perut dan nasehat tentang pola hidup dan 15 responden kontrol yang hanya diberikan nasehat tentang pola hidup. Hasilnya menunjukkan bahwa ada pengaruh urut perut terhdap konstipasi pada penderita multiple sklerosis. Penelitian ini diperkuat pula oleh Bromley (2013) pada anak dengan disabilitas yang mengalami konstipasi. Hasilnya menunjukkan bahwa tindakan ini dapat meningkatkan kualitas hidup klien, mengurangi gejala konstipasi dan mengurangi penggunaan laksatif.

Terkait latihan eliminasi yang juga merupakan bagian dari uplanasi, penelitian ini sesuai dengan Sakakibara et al (2010) yang meneliti tentang pengaruh posisi defekasi terhadap proses defekasi. Salah satu hasilnya menunjukkan bahwa posisi duduk

JUIPERDO
JURNAL ILMIAH PERAWAT MANADO
Alamat Penerbit:
Poltekkes Kemenkes Manado
Jurusan Keperawatan
Jl R.W Monginsidi, Malalayang II, Manado
Email : Jurkepjurnal@gmail.com
Volume 08 No.01, Juli 2020
e-ISSN : 26559382
p-ISSN : 22524843

normal dan posisi jongkok memiliki perbedaan yang signifikan dalam meningkatkan tekanan abdomen sehingga dapat membantu mobilisasi tinja dari usus ke rektum. Penelitian ini didukung juga oleh penelitian yang dilakukan oleh Taylor (2014) pada klien yang rata-rata sudah mengalami konstipasi selama 10 – 12 tahun. Berdasarkan *Constipation Scoring System (CSS)*, hasil penelitian ini menunjukkan bahwa posisi defekasi *squatty potty* signifikan meringankan masalah konstipasi

Keunikan dari penelitian ini adalah tindakan yang dilakukan pada responden diintegrasikan antara urut perut dan latihan eliminasi. Penelitian-penelitian sebelumnya tidak ada yang menginegrasikan kedua tindakan tersebut. Oleh karena itu, peneliti berasumsi bahwa uplanasi lebih signifikan menangani maslah konstipasi daripada hanya urut perut dan/atau hanya latihan elimiasi. Hal ini dibuktikan dengan nilai p value penelitian ini lebih kecil daripada penelitian sebelumnya.

KESIMPULAN

Kesimpulan dari penelitian ini adalah Uplanasi berpengaruh terhadap konstipasi dengan meningatkan frekuensi defekasi, mengurangi lama proses defekasi dan meningkatkan kenyamanan saat defekasi.

Hasil penelitian ini dapat dijadikan sebagai salah satu terapi keperawatan kompementer untuk penanganan konstipasi utamanya pada lansia di PSTW. Untuk peneliti selanjutnya diharapkan lebih konsisten terhadap waktu dan lama tindakan, mengontrol hal-hal yang mungkin bisa mempengaruhi proses

JUIPERDO
JURNAL ILMIAH PERAWAT MANADO
Alamat Penerbit: Poltekkes Kemenkes Manado Jurusan Keperawatan Jl R.W Monginsidi, Malalayang II, Manado
Email : Jurkepjurnal@gmail.com
Volume 08 No.01, Juli 2020
e-ISSN : 26559382
p-ISSN : 22524843

defekasi responden seperti kondisi lingkungan. Kondisi lingkungan yang dimaksdu seperti kebersihan toilet, kebiasaan defekasi lansia sebelum tinggal di PSTW, privasi lansia, dan lain-lain

DAFTAR PUSTAKA

Clinical Interventions in Aging. (2010*). Update on the Management of Constipation in the Erderly: New Treatment Options*. www.dovepress.com

Rogers, June. (2014). *Management of Constipation in the Community*. Journal of Community Nursing March/April 2013, volume 27, issue 2.

Sturtzel, Bärbel & Elmadfa, Ibrahim. (2008). *Intervention with Dietary Fiber to Treat Constipation and Reduce Laxative Use in Residents of Nursing Homes*. Ann Nutr Metab 2008;52(suppl 1):54–56 DOI: 10.1159/000115351

Wulandari, Septiana. (2014). *Analisis Praktik Klinik Keperawatankesehatan Masyarakat Perkotaan Pada Bapak B(78 Tahun) Dengan Masalah Konstipasi Di Wisma Cempaka PSTW Budi Mulia I Cipayung.* Depok: Perpustaaan UI.

McClurg, Doreen et al. (2011). *Abdominal Massage for the Alleviation Of Constipation Symptoms in People With Multiple Sclerosis: A Randomized Controlled Feasibility Study.* Multiple Sclerosis Journal 17(2) 223–233! The Author(s) 2011 Reprints and permissions: sagepub.co.uk/journals Permissions.nav DOI: 10.1177/1352458510384899 msj.sagepub.com

Bromley, Debbie. (2014). *Abdominasl Massage In The Management of Chronic Constipastion for Children with disability*. Community Practitioner; Dec 2014; 87, 12

Sakakibara, R. et al. (2010) *Influence Of Body Position On Defecation In Humans*. Sakura Medical Centre, Toho University

JUIPERDO
JURNAL ILMIAH PERAWAT MANADO
Alamat Penerbit:
PoltekkesKemenkes Manado
Jurusan Keperawatan
Jl R.W Monginsidi, Malalayang II, Manado
Email : Jurkepjurnal@gmail.com
Volume 08 No.01, Juli 2020
e-ISSN : 26559382
p-ISSN : 22524843

Taylor, Gregory S. (2014). *New Research: Squatty Potty Reduces Severity of Constipation: Participants Experience Relief Within 1-Month*. ST. GEORGE, Utah, June 4, 2014 /PRNewswire/

Sikirov, Dov. (2003). *Comparasion of Straining During Defecation in Three Positions*. Digestive Diseases and Sciences, Vol. 48, No. 7 (July 2003), pp. 1201–1205

ISSN 2715 - 6060
Padjadjaran Acute Care Nursing Journal Vol 1 No 1 Desember 2019 Page | 60

Review

PACNJ

Effects of Abdominal Massage to Overcome Gastrointestinal Dysfunction in Patients in Intensive Care Unit: a literature review

Cecep Eli Kosasih[1] Alisha Dewi Andriani[2], Astriani Ayu Lestari[2], Friska Maulia Sekarjati[2], Hanifa Iqomatulhaq[2], Janet Jessica Audini[2], Mia Vauziah Lestary[2], Mohamad Ramdan[2], Renie Nurcholivatun[2], Risna Risela Agustin[2], Tanti Almuwaroh[2], Yoga Abdul Manaf[2]

[1]Lecturer, Faculty of Nursing, Universitas Padjadjaran
[2]Student, Faculty of Nursing, Universitas Padjadjaran

ARTICLE INFO
Article history:
Received 29-11-2019
Received in revised from 05-12-2019
Accepted 05-12-2019

Keyword:
Abdominal massage,
Gastrointestinal function,
Intensive Care Unit.

Other Information:
Email of Author cecep.e.kosasih@unpad.ac.id
Corresponding Author Cecep E Kosasih
And other -

ABSTRACT
Patients who are receiving treatment at the ICU have at least one symptom of gastrointestinal dysfunction including decreased bowel noise, abdominal distension, constipation, decreased frequency of defecation, and increased GRV (gastric residual volume). Non-pharmacological interventions that can be done to improve gastrointestinal function include abdominal massage. This paper aimed to conduct a literature review on the effects of abdominal massage to overcome gastrointestinal dysfunction in patients in the ICU. Articles taken from the Google Scholar and Science Direct electronic databases with the keywords abdominal massage, gastrointestinal function, bowel function, and ICU were published from 2015 to 2019. There were four research articles discussing abdominal massage to improve gastrointestinal function. Three articles used the Randomized Controlled Design method and one article used the Quasi Experimental method. Abdominal massage has a positive effect to improve gastrointestinal function in patients receiving treatment in the ICU. Improved gastrointestinal function that can be seen from the existence of a faster time in the reduction in gastric residual volume (GRV), decreased abdominal circumference, decreased gastric distension, and decreased the incidence of constipation. It is expected that abdominal massage can be applied by ICU nurses considering this intervention has the effectiveness in terms of time and funding.

ISSN 2715 - 6060
Padjadjaran Acute Care Nursing Journal Vol 1 No 1 Desember 2019 Page | 61

Introduction

Intensive care unit (ICU) is a care unit for patients with chronic, life-threatening illnesses that require continuous care, monitoring, and use of support equipment and medications to save lives. Characteristics of patients treated in the ICU include decreased consciousness, experiencing one or more organ failure, weakness, oversedation, and invasive medical devices installed such as ventilators and require inotropic drugs, anti-arrhythmic drugs that require continuous titration.

Studies showed that as many as 60% of ICU patients have at least one symptom of gastrointestinal dysfunction during a treatment period such as bleeding, decreased bowel noise (decreased mortality), and abdominal distension. In addition to the gastrointestinal system appeared several other problems such as constipation, decreased frequency of defecation, and increased GRV (Gastric Residual Volume). Constipation or increase in GRV can occur due to the use of mechanical ventilation and the use of PEEP. The use of mechanical ventilation with PEEP can result in increased intrathoracic pressure. Increased intrathoracic pressure results in a decrease in venus return which causes a decrease in cardiac output, this condition causes the body to compensate by reducing blood flow to the gastrointestinal system or so-called splanchnic hypoperfusion. This hypoperfusion results in gastrointestinal mucosal ischemia, decreased bicarbonate secretion, and decreased gastrointestinal motility (Ego, Preiser, & Vincent, 2015; Mostafa, Bhandari, Ritchie, Gratton, & Wenstone, 2003). In addition, ICU patients with long bed rest tend to get a fiber diet that was less than necessary. In a study stated that the increase in GRV occurred mostly in the administration of enteral nutrition through gravity drip compared with intermittent feeding because gradually enteral nutrition would maximize gastric emptying (Munawaroh, Handoyo, & Diah, 2012).

Several studies have shown that 72% of patients in the ICU room experience constipation due to mechanical ventilation after 72 hours (de Souza Guerra, Mendonça, & Marshall, 2013). Then as much as 64.1% was due to total bed rest, as much as 40.5% was due to various types of nutritional therapy, and 45.8% was due to the use of opioid therapy (Sharma, Kaur, & Garg, 2007).

Critical patients who use mechanical ventilators are at risk of increasing GRV and prone to vomiting so that it can cause aspiration of gastric contents which is a risk factor for developing pneumonia due to ventilator (VAP) as well as gastroaesofagal reflux. In addition, patients who use mechanical ventilators must be prevented and treated in case of constipation because it can result in increased use of mechanical ventilation and longer patient care days. Based on a study showed as many as 42% of patients who experience constipation will experience failure due to mechanical ventilation, because constipation can cause abdominal distension, discomfort, and anxiety (Mostafa et al., 2003). Abdominal distension itself can inhibit the development of diaphragms, reduce lung compliance, and improve respiratory work thereby prolonging the process of weaning mechanical ventilation (de Azevedo & Machado, 2013).

Non-pharmacological interventions that can be performed on patients in the ICU who experience gastrointestinal dysfunction can be done abdominal massage. Where abdominal massage is useful to prevent and reduce interference with the gastrointestinal system. The mechanism of action of abdominal massage was to reduce contractions and tension in the abdominal muscles, increase motility and increase secretion in the gastrointestinal system and increase the effect on sphincter relaxation, so that the mechanism of gastrointestinal action was easier and facilitate the discharge of stool (Kahraman & Ozdemir, 2015). ICU nurses have an important role in facilitating the basic needs of patients related to gastrointestinal function, namely providing nutrition, facilitating elimination and preventing complications of gastrointestinal system failure in critical patients treated in the ICU (Bond & Hallmark, 2018). The neglect of ICU nurses in monitoring gastrointestinal function can increase the number of human error due to failure to rescue (FTR), so that the mortality and morbidity of ICU patients increased (Bond & Hallmark, 2018). Regarding to the importance of the management of gastrointestinal function in patients treated in the ICU, so researchers interested in conducting a literature review on the effects of abdominal massage to overcome gastrointestinal dysfunction in patients treated in the Intensive Care Unit.

Method

Types of research

Articles that qualify in this literature review were the Randomized Controlled Design method, Randomized Clinical Trial, Quasi Experimental with

ISSN 2715 - 6060
Padjadjaran Acute Care Nursing Journal Vol 1 No 1 Desember 2019 Page | 62

full text publication texts in the last 5 years (2015 - 2019).

Participant Type

Adult patients treated in the Intensive Care Unit.

Types of Interventions and Languages

The interventions applied in this study were abdominal massage. The research that was taken can use English or Indonesian in the public script.

Type of Result

Types of outcome measures focus on studies that have the results of the effectiveness of abdominal massage on gastrointestinal function.

Research Methods

Article searching strategies were carried out using computers through electronic databases such as Science Direct and Google Scholar with the keywords "abdominal massage", "gastrointestinal function", "bowel function", "ICU", "RCT". The search focused on articles published in 2014 - 2019 with the criteria: (1) is the result of direct research (original research), both experimental and quasi-experiments; (2) all participants consisted of patients treated in the Intensive Care Unit, and; (3) the article deals with the application of abdominal massage to gastrointestinal function.

Review method

Search for articles was done through a predetermined electronic database. After the article was found, then an analysis was carried out in the journal and abstract to determine the suitability of the article with the specified criteria. Manuscripts or full texts of the corresponding articles were further analyzed further and thoroughly.

Data collection schema

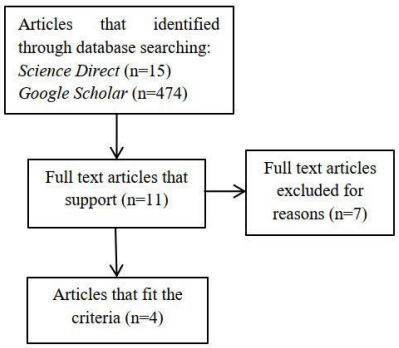


Figure 1. data collection process

ISSN 2715 - 6060
Padjadjaran Acute Care Nursing Journal Vol 1 No 1 Desember 2019 Page | 63

Results

Various types of interventions that can be given to determine the effects of abdominal massage are included in the 4 studies discussed in this paper. The results of his study were summarized in Table 1.

Table 1. The results of each study

Authors (years)	Type of study	Number of Sample	Intervention methods	Results	Conclusion
(Kahraman & Ozdemir, 2015)	*Randomized Controlled Design*	32	Control Get a routine / standard treatment Intervention a. Abdominal massage was performed for 15 minutes with a frequency of 2x / day at 10:30 in the morning and 22:30 at night. b. Position the patient with the back and knees flexed c. The researcher stands on the right side of the patient during massage exercises d. Starting from doing deep effleurage, petrissage, and vibration carried out in succession e. e. Head elevation of 30-45 degrees was maintained 24 hours a day during the study	Intervention a. The volume of gastric residue has decreased b. Abdominal circumference has decreased	The effects of abdominal massage can reduce the volume of gastric residue and abdominal circumference
(Dehghan, Mehdipoor, & Ahmadinejad, 2018)	*Randomized Clinical Control*	70	Control Get a routine / standard treatment Intervention a. Abdominal massage was performed 30 minutes before enteral nutrition, massage is done to reduce the risk of aspiration. b. The patient was positioned supine while the knee was slightly bent. The head of the bed was raised 30-45o. From the projection of the anterior upper iliac to the lower rib cage was open, while the other part was closed. c. The patient was examined his stomach for contraindications or not. d. The nurse on the right side was opposite to the patient's pelvis. e. Perform Swedish Massage for 15 minutes with a frequency of 2x / day at 8.30 am and 20.30 at night. f. Research variables were recorded before, during and at the end of the study.	Intervention a. The volume of gastric residue decreases b. Decreased abdominal circumference (P <0.001) c. Defecation frequency increased (P = 0.002) d. Incidence of constipation decreased (P = 0.008)	In addition, to reducing residual volume and abdominal circumference, abdominal massage also increases the frequency of defecation and decreases constipation

ISSN 2715 - 6060
Padjadjaran Acute Care Nursing Journal Vol 1 No 1 Desember 2019 Page | 64

(Momenfar, Abdi, Salari, Soroush, & Hemmatpour, 2018)	*Randomized Clinical Trial*	60	Control Get a routine / standard treatment Intervention a. Get 3 days treatment b. Get abdominal massage 2 times a day c. The distance between massage was 2 hours d. Every day an intervention was performed and 1 hour after the second massage, gastric residual volume was measured and examined e. There are 5 techniques performed in abdominal massage o Techniques to wipe the skin of the abdomen (stomach) o Performed by placing the dominant hand above the abdomen (abdomen) and the other hand above it then do the emphasis. o The skin of the abdomen (stomach) was squeezed using fingers like kneading dough. o Give movement (wobble) along the armpit from top to bottom and vice versa. o Place the fingers in the intercostal space, pulling the abdominal skin with the appropriate pressure. Data lubricating gel was carried out to facilitate the massage process. During the massage process, the patient was in a lying position with the angle between the bed and the patient's head 30-45 °, and the patient's legs were placed on a pillow	Intervention a. The residual volume of the stomach showed a mean result of 97.30cc while the control was 143.46cc (p value <0.05) b. The volume of gastric residue from day to day showed smaller	The volume of residuals is getting smaller day by day
(Estri, Fatimah, & Prawesti, 2016)	*Quasi Experimental post test only non equivalent control group*	22	Swedish technique and effleurage technique a. Both techniques were carried out 2 times a day for 3 days b. Observation was carried out on day 4 after abdominal massage using defecation observation sheets	Swedish massage intervention a. Occurrence of constipation 45.4% Effeurage intervention a. Constipation incidence 27.2%	Effleurage techniques increase comfort and are more efficient with less time and energy

ISSN 2715 - 6060
Padjadjaran Acute Care Nursing Journal Vol 1 No 1 Desember 2019 Page | 65

Discussion

This literature review focused on the discussion of the effects of abdominal massage to overcome gastrointestinal dysfunction in patients in the Intensive Care Unit (ICU). From the four research articles analyzed, the results showed that abdominal massage could improve gastrointestinal function, including reducing gastric residual volume (GRV), reducing abdominal distension, reducing the risk of constipation, and facilitating patient comfort.

From the analysis results in articles 1, 2 and 3 it was found that the intervention of abdominal massage could significantly reduce GRV. In line with the study of Uysal, Eser and Akpinar (2012) who conducted research related to the effects of abdominal massage to purify GRV in patients receiving intermittent enteral therapy, it was explained that massages performed on the abdominal area through abdominal massage can increase peristalsis, reduce pressure or internal tension abdomen and reduce food transit time in the gastrointestinal tract (Uysal, Eser, & Akpinar, 2012). This was also supported by a study found that abdominal massage can stimulate parasympathetic nerves thereby increasing the activity of the gastrointestinal system in digesting food and accelerating gastric emptying time (Lämås, Graneheim, & Jacobsson, 2012).

Faster GRV emptying time as an effect of abdominal massage intervention can provide several benefits for the gastrointestinal system itself and also other body systems. A faster decrease in GRV allowed patients to get faster enteral nutrition. Early nutrition (early enteral feeding) can help maintain gastrointestinal structure and function, optimize the immune system, optimize wound healing and prevent the breakdown of excessive body fat (Dehghan et al., 2018). In addition, patients who got early enteral feeding can avoid the risk of malnutrition, reduce discomfort due to nausea, vomiting and abdominal distension.

A faster decline or emptying of GRV also has positive implications for decreasing the incidence of ventilator accuired pneumonia (VAP). This was explained in research article 2 conducted by Kahraman and Odzemir (2015). In this study, the results showed that after an abdominal massage intervention in ICU patients who installed ventilators, there was a decrease in the VAP ratio in the intervention group with a percentage of 6.3% and the ratio in the control group by 31.3%, but the difference in the intervention and control groups did not experience significant difference ($p > 0.05$). The decrease in the ratio was still associated with a decrease in GRV, which was a relatively long time to discharge the GRV which can increase the risk of aspiration or reflux of gastric fluid into the lungs and cause VAP (Kahraman & Ozdemir, 2015). In the study also confirmed that high GRV can increase the risk of VAP 5 times higher compared to patients with faster GRV evacuation time (Kahraman & Ozdemir, 2015).

Conclusions

The results of this literature review showed that the intervention of abdominal massage has a positive effect to improve gastrointestinal function in patients receiving care in the ICU. An improved gastrointestinal function that has improved can be seen from the existence of a faster time in the reduction in gastric residual volume (GRV), decreased abdominal circumference, decreased gastric distension, and decreased the incidence of constipation. The mechanism of movement carried out in abdominal massage allowed increased blood circulation to the gastrointestinal system, accelerating the transit time of food in the gastrointestinal tract and increasing the perislatic movement of the gastrointestinal system so that gastrointestinal function can be improved. Nurses in the ICU room are expected to consider implementing abdominal massage interventions, reviewing that these interventions can help prevent gastrointestinal complications or dysfunction and are relatively safe interventions with time-effectiveness and cost effectiveness.

ISSN 2715 - 6060
Padjadjaran Acute Care Nursing Journal Vol 1 No 1 Desember 2019

Implication

ICU nurses have an important role in providing care to patients in the ICU. Among the tasks that ICU nurses must do was make decisions and keep patients safe and avoid complications from occurring, including complications that can occur in the gastrointestinal system (Bond & Hallmark, 2018). The role of ICU nurses that can be done to prevent complications and improve gastrointestinal function in general was to help provide nutrition at the right time by determining early enteral feeding, checking whether the patient has intolerance to the gastrointestinal system, facilitating patients to get the right type of nutrition, checking the placement of the end of the hose NGT, determine the number of calories the patient needs, and check whether the patient's GRV is still large or not (Momenfar et al., 2018).

One type of non-pharmacological intervention that can be done by ICU nurses to prevent complications and improve gastrointestinal function is by performing abdominal massage interventions. Abdominal massage was an intervention that was relatively safe and minimizes side effects, efficient in terms of funding, and efficient from the time of the action, which was about 7-15 minutes (Kahraman & Ozdemir, 2015; Uysal et al., 2012). As discussed above, abdominal massage can reduce GRV, reduce gastric distension, reduce constipation status and facilitate patient comfort, which indicates an increase in gastrointestinal function and reduce the incidence of gastrointestinal complications in patients. In this regard, it is expected that by implementing abdominal massage interventions, ICU nurses can also help prevent complications of gastrointestinal dysfunction so that the incidence of failure in saving patient complications or Failure to Rescue of the gastrointestinal system can be minimized to accelerate recovery of the patient's condition and shorten the patient's length of stay in the ICU room ((Bond & Hallmark, 2018).

References

Bond, L., & Hallmark, B. (2018). Educating Nurses in the Intensive Care Unit About Gastrointestinal Complications: Using an Algorithm Embedded into Simulation. *Critical Care Nursing Clinics, 30*(1), 75-85.

de Azevedo, R. P., & Machado, F. R. (2013). Constipation in critically ill patients: much more than we imagine. *Revista Brasileira de terapia intensiva, 25*(2), 73.

de Souza Guerra, T. L., Mendonça, S. S., & Marshall, N. G. (2013). Incidence of constipation in an intensive care unit. *Revista Brasileira de terapia intensiva, 25*(2), 82.

Dehghan, M., Mehdipoor, R., & Ahmadinejad, M. (2018). Does abdominal massage improve gastrointestinal functions of intensive care patients with an endotracheal tube?: a randomized clinical trial. *Complementary therapies in clinical practice, 30*, 122-128.

Ego, A., Preiser, J.-C., & Vincent, J.-L. (2015). Impact of diagnostic criteria on the incidence of ventilator-associated pneumonia. *Chest, 147*(2), 347-355.

Estri, A. K., Fatimah, S., & Prawesti, A. (2016). Perbandingan Abdominal Massage dengan Teknik Swedish Massage dan Teknik Effleurage terhadap Kejadian Konstipasi pada Pasien yang Terpasang Ventilasi Mekanik di ICU. *Jurnal Keperawatan Padjadjaran, 4*(3).

Kahraman, B. B., & Ozdemir, L. (2015). The impact of abdominal massage administered to intubated and enterally fed patients on the development of ventilator-associated pneumonia: a randomized controlled study. *Int J Nurs Stud, 52*(2), 519-524.

Lämås, K., Graneheim, U. H., & Jacobsson, C. (2012). Experiences of abdominal massage for constipation. *J Clin Nurs, 21*(5-6), 757-765.

Momenfar, F., Abdi, A., Salari, N., Soroush, A., & Hemmatpour, B. (2018). Studying the effect of abdominal massage on the gastric residual volume in patients hospitalized in intensive care units. *Journal of intensive care, 6*(1), 47.

Mostafa, S., Bhandari, S., Ritchie, G., Gratton, N., & Wenstone, R. (2003). Constipation and its implications in the critically ill patient. *British journal of anaesthesia, 91*(6), 815-819.

Munawaroh, S. W., Handoyo, & Diah, A. (2012). Efektifitas Pemberian Nutrisi Enteral Metode Intermittent Feeding Dan Gravity Drip Terhadap

ISSN 2715 - 6060
Padjadjaran Acute Care Nursing Journal Vol 1 No 1 Desember 2019 Page | **67**

Volume Residu Lambung Pada Pasien Kritis Di Ruang ICU RSUD Kebumen

Sharma, S. K., Kaur, K., & Garg, R. (2007). Factors affecting bowel movement in critically ill patients. *Nursing and Midwifery Research, 3*(2).

Uysal, N., Eser, I., & Akpinar, H. (2012). The effect of abdominal massage on gastric residual volume: a randomized controlled trial. *Gastroenterology Nursing, 35*(2), 117-123.

Geriatrics – Original Research Article

SAGE Open Nursing
Volume 6: 1–11
© The Author(s) 2020
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/2377960820963772
journals.sagepub.com/home/son
SAGE

The Effect of Abdominal Massage on Enteral Complications in Geriatric Patients

Onur Çetinkaya, RN[1], Özlem Ovayolu, RN, PhD[2] and Nimet Ovayolu, RN, PhD[3]

Abstract

Introduction and Purpose: Geriatric patients, who are fed by nasogastric tube (NG), may suffer from complications. Therefore, this study was conducted to evaluate the effect of abdominal massage on Gastric residual volume (GRV), distension, vomiting, and defecation in geriatric patients, who were hospitalized in intensive care unit and fed by NG.

Methods: The quasi-experimental study was conducted in intensive care units. The researcher applied abdominal massage to patients in the intervention group ($n = 30$) twice a day for 15–20 minutes before feeding. The data of the study were collected by using a questionnaire and a parameter questionnaire.

Results: GRV decreased significantly in the intervention group and increased significantly in the control group ($p < 0.05$). The frequency of defecation significantly increased in intervention group ($p < 0.05$). It was found that there was no positive effect of abdominal massage on vomiting ($p > 0.05$).

Conclusion: It was observed that while abdominal massage reduced high GRV and distension incidence, it increased the incidence of defecation.

Keywords

abdominal massage, geriatrics, intensive care, nasogastric tubes

Received 8 May 2020; revised 2 July 2020; accepted 13 September 2020

With the aging of the population in the world, the incidence of chronic diseases is increasing rapidly. With the advancement of age, physiological changes occur. Due to these changes, the body's resistance to diseases decreases and the incidence of chronic diseases increases (Bakır & Akın, 2019). Of the patients hospitalized in intensive care unit in Turkey, 41.5 percent are elderly patients (Turkish Ministry of Health [TMH], 2015). In a prevalence study, it was stated that the mean age of patients admitted to intensive care was 64. In another study, the mean age of patients in intensive care unit was reported to be 71 (Yıldız et al., 2019).

Generally, elderly patients are hospitalized in the intensive care unit due to cardiovascular diseases, acute respiratory failure, sepsis or trauma (Ülger & Cankurtaran, 2006). Such patients in the intensive care unit may not be fed orally because of neuromuscular, gastrointestinal, and cardiovascular diseases as well as trauma, mechanical ventilation, and risk of aspiration. Therefore, parenteral or enteral feeding is used to meet their daily energy needs. Methods of enteral feeding include nasogastric tube, nasojejunal tube or gastrostomy (Gök Metin & Özdemir, 2015). However, these feeding methods lead to some problems such as constipation, abdominal distention, diarrhea, and vomiting (Saka, 2010).

Contamination of nutritional solutions, their administration at inappropriate temperatures or speed, side effects of antibiotics given to patients, and inactivity in intensive care patients cause these problems (Gök Metin & Özdemir, 2015) Elderly patients frequently take

[1]Osmaniye Vocational School, Osmaniye Korkut Ata University, Osmaniye, Turkey
[2]Department of Nursing, Faculty of Health Science, Gaziantep University, Gaziantep, Turkey
[3]Department of Nursing, Faculty of Health Science, SANKO University, Gaziantep, Turkey

Corresponding author:
Onur Çetinkaya, Osmaniye Vocational School, Osmaniye Korkut Ata University, Osmaniye, Turkey.
Email: onur123457@gmail.com

Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 License (http://www.creativecommons.org/licenses/by-nc/4.0/) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (https://us.sagepub.com/en-us/nam/open-access-at-sage).

multiple medications which can affect the absorption, digestion and metabolism of nutrients. Gastrointestinal side effects are more common in the elderly due to the simultaneous administration of enteral nutrition and medication (Yeşildemir & Tek, 2018). Patients should not have abdominal distension, pain or high gastric residual volume. In addition, adequate bowel sounds and defecation counts are indicators of nutritional tolerance (Köse & Ayhan, 2018).

Numerous studies have reported that complications such as GRV increase (Elpern et al., 2004; Mentec et al., 2001), digestive intolerance (Mentec et al., 2001), constipation, abdominal distension and vomiting develop in enterally fed patients (Montejo, 1999; Uysal et al., 2012). Additionally, in their study, Kuslapuu et al. (2015). stated that high GRV reduced or ceased enteral nutrition. Abdominal massage is useful especially in patients fed by tube in order to prevent these problems and maintain feeding (Olgun, 2016). During abdominal massage, intra-abdominal pressure is changed and pressure is directed to the rectum so that the intestines are stimulated mechanically. The effect of the massage stimulates peristalsis, thus resulting in shortened transition time of nutrients through the gastrointestinal tract and accelerated bowel movement (Turan & Aştı, 2015). In addition, abdominal massage reduces feelings of discomfort (Sinclair, 2011; Turan & Aştı, 2015) and enhances the quality of life since it is easy-to-apply (Turan & Aştı, 2015) and has no known side effects (Harrington & Haskvitz, 2006; Lamas et al., 2009; Turan & Aştı, 2015). In their study, Kim et al. (2005) stated that abdominal massage along with aromatherapy reduced constipation levels of geriatric patients. Also, in their study, Liu et al. (2005) stated that abdominal massage stimulated rectal waves, thus causing defecation in patients with myopathy. The studies conducted with patients who were suffering from multiple sclerosis and fed by intubation and enteral feeding have revealed that abdominal massage has positive effects such as alleviating constipation and decreasing GRV (Kahraman & Özdemir, 2015; McClurg et al., 2011). Bromley (2014) stated that abdominal massage alleviated constipation symptoms and reduced the use of laxative drugs in children with mental and physical disabilities. In addition, there are studies indicating that abdominal massage reduces vomiting (Tekgündüz et al., 2014; Uysal et al., 2012). It is seen that although there is a great number of studies examining the effect of abdominal massage on complications related to enteral feeding in different patient groups, there is a limited number of studies evaluating the effect of abdominal massage in geriatric patients.

Preventing enteral nutrition complications and participating in treatment when they arise is one of the nursing roles (Koçhan & Akın, 2018). When enteral feeding complications such as constipation, abdominal distention and vomiting occur, nurses may resort to abdominal massage (Ayaş et al., 2006; Çevik et al., 2018; Dehghan et al., 2018; Momenfar et al., 2018; Uysal et al., 2012). Abdominal massage is one of the non-pharmacological methods that can be applied by nurses (Ayaş et al., 2006; Kahraman & Özdemir, 2015, Uysal et al., 2012).

In the literature, studies evaluating the effect of abdominal massage performed by nurses are limited. Thus, the aim of this study was to determine the effect of abdominal massage on parameters of enteral nutrition tolerance in geriatric ICU patients.

Methods

Design, Setting and Sample

The study was conducted with a quasi-experimental design in the reanimation, internal medicine, neurology, and pulmonary intensive care units of a state hospital between March and August 2017. The number of patients to be included in each group was calculated in the computer program based on the method used in a previous, related study (Uysal et al., 2012) (using average GRV) and power analysis. As a result of the calculation, the number of patients to be included in each group was determined to be 30.

Flow of the Study

The patients who met the inclusion criteria were given numbers according to the order of their hospitalization and while odd numbers were assigned to the control group ($n = 37$), even numbers were assigned to the intervention group ($n = 38$). The single blind method was used to hide the group of patients. Since 7 patients from the control group and 8 patients from the intervention group were excluded from the study during the follow-up, the study was finished with 60 patients. The CONSORT flow diagram shows the inclusion process of the patients (Figure 1).

The sample size was calculated as a total of 60 patients at an effect size of $d = 0.78$, error margin of 5% and power of 84% ($\alpha = 0.05$, $1-\beta = 0.83$). Afterwards, the researcher conducted interviews with the patients and their relatives, received information about the patients and started the follow-up process. The inclusion criteria of the study were being 65 years and over, being admitted to intensive care unit, having just started receiving nasogastric feeding, having no contraindication for abdominal massage (recent radiotherapy or abdominal surgery, obstruction, having an open wound on the abdominal area), being continuously fed by enteral feeding (20 hours), and agreeing to participate in the study. For the patients who were unable to give

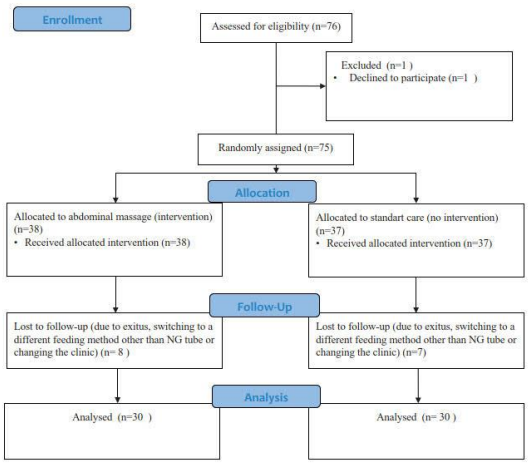


Figure 1. CONSORT Flow Diagram of the Participants.

consent for participation, the consent was obtained from their first-degree relatives.

The patients were expected to reach the specified target calories. They were followed up for 3 days after reaching the target calorie in order to see possible complications. Since each patient reached the target calories at different times, their follow-up period also varied. The mean follow-up period was 6 days.

Data Collection

The data of the study were collected by using a questionnaire and a parameter questionnaire.

Questionnaire*:* This questionnaire is composed of questions about age, marital status, occupation, income status, number of children, regularly taken drugs, and presence of chronic diseases. The patients or their first-degree relatives were interviewed and informed comprehensively about the study, their consents were obtained, and they filled the questionnaire using the face-to-face interview method.

Parameter questionnaire: The questionnaire was prepared according to the studies conducted by Sevinç (2007) and by Montejo (1999) and by taking expert opinions. This questionnaire, prepared by the researchers in the light of these studies, includes the gastric residual volume, abdominal circumference, number of vomiting, number of defecation, nutrients taken, amount-speed of nutrients, drugs taken, and necessary and recommended calorie amounts for the patients. Amount speed is the speed at which a nutrition solution is administered to a patient over the period of an hour. Essential calories refer to the patient's daily calorie intake calculated by a dietician. Recommended calories, on the other hand, refer to the amount of calories prescribed by a doctor for the patient. It has no scale-type scoring system. In this questionnaire, the follow-up times of the patients were listed and the changes occurring during these times were recorded. In the study conducted by Uysal et al. (2012) on effects of abdominal massage, a similar questionnaire was used.

Implementation Process

The patients meeting the inclusion criteria were determined among the patients for whom the nutritional team decided to start enteral feeding. The patients were given numbers (1 to 60) based on order of admission to the intensive care unit. While the patients with an odd number were included in the control group, the patients with an even number were included in the intervention group.

In the specified intensive care units, the type of enteral feeding is "continuous enteral feeding". The feeding starts at 12:00 pm and continues with a 30-minute break at 12:00-16:00-20:00-24:00-08:00 hours. Distension, examined by palpation and the measurement of abdominal girth, and GRV are recorded. Feeding is

finished at 10:00 am and starts again at 12:00 pm. In the present study, distention examined by palpation and the measurement of abdominal circumference at the same hours were recorded on the parameter questionnaire. The patients in the intervention group received abdominal massage during the follow-up period at 11:00 am and 19:00 pm in addition to the interventions in the control group. Enteral feeding was finished 30 minutes before the massage in order to eliminate the contents of the stomach. Abdominal massage was applied for 15–20 minutes twice a day for 5–7 days until the target calorie was reached, in accordance with the literature (Montejo, 1999; Uysal et al., 2012). After the patients in both groups reached the target calories, they were followed-up for three additional days.

The researcher did not hold an abdominal massage certificate, however received massage training during nursing education. The physiotherapist of the hospital was consulted on the application of abdominal massage (Figure 2).

GRV Check

In the literature, it is stated that GRV should be checked every four hours (Dikmen & Yavuz, 2013; Gürkan & Gülseven, 2013; Uysal et al., 2011). Accordingly, in this study, GRV was checked every four hours using

Massage application time: 15 minute
Massage application frequency: 2 times a day
Necessary tools: Liquid petroleum jelly, towel.
Massage movements: Effleurage (superficial and deep), petrissage, vibration.
Application steps
1. Hand are washed
2. Information about the procedure is given to the individual and their relatives.
3. It is evaluated if the patient has any pain, sensitivity, tenderness, tension, redness in abdominal region and deterioration of the skin integrity and if the bladder is empty.
4. Supine position is given to the individual or if there is a risky condition, the head of the bed may be lifted 30-45 degrees up.
5. The abdominal region opens by paying attention to the privacy of the individual. If the skin is humid, it is dried with a towel.
6. A small amount of liquid petroleum jelly is poured on hand and the hands are rubbed in order to warm the hands and ensure the spread of lotion.
7. Superficial effleurage is performed by applying a gentle pressure to the groin on both sides of the pelvis over the iliac bones starting from the upper epigastric area towards downward. With this effleurage, reactional abdominal wall tension due to first touch would be prevented.
8. After the abdominal wall of the individual relaxes; • In a way that all movements are in clockwise, • Considering the anatomical area starting from the right anterior superior iliac crest to the left anterior superior iliac crest from the level of ribs, • The massage is applied to the right lower quadrant and right upper quadrant where the ascending column is located as well as to the left upper and lower quadrant for the column descending and towards the left upper quadrant at the level of ribs for transverse column. • Massage applied to each quadrant lasts for at least 1 minute and moderate pressure is applied.
9. After the effleurage movement, petrissage movements are performed with the palm by following the same order.
10. Effleurage and petrissage movements are applied 15 minutes respectively one after the other.
11. Finally, vibration is applied for 1 minute using only the fingertips and the procedure is terminated with effleurage.
12. The individual is covered and a comfortable position is given.

Figure 2. Abdominal Massage Instructions.

disposable gloves and 50 ml injectors based on the routine practice of the clinic. Upon the procedure, the amount was measured and recorded in the parameter questionnaire (Uysal et al., 2012). In this study, the presence of gastric content which was greater than 200 ml was accepted as "GRV present" since a high threshold value of GRV is not clearly stated in the literature (Tekin et al., 2019; Uysal et al., 2012) and a gastric content which is greater than 200 ml is considered as high GRV in the clinic. The nurses working in the clinic performed the GRV follow-up. During the follow-up, the nurses were blinded.

Abdominal Distension Check and Abdominal Circumference Measurement

Based on the literature information, abdominal distention check and abdominal circumference measurement were performed every four hours (Uysal et al., 2012). While the related values of the control group were evaluated 30 minutes after the feeding, the related values of the intervention group were evaluated 30 minutes after the feeding and following the massage treatments at 08:00-12:00-16:00-20:00-24:00 hours. Abdominal distention was examined by palpation. It was considered as "no distention" when there was no abdominal sensitivity, muscle stiffness or contraction in palpation and the abdomen was relaxed (McClurg et al., 2011). In addition, a nurse or doctor from the clinic supported the determination of whether there was distention. A 150-cm inflexible tape measurer was used to measure abdominal circumference. The measurement data were recorded in the parameter questionnaire.

Data Analysis

The Shapiro-Wilk test was used to check whether or not continuous variables were normally distributed. The data were compared using Student's t-test or Mann-Whitney U test. The other tests used included the Chi-square test for determining the correlations between categorical variables such as defecation or distension, and the McNemar test, a non-parametric test, for comparing characteristics of dependent two categories such as first day GRV and last day GRV. The value of $p < 0.05$ was accepted as statistically significant.

Ethical Considerations

In order to conduct the study, approval was obtained from the Ethics Committee of Çukurova University in Turkey (03.03.2017- No. 62–22). The study was conducted in accordance with the Declaration of Helsinki. In addition, written permission was obtained from the institution where the study would be conducted. The healthcare professionals working in the clinic where the study was conducted were informed about the study. After the patients were informed about the purpose of the study and content of the questionnaire and parameter questionnaire, their written consents for participation were obtained.

Results

Descriptive Characteristics and Health History

The patient groups had similar descriptive characteristics and health history (Table 1).

The mean age of the intervention group was 78.6 ± 7.3 and 40% were male. In the control group, the mean age was 77.1 ± 7.5 and 56.7% were male. Most of the patients in both groups had a history of at least one chronic disease but no history of gastrointestinal disorder. Most of them were hospitalized in the intensive care unit due to cerebrovascular disease ($p > 0.05$).

GRV, Distention, Vomiting, and Defecation of the Patients according to the Follow-Up Days

Up to the day 5, the groups had a similar incidence of high GRV, distension, and vomiting. On the fifth day, defecation was determined in 63.3% of the patients in the intervention group and in 30.0% of the patients in the control group ($p < 0.05$). On the sixth day, it was observed that none of the patients in the intervention group had GRV, distension or vomiting; whereas, 81.5% had defecation. In the control group, 18.5% of the patients had GRV, 29.6% had distension and 33.3% had defecation. Additionally, on the sixth day, a significant difference was determined between the groups in terms of GRV, distension and defecation ($p < 0.05$). In addition, the groups were similar regarding the incidence of vomiting throughout the follow-up days (Table 2).

Comparison of GRV, Distention, Vomiting, and Defecation of the Patients on the First and Sixth Days

On day 6, the number of patients reaching the target calories was 54. Therefore, 54 patients were evaluated to compare the groups in terms of the parameters of the first and sixth days (Table 3).

When the intervention and control groups were compared in terms of GRV, distension, vomiting, and defecation on the first and sixth days, no statistically significant difference was found between the groups in terms of GRV; however, there was a significant difference between them in terms of distension and defecation ($p < 0.05$) (Table 3).

Table 1. Sociodemographic Characteristics and Health History Results of Patients.

	Intervention group (n = 30)		Control group (n = 30)			
Variables	Mean	SD	Mean	SD	Statistical test	P value
Mean age	78.6	7.3	77.1	7.5	[a]t = 0.746	0.459
Recommended calories (kcal)	1206.6	230.3	1253.3	227.0	[a]t = 1.031	0.302
	n	%	n	%	[b]X^2	
Gender						
Female	18	60.0	13	43.3	1.669	0.196
Male	12	40.0	17	56.7		
Age						
65–69	4	13.3	7	23.3		
70–74	5	16.7	3	10.0		
75–79	6	20.0	6	20.0	2.371	0.796
80–84	9	30.0	10	33.3		
85–89	3	10.0	3	10.0		
90 and over	3	10.0	1	3.3		
Educational level				20.0		
Illiterate	11	36.7	6	53.3		
Primary education	18	60.0	16	13.3	7.388	0.061
Secondary education	0	0.0	4	13.3		
High school	1	3.3	4			
Presence of gastrointestial problem						
No	24	80.0	18	60.0	2.857	0.091
Yes	6	20.0	12	40.0		
Gastrointestial system problem experienced						
Constipation	5	83.3	12	100.0	2.118	0.146
Diarrhea	1	16.7	0	0.0		
The presence of chronic disease						
No	4	13.3	2	6.7	0.741	0.389
Yes	26	86.7	28	93.3		
The reason for hospitalization in intensive care						
Cardiac disease	2	6.7	3	10.0		
Respiratory disease	9	30.0	6	20.0	6.558	0.161
Organ failure	0	0.0	5	16.7		
Cerebrovascular disease	14	46.7	10	33.3		
Other diseases	5	16.7	6	20.0		
Total	30	100.0	30	100.0		

[a]Indepented sample t test.
[b]Chi square.

Comparison of GRV and Abdominal Circumference Mean Values of the Patients according to the Follow-Up Days

It was found that there was no significant difference between the intervention and control groups in terms of the GRV amount and abdominal circumference on the fifth day ($p > 0.05$), but on the sixth day, there was no GRV in the intervention group and the mean abdominal circumference in the intervention group was lower compared to the control group ($p < 0.05$) (Table 4).

Discussion

This study was conducted to assess the effect of abdominal massage on GRV, defecation, distention, and vomiting in geriatric patients receiving treatment in the intensive care unit. The constipation and abdominal distention frequency significantly decreased and the defecation frequency significantly increased in the intervention group in comparison with those of the control group. It was determined that GRV was not observed in the intervention group while it increased in the control group. Vomiting was observed in one patient in the intervention

Table 2. Comparison of GRV, Distention, Vomiting and Defecation of Patients in Terms of Follow-Up Days.

		Groups				Statistical test	
		Intervention group (n = 30)		Control group (n = 30)			
Days	Parameters	n	%	n	%	[a]X^2	P value
First day	GRV	0	0.0	0	0.0	–	
	Distention	0	0.0	0	0.0	–	
	Vomiting	0	0.0	0	0.0	–	
	Defecation	9	30.0	3	10.0	3.750	0.053
Second day	GRV	0	0.0	1	3.3	1.017	0.313
	Distention	0	0.0	1	3.3	1.017	0.313
	Vomiting	0	0.0	0	0.0	–	
	Defecation	10	33.3	7	23.3	0.739	0.390
Third day	GRV	0	0.0	0	0.0	–	
	Distention	0	0.0	3	10.0	3.158	0.076
	Vomiting	0	0.0	0	0.0	–	
	Defecation	15	50.0	10	33.3	1.174	0.190
Fourth day	GRV	0	0.0	0	0.0	–	
	Distention	1	3.3	2	6.7	0.351	0.554
	Vomiting	0	0.0	0	0.0	–	
	Defecation	16	53.3	9	30.0	3.360	0.067
Fifth day	GRV	0	0.0	1	3.3	1.017	0.313
	Distention	0	0.0	3	10.0	3.158	0.076
	Vomiting	1	3.3	0	0.0	1.017	0.313
	Defecation	19	63.3	9	30.0	6.696	0.010*
Sixth day	GRV	0	0.0	5	18.5	5.510	0.019*
	Distention	0	0.0	8	29.6	9.391	0.002*
	Vomiting	0	0.0	0	0.0	–	
	Defecation	22	81.5	9	33.3	12.799	0.001*

Note. GRV = Gastric residual volume.
[a]Chi square.
*$p < 0.05$.

Table 3. Comparison of GRV, Distention, Vomiting and Defecation of the Patients on the First and Sixth Days.

	Intervention group (n = 30)		Control group (n = 30)			
Parameters	n	%	n	%	[a]Statistical test	P value
Gastric residual volume						
First day	0	0.0	5	18.5	–	
Sixty day	0	0.0	22	81.5	3.2	0.063
Distention						
First day	0	0.0	0	0.0	–	
Sixty day	0	0.0	8	29.6	6.13	0.008*
Vomiting						
First day	0	0.0	0	0.0	–	–
Sixty day	0	0.0	0	0.0	–	–
Defecation						
First day	8	29.6	3	11.1	2.5	0.109
Sixty day	22	81.5	9	33.3	12.07	0.001*

[a]McNemar test.
*$p < 0.05$.

Table 4. Comparison of GRV and Abdominal Circumference Mean Values of the Patients According to the Follow-Up Days.

	Groups					
	Intervention group (n = 30)		Control group (n = 30)			
Variables	Mean	SD	Mean	SD	Statistical test	P value
First day						
GRV	0	0	0	0	[a]z = .000	1000
Amount Abdominal circumference	95.2	15.7	100.2	16.2	[b]t = −1.218	0.228
Second day						
GRV amount	0	0	5	27.3	[a]z = −1.000	0.317
Abdominal circumference	95.5	15.6	100.6	16.7	[b]t = −1.217	0.229
Third day						
GRV	0	0	0	0	[a]z = .000	1.000
Amount Abdominal circumference	95.5	15.7	100.8	17.1	t = −1.257	0.214
Fourth day				0		
GRV amount	0	0	0	17.9	[a]z = .000	1.000
Abdominal circumference	95.1	15.7	101.5		[b]t = −1.469	0.147
Fifth day				109.5		
GRV	0	0	20	17.1	[a]z = −1.000	0.317
Amount Abdominal circumference	95.03	15.7	101.3		[b]t = −1.490	0.142
Sixth day						
GRV	0	0	44.4	101.2	[a]z = −2.324	0.020*
Amount Abdominal circumference	94.7	12.8	104.0	16.5	[b]t = −2.313	0.025*

Note. GRV = Gastric residual volume.
[a]Mann Whitney U test.
[b]Indepented sample t test.
*$p < 0.05$.

group; whereas, the patients in the control group had no vomiting. The results showed that the massage reduced high GRV and had a positive effect on defecation and distention. However, it did not have a positive effect on vomiting.

Many studies have revealed that abdominal massage reduced GRV (Kahraman & Özdemir, 2015; Momenfar et al., 2018; Tekgündüz et al., 2014; Uysal, 2017; Uysal et al., 2012). In contrast to the results of the present study, Dehghan et al. (2018) study showed that the mean gastric residual volume in the abdominal massage group which was 20 ml before the study significantly decreased to 11 ml at the end of the third day of the study. In the control group, the mean gastric residual volume which was 13 ml before the study significantly increased to 34 ml at the end of the third day of the study. However, it was stated that there was no significant difference between the groups and this result could be associated with the fact that abdominal massage application and patient follow-up lasted for only three days. As these studies have been conducted with different patient groups, it is seen that there is a need for studies evaluating the effect of abdominal massage on GRV, especially in geriatric patients. This need is supported by the fact that, upon the literature review, we have encountered no study investigating the effect of abdominal massage on GRV in geriatric patients. Thus, the present study is thought to be an original study conducted with the geriatric patient group.

In this study, it was determined that abdominal massage increased the frequency of defecation and prevented constipation. The study conducted by Okuyan and Bilgili (2019) with elderly people showed that when the post-test constipation status of individuals in the massage and control groups were compared, the constipation status of the massage group decreased with a significant difference between the groups. Similarly, the study conducted by Çevik et al. (2018) with twenty-two elderly patients residing in rest homes showed that the mean scores for the number of defecation were 0.43, 0.57, and 0.76 before, during, and after the application, respectively. There was a statistically significant difference between pre-application and application days, application and post-application days, and pre- and post-application days (Çevik et al., 2018). The results of these studies are in line with the present study and confirm the results of the present study based on the effectiveness of abdominal massage on increasing the numbers of defecation and preventing constipation. Furthermore, different studies which did not include geriatric groups showed that abdominal massage increased the intestinal movements and the frequency of defecation (Ayaş et al., 2006; Dehghan et al., 2018) especially by reducing the severity of gastrointestinal

symptoms such as constipation and abdominal pain syndrome (Lamas et al., 2009).

The results of the current study showed that the mean abdomen circumference in the control group on the first day and sixth day was 102.4 cm and 104 cm, respectively. The mean abdomen circumference in the intervention group on the first day and sixth day was 95.2 cm, 94.7 cm, respectively and there was a statistically significant difference between the two groups ($p < 0.05$). In addition, none of the patients in the intervention group had distension on the sixth day; whereas, 8 patients (29.6%) in the control group had distension on the sixth day and a statistically significant difference was determined ($p < 0.05$). Similar to the results of the present study, Kahraman and Özdemir (2015) showed that the difference between the means of the last and the first abdominal circumference was -2.1 for the intervention group and 5.3 for the control group. There was a statistically significant difference between the two groups. The results of Ayaş et al. (2006) study showed that in phase I, 11 (45.8%) of the 24 patients had abdominal distention. In phase II (massage group), three (12.5%) patients had abdominal distention and there was a significant difference between the two groups. Uysal et al. (2012) reported that patients in the control group developed more abdominal distension (25%) than those in the massage group (7.5%) and the difference was statistically significant. Similarly, Dehghan et al. (2018) reported that the difference of abdominal circumference before and after the study were -0.59 and 0.91 in massage and control group, respectively. The abdominal circumference significantly decreased after the study in the massage group while it significantly increased in the control group. There was a significant difference between the two groups. The study conducted by Uysal (2017) showed that abdominal distension developed in 6.0% of the intervention group patients and in 30% of control group patients, and the difference between the two groups was statistically significant. The present study and the aforementioned studies showed that abdominal massage had a positive effect on reducing abdominal circumference and preventing distension.

In the current study, vomiting was not found to be clinically significant in the massage group. Similarly, Uysal et al. (2012) reported that there was not a statistically significant difference between the massage and control groups in terms of vomiting. In contrast to the results of the present study, Tekgündüz et al. (2014) study showed that there was a difference in the frequency of vomiting of the infants in the massage group between the first day (2.14) and the last day (0.35). In addition, the study conducted by Uysal (2017) revealed that vomiting developed in 16.0% of the patients in the control group and in 2.0% of the patients in the intervention group, and the difference between them was found to be statistically significant. The reasons for the differences in the results of the present study with those of other studies can be due to low sample size (Tekgündüz et al., 2014) or the type of society under study (neonates and patients under sixty-five years) (Tekgündüz et al., 2014; Uysal, 2017). Another possible reason for this difference can be the frequency of massage (five days) (Uysal, 2017).

The literature and the findings obtained in this study show that abdominal massage is an economical non-pharmacological practice with no side effects and which can be easily applied by nurses.

Limitations of the Study

The important limitation of this study is that the study evaluated the effectiveness of abdominal massage only in patients over the age of 65 years; thus, the results cannot be generalized to other age groups. In addition, another limitation is that the study was a non-randomized trial.

Conclusion

In the current study, it was determined that abdominal massage decreased GRV and distension while it increased the frequency of defecations, and had no effect on vomiting in enterally fed geriatric patients. Also, the abdominal massage was observed to have no side effect. Accordingly, it is suggested that randomized controlled and double blind studies be conducted examining the effect of abdominal massage on GRV, distension, frequency of defecations and vomiting especially in enterally fed geriatric patient groups. Furthermore, it is recommended that abdominal massage be performed by intensive care nurses on geriatric patients.

Acknowledgments

We would like to thank all the patients who agreed to participate in the study. All authors have contributed significantly, and that all authors are in agreement with the content of the manuscript.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Onur Çetinkaya https://orcid.org/0000-0002-5328-9085

References

Ayaş, S., Leblebici, B., Sözay, S., Bayramoğlu, M., & Niron, E. A. (2006). The effect of abdominal massage on bowel function in patients with spinal cord injury. *American Journal of Physical Medicine & Rehabilitation*, *85*(12), 951–955.

Bakır, G. K., & Akın, S. (2019). Factors associated with management of chronic diseases in elderly. *Health and Society*, *29*(2), 17–25.

Bromley, D. (2014). Abdominal massage in the management of chronic constipation for children with disability. *Community Practitioner: The Journal of the Community Practitioners' & Health Visitors' Association*, *87*(12), 25–29.

Çevik, K., Çetinkaya, A., Yiğit Gökbel, K., Menekse, B., Saza, S., & Tıkız, C. (2018). The effect of abdominal massage on constipation in the elderly residing in rest homes. *Gastroenterology Nursing: The Official Journal of the Society of Gastroenterology Nurses and Associates*, *41*(5), 396–402. https://doi.org/10.1097/SGA.0000000000000343

Dikmen, B. T., & Yavuz, M. (2013). Nutrition in patients with head trauma. *Turkish Journal of Cerebrovascular Diseases, 19*(1), 1–6. https://doi.org/10.5505/tbdhd.2013.24633

Dehghan, M., Fatehi Poor, A., Mehdipoor, R., & Ahmadinejad, M. (2018). Does abdominal massage improve gastrointestinal functions of intensive care patients with an endotracheal tube? A randomized clinical trial. *Complementary Therapies in Clinical Practice*, *30*, 122–128. https://doi.org/10.1016/j.ctcp.2017.12.018

Elpern, E. H., Stutz, L., Peterson, S., Gurka, D. P., & Skipper, A. (2004). Outcomes associated with enteral tube feedings in a medical intensive care unit. *American Journal of Critical Care*, *13*(3), 221–227.

Gök Metin, Z., & Özdemir, L. (2015). Determination of enteral nutrition complications and influencing factors in patients with enteral feeding pump in intensive care unit. *Journal of Hacettepe University Faculty of Nursing*, *2*(2), 20–29.

Gürkan, A., & Gülseven, B. (2013). Enteral nutrition: Current approaches in the care. *Anatolian Nursing and Health Sciences Journal*, *16*(2), 116–122.

Harrington, K., & Haskvitz, E. M. (2006). Managing a patient's constipation with physical therapy. *Physical Therapy*, *86*(11), 1511–1519. https://doi.org/10.2522/ptj.20050347

Kahraman, B. B., & Özdemir, L. (2015). The impact of abdominal massage administered to intubated and enterally fed patients on the development of ventilator-associated pneumonia: A randomized controlled study. *International Journal of Nursing Studies*, *52*(2), 519–524. http://dx.doi.org/10.1016/j.ijnurstu.2014.11.001

Kim, M.-A., Sakong, J.-K., Kim, E.-J., Kim, E.-H., & Kim, E.-H. (2005). Effect of aromatherapy massage for the relief of constipation in the elderly. *Taehan Kanho Hakhoe Chi*, *35*(1), 56–64. https://doi.org/10.4040/jkan.2005.35.1.56

Koçhan, E., & Akın, S. (2018). Evaluation of knowledge levels of nurses about enteral and parenteral nutrition practices. *Journal of Academic Research in Nursing*, *4*(1), 1–14.

Köse, G., & Ayhan, H. (2018). Nutrition in traumatic brain ınjuries. *Turkish Journal of Neurosurgery*, *28*(3), 386–392.

Kuslapuu, M., Jõgela, K., Starkopf, J., & Blaser, A. R. (2015). The reasons for in sufficient enteral feeding in an intensive care unit: A prospective observational study. *Intensive & Critical Care Nursing*, *31*(5), 309–314. https://doi.org/10.1016/j.iccn.2015.03.001

Lamas, K., Lindholm, L., Stenlund, H., Engström, B., & Jacobsson, C. (2009). Effects of abdominal massage in management of constipation: A randomized controlled trial. *International Journal of Nursing Studies*, *46*(6), 759–767. https://doi.org/10.1016/j.ijnurstu.2009.01.007

Liu, Z., Sakakibara, R., Odaka, T., Uchiyama, T., Yamamoto, T., Ito, T., & Hattori, T. (2005). Mechanism of abdominal massage for difficult defecation in a patient with myelopathy (HAM/TSP). *Journal of Neurology*, *252*(10), 1280–1282.

McClurg, D., Hagen, S., Hawkins, S., & Strong, L. A. (2011). Abdominal massage for the alleviation of constipation symptoms in people with multiple sclerosis: A randomized controlled feasibility study. *Multiple Sclerosis (Houndmills, Basingstoke, England)*, *17*(2), 223–233. https://doi.org/10.1177/1352458510384899

Mentec, H., Dupont, H., Bocchetti, M., Cani, P., Ponche, F., & Bleichner, G. (2001). Upper digestive intolerance during enteral nutrition in critically ill patients: Frequency, risk factors, and complications. *Critical Care Medicine*, *29*(10), 1955–1961.

Momenfar, F., Abdi, A., Salari, N., Soroush, A., & Hemmatpour, B. (2018). Studying the effect of abdominal massage on the gastric residual volume in patients hospitalized in intensive care units. *Journal of Intensive Care*, *6*(1), 1–7. https://doi.org/10.1186/s40560-018-0317-5

Montejo, J. C. (1999). Enteral nutrition-related gastrointestinal complications in critically ill patients: A multicenter study. *Critical Care Medicine*, *27*(8), 1447–1453.

Okuyan, B. C., & Bilgili, N. (2019). Effect of abdominal massage on constipation and quality of life in older adults: A randomized controlled trial. *Complementary Therapies in Medicine*, *47*(1), 102219–102219. https://doi.org/10.1016/j.ctim.2019.102219

Olgun, S. (2016). Abdominal massage application in management of constipation. *Ege University Faculty of Nursing Journal*, *32*(3), 118–126.

Saka, B. (2010). Malnutrition in the elderly. *Internal Medicine Journal*, *17*, 223–232.

Sevinç, S. (2007). Abdominal assessment. *Nursing Education and Research Journal*, *4*(1), 10–20.

Sinclair, M. (2011). The use of abdominal massage to treat chronic constipation. *Journal of Bodywork and Movement Therapies*, *15*(4), 436–446. https://doi.org/10.1016/j.jbmt.2010.07.007

Tekgündüz, K. S., Gürol, A., Apay, S. E., & Caner, I. (2014). Effect of abdomen massage for prevention of feeding intolerance in preterm infants. *Italian Journal of Pediatrics*, *40*(1), 89.

Tekin, E., Akan, M., Koca, U., Özkardeşler, S., Adıyaman, E., Büyükçoban, S., Kılıçaslan, N., & Gökmen, A. N. (2019). Comparison of different gastric residual volumes in ıntensive care patients receiving enteral. *Turkish Journal of*

Intensive Care, *17*(1), 25–30. https://doi.org/10.4274/tybd.galenos.2019.04127

Turan, T., & Aştı, T. A. (2015). The importance of abdominal massage in management of constipation. *Anatolian Nursing and Health Sciences Journal*, *18*(2), 148–163.

Turkish Ministry of Health. (2015). *Research of intensive care units*.

Ülger, Z., & Cankurtaran, M. (2006). Elderly patient in the intensive care unit. *Journal of Intensive Care*, *6*(2), 94–100.

Uysal, N. (2017). The effect of abdominal massage administered by caregivers on gastric complications occurring in patients intermittent enteral feeding: A randomized controlled trial. *European Journal of Integrative Medicine*, *10*, 75–81. http://dx.doi.org/10.1016/j.eujim.2017.01.014

Uysal, N., Eşer, İ., & Akpinar, H. (2012). The effect of abdominal massage on gastric residual volume: A randomized controlled trial. *Gastroenterology Nursing: The Official Journal of the Society of Gastroenterology Nurses and Associates*, *35*(2), 117–123.

Uysal, N., Eşer, I., & Khorsid, L. (2011). The examination of the practices and records of the nurses for patients feeding enteral. *Anatolian Nursing and Health Sciences Journal*, *14*(2), 1–9. https://doi.org/10.1097/SGA.0b013e31824c235a

Yeşildemir, Ö., & Tek, N. A. (2018). Enteral nutrition: Indications, applications, type of formula in difference geriatric diseases. *Turkiye Klinikleri Journal of Health Sciences*, *3*(1), 71–79. https://doi.org/10.5336/healthsci.2017-55837

Yıldız, E., Tokur, M. E., Öner, Ö., & Aydın, T. (2019). Reasons and costs of patients not being discharged from intensive care units. *MKU Medical Journal, 10*(38), 88–93.

Available online at www.ijmrhs.com

ISSN No: 2319-5886

International Journal of Medical Research & Health Sciences, 2021, 10(6): 20-30

The Effect of Abdominal Massage on Chronic Constipation and Constipation Quality of Life in Elderly: A Randomized Controlled Trial

Sevil Olgun* and Ismet Eser

Department of Fundamentals of Nursing, Faculty of Nursing, Aydın Adnan Menderes University, Aydin, Turkey

Corresponding e-mail: sevil_olgun@hotmail.com

ABSTRACT

Objective: *This study aimed to effect abdominal massage on chronic constipation and constipation quality of life in the elderly.* ***Methods:*** *This randomized controlled study was conducted with 60 elderly. The subjects were randomized to either the massage (n=30) or the control group (n=30). In the massage group, 10 minutes of abdominal massage was applied for 4 weeks. The effect of abdominal massage on constipation was measured by comparing the averages of the scores obtained before (1st week) and after (5th week) its application.* ***Results:*** *The constipation symptoms (stool consistency, abdominal bloating, stool volume, and the number of defecation) were significantly between the 1st and 5th weeks in the massage group ($p<0.05$). The constipation quality of life scores was decreased significantly in the 5th week in the massage group ($p<0.05$).* ***Conclusion:*** *Abdominal massage was found to be effective in some constipation symptoms and constipation quality of life.*

Keywords: Abdominal massage, Constipation, Constipation Quality of life, Elderly

INTRODUCTION

Aging is a perpetual and universal process that occurs in every living being without any exceptions, causes all functions to decrease, and is the whole of the irreversible structural and functional changes that occur in the organism at all levels over time [1]. Along with aging, other chronic diseases, as well as gastrointestinal disorders, increase [2]. In the elderly, the rate of constipation is high due to the weakness of intestinal muscles, decrease in peristalsis, insufficient fluid and fiber consumption, low physical activity, chronic diseases, and polypharmacy [3,4]. It is reported that the incidence of constipation in the elderly is between 16%-50%, and about 67% of nursing home residents are diagnosed with constipation [5-8]. In studies conducted in Turkey, the rate of constipation in nursing home residents 24.2%-44.6% [9,10].

Laxative and enema are used regularly and in the long term in the standard treatment of constipation in nursing homes [11,12]. In a study conducted, 68% of the nursing home residents were found to use laxatives regularly [8]. The long-term use of laxatives may cause complications such as fluid-electrolyte imbalance, enteropathy, deficiency of fat-soluble vitamins, colon necrosis, flatulence, and abdominal cramps [5,13]. In addition to these, the cost of laxatives used in the treatment of constipation is high [14]. Because there are many side effects of laxatives used in constipation treatment and being high-cost direct health professionals to use nonpharmacological methods. In the first step of non-pharmacological measures in constipation management, it is recommended to increase regular physical activity, fluid and fiber consumption [15,16]. However, there is no consensus reached on the effectiveness of these methods [5,17].

The limited effect of the methods used in constipation management necessitates the use of complementary treatments [5]. One of these methods is abdominal massage application [18]. Abdominal massage is a treatment program in which normal intestinal activities can be trained again. Massage creates a mechanical and reflex effect on the intestines by applying an intra-abdominal pressure, thus initiating peristalsis, and increasing the contraction force by increasing the movement of the mass in the intestines. The massage program can shorten the period of transition in the digestive system and can soften the stool [19]. Abdominal massage has psychological benefits in addition to increasing peristalsis

and facilitating defecation [11]. Also, it is a non-invasive and economical method without any side effects that can be applied by health professionals, healthy and sick individuals, and their relatives [19,20].

Even though abdominal massage has been used for constipation treatment for many years, when studies on this subject are examined, it is observed that there are no randomized controlled studies, that the study samples are small, or that the massage is used in combination with some other initiatives such as digital stimulation, exercise, etc. that the duration of the massage application and the characteristics of the individuals (age, diagnosis, etc.) included in the study are different [11,18,21-25]. The number of randomized controlled studies examining the effects of massage alone in the elderly is inadequate.

Aim

This study aimed to investigate the effect of abdominal massage on chronic constipation and constipation quality of life in the elderly.

Objectives

- To determine constipation symptoms by using Defecation Diary and Bristol Stool Scale in the control group
- To determine constipation symptoms by using Defecation Diary and Bristol Stool Scale in the massage (intervention) group
- To determine the effect of four-week abdominal massage on constipation symptoms by using Defecation Diary and Bristol Stool Scale in the massage group
- To compare the pre and post effects of abdominal massage on constipation symptoms between the two groups
- To determine the effect of abdominal massage on constipation quality of life using the constipation quality of life scale

METHODOLOGY

Study Design and Sample Selection

This randomized controlled trial was conducted between 01 July and 31 December 2011 in a state nursing home in western Anatolia/Turkey. The population of the study consisted of elderly people living in a nursing home (n=140). Power analysis was performed to determine the size of the study sample (n=60). According to the power analysis performed after the study (PostHoc), it was found that the sample had 85% power at the 95% confidence interval with an effect size of 0.35. A total of 64 elderly individuals were enrolled in the study who met the Rome-III Diagnostic Criteria for Constipation. As two of the elderly were wheelchair-bound, one was bedbound, and one had dementia, they were not included in the study. The study was conducted with 60 subjects who were randomized to either the massage (n=30) or the control group (n=30). Elderly individuals were randomly divided into massage and control groups according to their age (65-74 years old and 75-90 years old), gender (female and male), and use of laxative (using and not using) characteristics. According to age group, there were 9 elderly 65-74 years old in the massage group and 13 elderly in the control group. According to the gender, there were 11 women in the massage group and 9 women in the control group. According to the use of laxatives, there were 18 elderly in the massage group and 19 elderly in the control group.

The inclusion criteria of the study were: 65 years and over elderly, diagnosed with constipation, have the ability of conscious, elderly people doing physical activity, those who use oral or rectal laxatives and do not laxatives, verbal communication and cooperation. The exclusion criteria were: elderly who have had bowel surgery before (hemorrhoids, fissure, etc.) elderly who have a cognitive disorder, who aren't capable of perception, who cannot be fed orally, who are wheelchair-bound or bedbound, taking antineoplastic drugs, who have intra-abdominal pathology, dementia, diarrhea, incontinence, fecal impaction, infection in the abdominal region or impaired skin integrity. The flowchart of the study was shown in Figure 1.

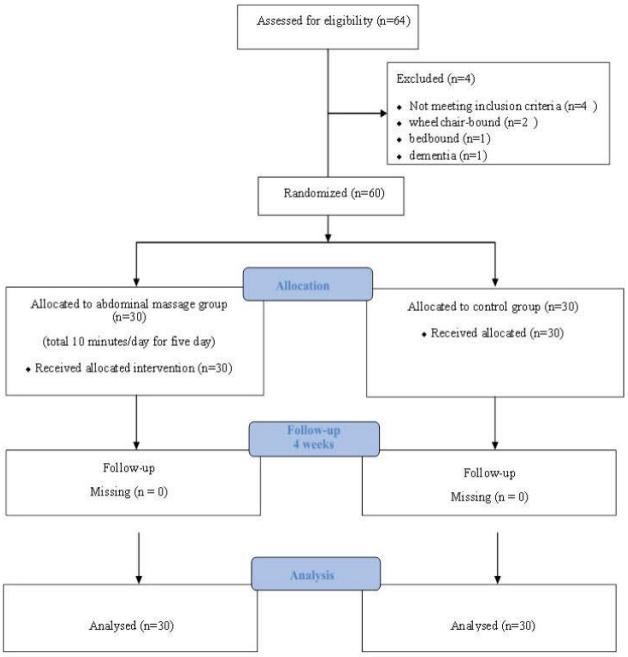


Figure 1 Study flow diagram

Data Collection Instruments

The data were collected using the Elderly Information Form, the Rome-III Diagnostic Criteria for Constipation Form, the Defecation Diary, the Bristol Stool Scale, and the Constipation Quality of Life Scale.

Elderly Information Form

This form, developed by the relevant literature, was prepared with questions about the socio-demographic characteristics of the elderly and the use of laxatives [25-27].

Rome-III Diagnostic Criteria for Constipation

This form was developed by the Rome Committee to standardize the definition of constipation. According to the Rome-III criteria, functional constipation symptoms should start at least 6 months before and last at least 3 days every month for the last 3 months. The elderly who marks the two items in this directive are diagnosed with chronic constipation [28].

Defecation Diary

The "Defecation Diary" is a 1-week follow-up chart in which constipation symptoms and the state of laxative use are questioned with the help of the literature [25,29,30]. Symptoms in the Defecation Diary were evaluated as stool consistency (1-5 points), stool volume (1-3 points), straining during defecation (1-4 points), the number of defecation (1-2 points), abdominal bloating (1-2 points), the sensation of incomplete evacuation (1-2 points) and the

use of laxative (1-2 points). Information on constipation symptoms obtained from elderly individuals was recorded in the "Defecation Diary" by the researcher for 7 days during the first week of the study (before the application of abdominal massage) and during the 5th week (after the application). The scores recorded for each symptom in this form were summed to obtain a weekly total score for each item. Increased scores of stool consistency, stool volume, and the number of defecation and the decreased scores of distensions straining during defecation, and the sensation of incomplete evacuation and the use of laxative indicate that constipation symptoms are reduced.

Bristol Stool Scale (BSS)

The BSS was developed by Lewis and Heaton. This form gives information about the changing physical properties and time of the stool while in the colon. According to this scale, there are 7 types of stool. Type 1-2 indicates "constipation"; Type 3-4 indicate "normal defecation"; and Type 5-6-7 indicate "diarrhea" [31].

Patient Assessment of Constipation Quality of Life (PAC-QOL) Scale: This scale, which determines the quality of life in constipation, was developed by Marquis, et al. [32]. The validity and reliability studies of the scale in Turkey were carried out in 2007 by Dedeli, et al. [33]. The PAC-QOL is a 28-item self-assessment scale consisting of "Worries/ Concerns" "Physical Discomfort," "Psychosocial Discomfort," and "Satisfaction" subscales. The Likert-type scale ranges from 1 to 5. The highest score that can be obtained from the scale is 140, while the lowest score is 28. The higher the score obtained from the scale is, the lower the quality of life is.

Study Procedure

At the beginning of the study, the researcher obtained the first data using the face-to-face interview technique, the Elderly Information Form, the Rome-III Diagnostic Criteria for Constipation Form, and the PAC-QOL. The constipation symptoms of the elderly in both groups were followed up using the "Defecation Diary" and "BSS" during the 1st week of the study (for 7 days). For 4 weeks (weeks 2, 3, 4, and 5) starting from the 2nd week of the study, abdominal massage was applied by the researcher to the elderly in the massage group. No application was made to the control group. At the end of the study (at the end of the 5th week), the constipation symptoms of both groups were assessed with the "Defecation Diary" and "BSS". At the same time, the PAC-QOL scale was applied to both groups.

Intervention (Massage) Group

The abdominal massage was applied 10 minutes, 5 days a week, and at least 2 hours after lunch least 2 hours for 4 weeks by the researcher. The subject was given a supine position with his/her head elevated at a 30-degree angle. Hands were heated to prevent the subject from feeling cold and lubricated. The subject's abdomen was gently stroked to prevent responsive abdominal wall tension due to the first touch. The abdominal massage was applied in a clockwise direction over the colons on the abdominal wall. Three basic maneuvers were used: stroking, effleurage, and kneading [11,21].

Control Group

There wasn't applied any intervention to the control group. Data from the subjects in the control group were collected as in the massage group.

Data Analysis

The data were evaluated using the SPSS 15.0 packaged software. In the data analysis, descriptive tests and comparative statistical methods (Paired sample t-test in variables exhibiting a normal distribution and the Mann-Whitney U test in those not exhibiting a normal distribution) were performed. In the analyses, $p<0.05$ values were considered statistically significant.

Ethical Considerations

For the study to be carried out, written permission was obtained from Aydın Adnan Menderes University Faculty of Medicine Clinical Research Ethics Committee (Decision Date: 10.06.2011, No: 2011/005) and the Ministry of Family and Social Policies (No: 310). It was obtained permission from the authors who developed the PAC-QOL scale. The elderly individuals were informed about the study and their written consents were obtained. This study was carried out by the principles of the Helsinki Declaration.

RESULT

Seventy percent of the elderly in the massage group and 56.7% of the control group were in the age range of 75-90 years (average age; massage group: 77.00 ± 7.62, control group: 76.13 ± 7.72). There wasn't a statistically significant difference between the age and gender features of the groups (p>0.05). According to affective factors the development of constipation in the elderly, no statistically significant difference was found between groups when compared in terms of chronic disease, use of laxative, consumption of vegetables/fruit, fluid consumption, physical exercise, stress exposure, consumption of caffeinated drinks and smoking (p>0.05).

Table 1 shows the median scores of constipation symptoms in the 1st week of the massage and control groups. According to this, there was a statistically significant difference between the median scores of stool consistency, stool volume, and the number of defecation (p<0.05), while there wasn't a statistically significant difference between the median scores of abdominal bloating, straining during defecation, the sensation of evacuation and the using of laxatives (p>0.05).

Table 1 The comparison of median scores of constipation symptoms of the elderly in the 1st week

Constipation symptoms	Groups				Z	p-value
	Massage group (n=30)		Control group (n=30)			
	Median	Min-Max	Median	Min-Max		
Stool consistency	4	1.0-7.0	5	2.0-8.0	-2.679	0.00
Stool volume	3	1.0-7.0	4	3.0-6.0	-2.679	0.00
Straining during defecation	8	4.0-14.0	7	3.0-12.0	-1.751	0.08
Number of defecations (per week)	3	1.0-4.0	3	2.0-5.0	-2.538	0.01
Abdominal bloating	4	2.0-7.0	4	2.0-7.0	-0.251	0.80
Sensation of incomplete Evacuation	2	1.0-5.0	2	1.0-4.0	-0.683	0.49
Use of laxative	2	1.0-7.0	2	1.0-7.0	-0.402	0.68

According to Table 2, there was a statistically significant difference between the median scores of stool consistency, stool volume, and abdominal bloating of the elderly in the massage and control groups in the 5th week (p<0.05), while there wasn't a statistically significant difference between the median scores of straining during defecation, number of defecations, the sensation of evacuation, and the using of laxatives (p>0.05).

According to Table 3, there was a statistically significant difference between the mean scores of stool consistency, stool volume, abdominal bloating, and the number of defecation of the elderly in the massage group in the 1st and 5th weeks (p<0.05), while there wasn't a statistically significant difference between the mean scores of straining during defecation, the sensation of evacuation and the using of laxatives (p>0.05). However, there wasn't a statistically significant difference between the mean scores of constipation symptoms of the elderly in the control group in the 1st and 5th weeks (p>0.05).

Table 2 The comparison of median scores of constipation symptoms of the elderly in the 5th week

Constipation symptoms	Groups				Z	p-value
	Massage group (n=30)		Control group (n=30)			
	Median	Min-Max	Median	Min-Max		
Stool consistency	6	2.0-11.0	5	4.0-9.0	-2.062	0.03
Stool volume	5	2.0-11.0	4	3.0-7.0	-2.062	0.03
Straining during defecation	8	3.0-13.0	7	4.0-9.0	-1.815	0.06
Number of defecations (per week)	3	1.0-5.0	3	2.0-5.0	-1.179	0.23
Abdominal bloating	3	1.0-5.0	5	2.0-7.0	-4.838	0.00

Sensation of incomplete Evacuation	2	1.0-4.0	1	1.0-3.0	-0.848	0.39
Use of laxative	2	1.0-7.0	2	1.0-7.0	-0.48	0.63

Table 3 The comparison of the mean scores of constipation symptoms of the elderly in the 1st with 5th weeks

Constipation symptoms	Groups	Weeks		t	p-value
		1st week	5th week		
		Mean ± SD	Mean ± SD		
Stool consistency	Massage	3.63 ± 1.42	6.06 ± 1.98	-7.592	0.00
	Control	5.13 ± 1.43	5.03 ± 1.51	0.441	0.66
Stool volume	Massage	3.47 ± 1.33	5.30 ± 1.91	-7.959	0.00
	Control	4.30 ± 1.02	4.47 ± 1.12	-0.348	0.73
Straining during defecation	Massage	8.13 ± 2.60	7.76 ± 2.47	0.917	0.36
	Control	6.96 ± 2.09	6.80 ± 1.21	0.491	0.62
Number of defecations (per week)	Massage	2.70 ± 0.70	3.43 ± 0.97	-5.43	0.00
	Control	3.20 ± 0.71	3.20 ± 0.80	0.000	1.00
Abdominal bloating	Massage	4.30 ± 1.36	2.63 ± 0.96	6.774	0.04
	Control	4.43 ± 1.10	4.50 ± 1.33	-0.32	0.75
Sensation of incomplete Evacuation	Massage	1.93 ± 0.98	1.90 ± 0.80	0.205	0.83
	Control	2.03 ± 0.80	1.73 ± 0.82	1.725	0.09
Use of laxative	Massage	2.80 ± 1.64	2.60 ± 1.69	1.989	0.06
	Control	2.66 ± 1.64	2.66 ± 1.66	0.000	1.00

The mean PAC-QOL subscale scores (physical discomfort, psychosocial discomfort, worries/anxiety, satisfaction) and the scale total mean scores of the massage group decreased significantly in the 5th week compared to the 1st week ($p<0.05$). For the control group, the mean scores of physical discomforts, worries/concerns, satisfaction among the PAC-QOL subscales and the scale total mean scores increased in the 5th week compared to the 1st week. This increase was statistically significant ($p<0.05$). There wasn't any statistically significant difference between the mean scores of the psychosocial discomfort subscale ($p>0.05$) (Table 4).

Table 4 The comparison of PAC-QOL scores of the elderly in the 1st with 5th weeks

PAC-QOL Scores	Groups	Weeks		t	p-value
		1st week	5th week		
		Mean ± SD	Mean ± SD		
Physical discomfort	Massage	14.53 ± 2.73	10.90 ± 2.75	10.26	0.00
	Control	13.33 ± 2.50	14.10 ± 2.45	-2.43	0.00
Psychosocial discomfort	Massage	20.90 ± 5.01	15.90 ± 5.14	11.58	0.00
	Control	18.06 ± 4.71	18.90 ± 4.12	-1.73	0.09
Worry/anxiety	Massage	37.80 ± 5.65	27.43 ± 6.92	15.12	0.00
	Control	34.83 ± 5.90	36.46 ± 4.95	-2.71	0.01
Satisfaction	Massage	17.90 ± 3.32	17.13 ± 3.47	2.47	0.01
	Control	16.70 ± 2.07	17.30 ± 2.23	-3.07	0.00
PAC-QOL total	Massage	93.63 ± 11.21	73.13 ± 13.35	16.73	0.00
	Control	84.73 ± 10.92	88.56 ± 9.16	-3.28	0.00

DISCUSSION

Many factors cause constipation in the elderly. These factors include inadequate fluid and fiber intake, reduction of physical activity, stress, drugs, etc. [4,34]. Side effects of many drugs are known to cause constipation in the elderly [34,35]. In our study, it was determined that the elderly in the massage and control groups had similar situations in terms of laxative use, vegetable/fruit consumption, daily fluid intake, physical activity/exercise, and drug use which leads to constipation. The fact that these factors causing constipation were similar in the elderly in both groups supports our study.

In the present study, except for the median scores of stool consistency, stool volume, and the number of defecations among the constipation symptoms, no significant difference was found between the other symptoms in the 1st week of the elderly in the massage and control groups. These findings show that the symptoms of constipation were similar in both groups before the application.

In this study, the median scores of the constipation symptoms were compared between the massage group and the control group in the 5th week. There was a statistically significant difference between the stool consistency, stool volume, and abdominal bloating median scores among the constipation symptoms of the elderly, while there wasn't a statistically significant difference between the number of defecations, straining during defecation, the sensation of evacuation, and the using of laxative median scores. The fact that the abdominal massage improved some of the constipation symptoms in the elderly (consistency, volume, distension) and there was no change in the symptoms in the control group suggests that the massage affects constipation symptoms. It is stated in the studies conducted that abdominal massage reduces constipation symptoms [23-25,36].

The mean scores of the constipation symptoms in the massage group were compared between the 1st and 5th weeks. It was found out that the abdominal massage was applied for four weeks; it provided softening in the stool consistency of the elderly. Similarly, to our study, Cevik, et al. effect of it was determined that it softened their stool consistency by the abdominal massage applied for 45 minutes-60 minutes for 30 days to 22 elderly with constipation [37]. Turan and Atabek Asti found out that the abdominal massage applied to the patients who couldn't defecate in the first 3 days after orthopedic surgery softened the stool consistency [38]. In the study carried out by McClurg, et al., it was determined that diet, fluid intake, activity, correct defecation position, and 4 weeks of abdominal massage provided to the patients with constipation and Multiple Sclerosis (MS) resulted in the softening of stool consistency [18]. In two different studies carried out on children with constipation, abdominal massage provided softening in the stool consistency [39,40]. In addition to these studies showing similar results to our study, there was also a study showing that abdominal massage didn't affect stool consistency [25]. Apart from a study conducted, findings obtained from the others are parallel with the results of our study.

One of the most common constipation symptoms that the elderly complain about is the decrease in stool volume [12,41]. It was observed in the present study that the abdominal massage increased the stool volume in the elderly. In the study carried out by Cevik et al. it was found out that abdominal massage increased the stool weight of the elderly [37]. However, the study of Lamas, et al. showed that the massage application didn't change the stool size of the patients [25]. This result, which is observed to be inconsistent with the present study, may be attributed to the fact that the duration of the massage applied to the abdominal region (for 7 minutes) is shorter than that in our study and that the intensity of the pressure applied during the massage is different.

Abdominal massage can provide peristaltic stimulation in patients with constipation, shortens the colonic transit time, and increases intestinal movements [20]. It was determined that abdominal massage in our study increased the defecation number in the elderly. In the study of Cevik, et al., it was found out that the participants for the number of defecations were increased, after the implementation of abdominal massage [37]. Turan and Atabek Asti, it was found out that the patients to whom abdominal massage was applied had more frequent defecation than the control group [38]. Lai, et al. stated that abdominal massage with aroma oils and plain abdominal massage they applied to cancer patients with constipation increased the intestinal movements of the patients [36]. In the study of Lamas, et al., it was determined that abdominal massage increased the frequency of defecation [25]. In a study, it was determined that the abdominal massage applied for four weeks increased the frequency of defecation in patients with MS [18]. In a different study, it was stated that the abdominal massage applied to a 64-year-old single patient who was diagnosed with myelopathy and had defecation difficulties provided rectal waves leading to defecation [22]. In the study carried

out by Hu, et al., it was found out that the abdominal massage applied 5 times a week to the patients with spinal cord injury (n=20) for 12 weeks shortened the defecation period [42]. In the study of Resende, et al., 12 weeks of exercise and abdominal massage application were found to increase intestinal movements in patients [23]. In the study of Harrigton and Haskvitz, 10-minute abdominal massage applied daily for 13 weeks to an 85-year-old patient with chronic constipation who couldn't benefit from stool softening agents were reported to provide the normal intestinal frequency [43]. Ayas, et al. determined that the abdominal massage applied for 15 minutes for 2 weeks to 24 patients who had a spinal cord injury in addition to fiber support in the diet and digital stimulation reduced the total colonic transit time [24]. However, because of the limitations such as the small size of the sample group, the lack of the control group, and the research design, the researchers stated that the results of the study aren't appropriate for determining the effectiveness of the treatment. Findings obtained from our study and many other studies suggest that the application of abdominal massage increases the number and frequency of defecation.

It is stated that bloating and flatulence complaints are severe in the elderly with constipation [41]. It was determined in the present study that the abdominal massage application reduces abdominal bloating in the elderly. In a study on the effects of abdominal massage on gastrointestinal symptoms in patients with constipation, it was stated that the massage reduces abdominal pain [25]. In the study conducted by Preece, the abdominal massage applied for 5 days for 6 weeks reduced flatulence and distension [21]. In the study carried out by Lai, et al., it was concluded that abdominal massage with aroma oils and plain abdominal massage applied to cancer patients with constipation decreased bloating [36]. In a study on the effects of abdominal massage on intestinal functions in patients with spinal cord injury, it was determined that the abdominal massage applied for 15 minutes after digital stimulation had a significant effect on bloating and pain [24]. The findings obtained from the studies are similar to the results of our study.

The abdominal massage wasn't effective on the complaints of the elderly about straining during defecation. Similarly, to our study, Ayas, et al. found out that the massage didn't change the straining of the patients during defecation [24]. However, Cevik, et al. found out that abdominal massage decreased straining during defecation in the elderly [37]. Besides 10-minute abdominal massage applied to one patient by Harrigton and Haskvitz was determined to provide the patient's normal intestinal function without straining or digital assistance [43]. Many factors can change the effectiveness of abdominal massages, such as the number of weekly applications, the duration of massage sessions, and the intensity of the pressure applied during the abdominal massage [25]. Similar and different study results suggest that constipation symptoms are affected by these factors.

The abdominal massage in the present study didn't change the frequency of the use of laxatives by the elderly. Similarly, to our study, Lamas, et al. also found out that the massage application didn't change the use of laxatives [25]. However, in two studies conducted on adults and children; it was found out that abdominal massage reduced the frequency of laxative use [23,40]. Similarly, to the results of this study, Hu, et al. also found that it was effective in reducing the dose of glycerin enema [42]. McClurg, et al. determined a decrease in the use of laxatives in one patient [18]. In the study of Resende, et al. and McClurg, et al., additional interventions besides the application of abdominal massage increased the effectiveness of the massage, suggesting that they reduced the frequency of laxative use [18,23]. However, the fact that the average age of patients was lower compared to our sample group may be another factor affecting the results of the study.

Since constipation affects physical, mental, and social areas, the health-related quality of life of individuals is also negatively affected [17,36,44]. Inadequate intestinal management causes a decrease in the comfort and quality of life of the elderly [45]. It is stated that abdominal massage improves intestinal peristalsis and eliminates bloating in addition to having a positive effect on the psychosocial state, and increasing the health-related quality of life [11,39,46]. In our study was indicated that abdominal massage decreased the physical and psychosocial discomfort, and worries/concerns of the elderly in the massage group, and increase their satisfaction and total PAC-QOL. There was an increase in the physical discomfort and worries/concerns of the elderly in the control group and a decrease in their satisfaction and total quality of life. However, there was no change in the psychosocial discomfort of the group. The abdominal massage with aroma oils applied by Lai, et al. to cancer patients with constipation was reported to improve the physical sub-dimension of the patients' quality of life, and the normal abdominal massage was reported to improve the psychosocial sub-dimension [36]. In a different study, it was determined that the abdominal massage applied to patients who couldn't defecate within the first 3 days after surgery decreased the PAC-QOL physical discomfort, psychosocial discomfort, worries/concerns dimension mean scores, and the PAC-QOL total mean scores

of the patients [38]. In the study of McClurg, et al. on patients with Parkinson's disease, it is stated that abdominal massage application improves the quality of life by alleviating constipation symptoms [47]. Findings obtained from our study and other studies conducted indicate that the abdominal massage application increases the quality of life of patients.

CONCLUSION

In this study, it was concluded that the abdominal massage application increased the stool volume and the number of defecations, softened the stool consistency, reduced abdominal bloating, and improved the quality of life in the elderly. However, it didn't affect straining during the defecation and the sensation of evacuation, and the frequency of laxative use. There is a need for further randomized controlled abdominal massage studies with different durations and periods and applied with different additional interventions that will provide evidence in this regard.

DECLARATIONS

Conflicts of Interest

The authors declared no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

Acknowledgment

I would like to thank the nursing home residents who participated in our study.

REFERENCES

[1] Giray, Hatice, et al. "Proposal for elderly health care system in Turkey." *TAF Preventive Medicine Bulletin,* Vol. 7, No. 1, 2008, pp. 81-86.

[2] Firth, Michael, and Charlene M. Prather. "Gastrointestinal motility problems in the elderly patient." *Gastroenterology,* Vol. 122, No. 6, 2002, pp. 1688-700.

[3] Vasanwala, Farhad Fakhrudin. "Management of chronic constipation in the elderly." *The Singapore Family Physician,* Vol. 35, No. 3, 2009, pp. 84-92.

[4] Forootan, Mojgan, Nazila Bagheri, and Mohammad Darvishi. "Chronic constipation: A review of literature." *Medicine,* Vol. 97, No. 20, 2018, p. e10631.

[5] Bosshard, Wanda, et al. "The treatment of chronic constipation in elderly people." *Drugs & Aging,* Vol. 21, No. 14, 2004, pp. 911-30.

[6] Chen, Chien-Liang, et al. "Constipation and its associated factors among patients with dementia." *International Journal of Environmental Research and Public Health,* Vol. 17, No. 23, 2020, p. 9006.

[7] Schuster, Brenda G., Lynette Kosar, and Rejina Kamrul. "Constipation in older adults: Stepwise approach to keep things moving." *Canadian Family Physician,* Vol. 61, No. 2, 2015, pp. 152-58.

[8] Lamas, Kristina, et al. "Prevalence of constipation among persons living in institutional geriatric-care settings-A cross-sectional study." *Scandinavian Journal of Caring Sciences,* Vol. 31, No. 1, 2017, pp. 157-63.

[9] Gumus, Aysun Babacan, Sevinc Sipkin, and Gulseren Keskin. "Determining the care needs of elderly individuals who live in a nursing home according to the functional health patterns model." *Journal of Psychiatric Nursing,* Vol. 3, No. 1, 2012, pp. 13-22.

[10] Bilgic, S., et al. "Constitutional situations and affecting factors of the elderly living in a nursing home." *International Journal of Basic and Clinical Medicine,* Vol. 4, No. 1, 2016, pp. 9-16.

[11] Emly, Marian, Simon Cooper, and Andy Vail. "Colonic motility in profoundly disabled people: A comparison of massage and laxative therapy in the management of constipation." *Physiotherapy,* Vol. 84, No. 4, 1998, pp. 178-83.

[12] Fosnes, Gunvor S., Stian Lydersen, and Per G. Farup. "Effectiveness of laxatives in elderly-A cross sectional study in nursing homes." *BMC Geriatrics,* Vol. 11, No. 1, 2011, pp. 1-7.

[13] Andresen, Viola, and Peter Layer. "Medical therapy of constipation: Current standards and beyond." *Visceral Medicine,* Vol. 34, No. 2, 2018, pp. 123-27.

[14] Woodward, Sue, Christine Norton, and K. Louise Barriball. "A pilot study of the effectiveness of reflexology in treating idiopathic constipation in women." *Complementary Therapies in Clinical Practice,* Vol. 16, No. 1, 2010, pp. 41-46.

[15] Annells, Merilyn, and Tina Koch. "Constipation and the preached trio: Diet, fluid intake, exercise." *International Journal of Nursing Studies,* Vol. 40, No. 8, 2003, pp. 843-52.

[16] Brandt, Lawrence J., et al. "Systematic review on the management of chronic constipation in North America." *American Journal of Gastroenterology,* Vol. 100, 2005, pp. S5-22.

[17] Rao, Satish SC, and Jorge T. Go. "Update on the management of constipation in the elderly: New treatment options." *Clinical Interventions in Aging,* Vol. 5, 2010, pp. 163-71.

[18] McClurg, Doreen, et al. "Abdominal massage for the alleviation of constipation symptoms in people with multiple sclerosis: A randomized controlled feasibility study." *Multiple Sclerosis Journal,* Vol. 17, No. 2, 2011, pp. 223-33.

[19] Laycock, Jo, and Jeanette Haslam, eds. "Therapeutic management of incontinence and pelvic pain: pelvic organ disorders." *Springer Science & Business Media*, 2013.

[20] Sinclair, Marybetts. "The use of abdominal massage to treat chronic constipation." *Journal of Bodywork and Movement Therapies,* Vol. 15, No. 4, 2011, pp. 436-45.

[21] Preece, Joyce. "Introducing abdominal massage in palliative care for the relief of constipation." *Complementary Therapies in Nursing and Midwifery,* Vol. 8, No. 2, 2002, pp. 101-05.

[22] Liu, Zhi, et al. "Mechanism of abdominal massage for difficult defecation in a patient with myelopathy (HAM/TSP)." *Journal of Neurology,* Vol. 252, No. 10, 2005, pp. 1280-82.

[23] Resende, T. L., J. C. Brocklehurst, and P. A. O'Neill. "A pilot study on the effect of exercise and abdominal massage on bowel habit in continuing care patients." *Clinical Rehabilitation,* Vol. 7, No. 3, 1993, pp. 204-09.

[24] Ayas, Sehri, et al. "The effect of abdominal massage on bowel function in patients with spinal cord injury." *American Journal of Physical Medicine & Rehabilitation,* Vol. 85, No. 12, 2006, pp. 951-55.

[25] Lämås, Kristina, et al. "Effects of abdominal massage in management of constipation-A randomized controlled trial." *International Journal of Nursing Studies,* Vol. 46, No. 6, 2009, pp. 759-67.

[26] Uysal, Nurcan, Leyla Khorshid, and I. Eşer. "The identification of constipation problem in healthy young individuals." *TAF Preventive Medicine Bulletin,* Vol. 9, No. 2, 2010, pp. 127-32.

[27] Arslan, Gulsah Gurol, and Ismet Eser. "An examination of the effect of castor oil packs on constipation in the elderly." *Complementary Therapies in Clinical Practice,* Vol. 17, No. 1, 2011, pp. 58-62.

[28] Drossman, Douglas A., and Dan L. Dumitrascu. "Rome III: New standard for functional gastrointestinal disorders." *Journal of Gastrointestinal and Liver Diseases,* Vol. 15, No. 3, 2006, pp. 237-41.

[29] Pamuk, Omer Nuri, Gulsum Emel Pamuk, and Aykut Ferhat Celik. "Revalidation of description of constipation in terms of recall bias and visual scale analog questionnaire." *Journal of Gastroenterology and Hepatology,* Vol. 18, No. 12, 2003, pp. 1417-22.

[30] Longstreth, George F., et al. "Functional bowel disorders." *Gastroenterology,* Vol. 130, No. 5, 2006, pp. 1480-91.

[31] Lewis, Simon J., and Kenneth W. Heaton. "Stool form scale as a useful guide to intestinal transit time." *Scandinavian Journal of Gastroenterology,* Vol. 32, No. 9, 1997, pp. 920-24.

[32] Marquis, Patrick, et al. "Development and validation of the patient assessment of constipation quality of life questionnaire." *Scandinavian Journal of Gastroenterology,* Vol. 40, No. 5, 2005, pp. 540-51.

[33] Dedeli, O., et al. "A validity and reliability of adaptation patient assessment of constipation quality of life scale." *MN Internal Medical Sciences,* Vol. 2, No. 1-2, 2007, pp. 36-43.

[34] Bouras, Ernest P., and Eric G. Tangalos. "Chronic constipation in the elderly." *Gastroenterology Clinics,* Vol. 38, No. 3, 2009, pp. 463-80.

[35] Korkmaz, Murat. "Management of the patient with constipation in primary care." *Konuralp Medical Journal,* Vol. 3, No. 3, 2011, pp. 35-41.

[36] Lai, T. K. T., et al. "Effectiveness of aroma massage on advanced cancer patients with constipation: A pilot study." *Complementary Therapies in Clinical Practice,* Vol. 17, No. 1, 2011, pp. 37-43.

[37] Cevik, Kivan, et al. "The effect of abdominal massage on constipation in the elderly residing in rest homes." *Gastroenterology Nursing,* Vol. 41, No. 5, 2018, pp. 396-402.

[38] Turan, Nuray, and Turkinaz Atabek Asti. "The effect of abdominal massage on constipation and quality of life." *Gastroenterology Nursing,* Vol. 39, No. 1, 2016, pp. 48-59.

[39] Moss, Lucy, et al. "Abdominal massage for the treatment of idiopathic constipation in children with profound learning disabilities: A single case study design." *British Journal of Learning Disabilities,* Vol. 36, No. 2, 2008, pp. 102-08.

[40] Bromley, Debbie. "Abdominal massage in the management of chronic constipation for children with disability." *Community Practitioner,* Vol. 87, No. 12, 2014, pp. 25-30.

[41] Yont, G. Hakverdioglu, et al. "Assessment of constipation diagnosis in elderly residents in nursing homes." *I.U.F.N. Journal of Nursing,* Vol. 19, No. 2, 2011, pp. 83-88.

[42] Hu, Chunying, Miao Ye, and Qiuchen Huang. "Effects of manual therapy on bowel function of patients with spinal cord injury." *Journal of Physical Therapy Science,* Vol. 25, No. 6, 2013, pp. 687-88.

[43] Harrington, Kendra L., and Esther M. Haskvitz. "Managing a patient's constipation with physical therapy." *Physical Therapy,* Vol. 86, No. 11, 2006, pp. 1511-19.

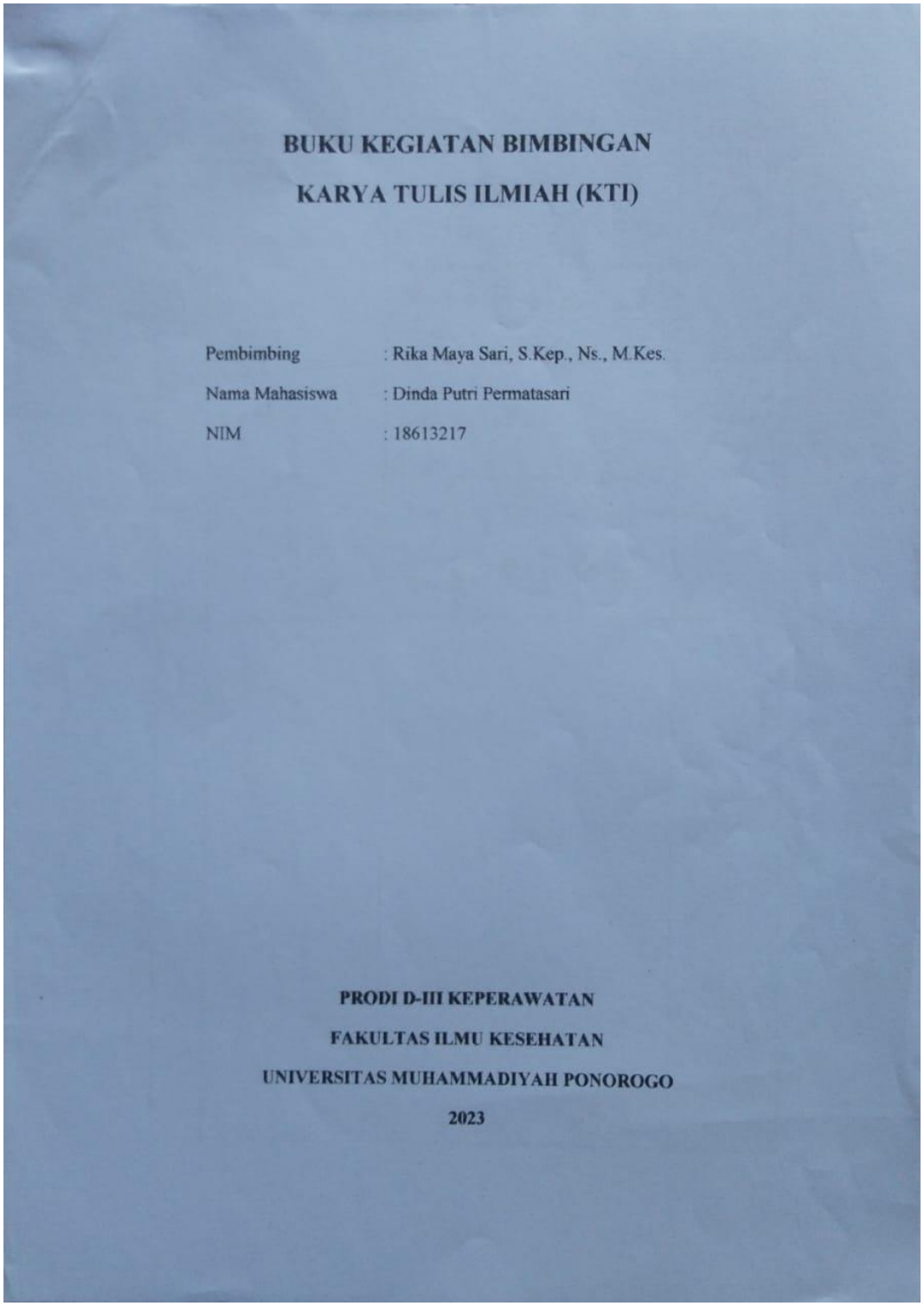
[44] Sun, Shawn X., et al. "Impact of chronic constipation on health-related quality of life, work productivity, and healthcare resource use: An analysis of the National Health and Wellness Survey." *Digestive Diseases and Sciences,* Vol. 56, No. 9, 2011, pp. 2688-95.

[45] Gallegos-Orozco, Juan F., et al. "Chronic constipation in the elderly." *American Journal of Gastroenterology,* Vol. 107, No. 1, 2012, pp. 18-25.

[46] Lamas, Kristina, et al. "Abdominal massage for people with constipation: A cost utility analysis." *Journal of Advanced Nursing,* Vol. 66, No. 8, 2010, pp. 1719-29.

[47] McClurg, Doreen, et al. "Abdominal massage for the relief of constipation in people with Parkinson's: A qualitative study." *Parkinson's Disease,* Vol. 2016, 2016.

Lampiran 2. Buku Bimbingan



BUKU KEGIATAN BIMBINGAN

KARYA TULIS ILMIAH (KTI)

Pembimbing : Rika Maya Sari, S.Kep., Ns., M.Kes.

Nama Mahasiswa : Dinda Putri Permatasari

NIM : 18613217

PRODI D-III KEPERAWATAN

FAKULTAS ILMU KESEHATAN

UNIVERSITAS MUHAMMADIYAH PONOROGO

2023

NO.	HARI/TANGGAL	REKOMENDASI	TANDA TANGAN
	11/22 /1	Bab 1 ← UKS Pertaiki sesuai saran Bab 2 : Cek penulisan, rapikan, lihat pandoman. - Kajian ke-Islaman blm ada.	
	14/22 /1		
	19/22 /9	Bab 2 - Bag. implementasi mohon diperjelas - kutipan surah Qur'an mohon dicek ulang dgn Al-Qur'an.	

NO.	HARI/TANGGAL	REKOMENDASI	TANDA TANGAN
4.	6/10 '22	Bab 2 perbaiki sesuai saran. Cek kembali penulisan Next bab 3.	
	2/11 '22	Bab. 3 : oke Selanjutnya konsul keseluruhan.	
	23/11 '22	Perbaiki sesuai saran konsul keseluruhan	
	24/11 '22	Konsul keseluruhan dari lembar pengesahan depan s/d belakang Lampiran Buat leaflet ! Cek ayat : Qur'an ! Lengkapi draft !	

NO.	HARI/TANGGAL	REKOMENDASI	TANDA TANGAN
	16/1/23	Ganti judul : Studi Literatur : Massage Abdomen untuk mengatasi risiko konstipasi pada Lansia .	
	3/4/23	Bab 1 ok. Bab 2 → jurnal tambah lagi 2 dari internasional Selanjutnya lengkapi draft.	

NO.	HARI/TANGGAL	REKOMENDASI	TANDA TANGAN
	16/23 1	Ganti judul : Studi Literatur : Massage Abdomen untuk mengatasi risiko konstipasi pada Lansia .	
	3/23 4	Bab 1 ok. Bab 2 → jurnal tambah lagi 2 dari internasional Selanjutnya lengkapi draft.	
		Uji	
	20/23 6	perbaiki sesuai saran Tambahkan kajian ke-islaman Selanjutnya konsul keseluruhan.	

NO.	HARI/TANGGAL	REKOMENDASI	TANDA TANGAN
	27/6/23	Cek penulisan, perbaiki sesuai saran.	

BUKU KEGIATAN BIMBINGAN
KARYA TULIS ILMIAH (KTI)

Pembimbing : Metti Verawati, S.Kep., Ns., M.Kes.

Nama Mahasiswa : Dinda Putri Permatasari

NIM : 18613217

PRODI D-III KEPERAWATAN

FAKULTAS ILMU KESEHATAN

UNIVERSITAS MUHAMMADIYAH PONOROGO

2023

NO.	HARI/TANGGAL	REKOMENDASI	TANDA TANGAN
1.	8/12/2022	LBM: - masukkan masl nutrisi - update data masl. - masukkan nilai & islami terkait perawat Lansia. Bab 2. → Perlengkap konsep Anatomi Fisiologi → Peran fisis tolong pd masl nutrisi blm ada. # Hub antar konsep ✓	
2.	27/3/2023.	→ Ganti haluan → Lit rev. Risiko konstipasi pd Lansia ⇓ LBM sesuaikan → blm lg masl nutrisi. → Bab 2 sesuaikan!! MK. Risiko konstipasi → Tambah 2 artikel jurnal yg relevan	

NO.	HARI/TANGGAL	REKOMENDASI	TANDA TANGAN
3.	17/9/2023	Singkatan sebaiknya ditulis di awal dl → bar sH itu disingkat. Lengkapi proposal 1.	
4.	21/6/2023.	Pembahasan → FTO → opini ↓ hasil lit yg didapat ↓ Teori	
5	7/7/2023	Acc uji KTI	