

DAFTAR PUSTAKA

- Alramly, M.K., Abdalrahim, M.S. and Khalil, A. (2020) 'Validation of the modified NUTRIC score on critically ill Jordanian patients: A retrospective study', *Nutrition and Health*, 26(3), pp. 225–229. Available at: <https://doi.org/10.1177/0260106020923832>.
- Arabi, Y.M. *et al.* (2017) 'The intensive care medicine research agenda in nutrition and metabolism', *Intensive Care Medicine*. Springer Verlag, pp. 1239–1256. Available at: <https://doi.org/10.1007/s00134-017-4711-6>.
- Barker, L.A., Gout, B.S. and Crowe, T.C. (2011) 'Hospital malnutrition: Prevalence, identification and impact on patients and the healthcare system', *International Journal of Environmental Research and Public Health*, 8(2), pp. 514–527. Available at: <https://doi.org/10.3390/ijerph8020514>.
- Barr, J. *et al.* (2004) 'Outcomes in critically ill patients before and after the implementation of an evidence-based nutritional management protocol', *Chest*, 125(4), pp. 1446–1457. Available at: <https://doi.org/10.1378/chest.125.4.1446>.
- Bendavid, I. *et al.* (2019) 'Early administration of protein in critically ill patients: A retrospective cohort study', *Nutrients*, 11(1), pp. 1–10. Available at: <https://doi.org/10.3390/nu11010106>.
- Blaauw, L. *et al.* (2024) 'The impact of guideline recommended protein intake on mortality and length of intensive care unit and hospital stay in critically ill adults: A systematic review', *Clinical Nutrition ESPEN*, 61, pp. 356–368. Available at: <https://doi.org/10.1016/j.clnesp.2024.04.003>.
- Bukhari, A. *et al.* (2020) 'Comparison of different early enteral feeding formulas on critically ill patients', *Journal of Nutritional Science and Vitaminology*, 66, pp. S2–S10. Available at: <https://doi.org/10.3177/jnsv.66.S2>.
- Casaer, M.P. and Ziegler, T.R. (2015) 'Nutritional support in critical illness and recovery', *The Lancet Diabetes and Endocrinology*. Lancet Publishing Group, pp. 734–745. Available at: [https://doi.org/10.1016/S2213-8587\(15\)00222-3](https://doi.org/10.1016/S2213-8587(15)00222-3).
- Deane, A.M. *et al.* (2014) 'The effects of critical illness on intestinal glucose sensing, transporters, and absorption', *Critical Care Medicine*, 42(1), pp. 57–65. Available at: <https://doi.org/10.1097/CCM.0b013e318298a8af>.
- Duan, J.Y. *et al.* (2021) 'Energy delivery guided by indirect calorimetry in critically ill patients: a systematic review and meta-analysis', *Critical Care*, 25(1), pp. 1–10. Available at: <https://doi.org/10.1186/s13054-021-03508-6>.
- Gil Cebrian, J., Bello Cámara, M.P. and Diaz-Alersi, R. (1987) 'Apache II.', *Intensive Care Medicine*, 13(2), p. 143. Available at: <https://doi.org/10.1097/00003465-198603000-00013>.
- Gourd, N.M. and Nikitas, N. (2020) 'Multiple Organ Dysfunction Syndrome', *Journal of Intensive Care Medicine*, 35(12), pp. 1564–1575. Available at: <https://doi.org/10.1177/0885066619871452>.
- Han, Y.Y. *et al.* (2017) 'The clinical and economic impact of the use of diabetes-specific enteral formula on ICU patients with type 2 diabetes', *Clinical Nutrition*, 36(6), pp. 1567–1572. Available at: <https://doi.org/10.1016/j.clnu.2016.09.027>.
- Henrique, J. *et al.* (2020) 'Protein provision and lower mortality in critically ill patients with COVID-19', (January).
- Heyland, D. *et al.* (2023) 'The effect of higher protein dosing in critically ill patients with high nutritional risk (EFFORT Protein): an international, multicentre,

- pragmatic, registry-based randomised trial', *The Lancet*, 401(10376), pp. 568–576. Available at: <http://www.journals.elsevier.com/the-lancet/><http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emexb&NEWS=N&AN=2022786270>.
- Heyland, D.K. *et al.* (2011) *Identifying critically ill patients who benefit the most from nutrition therapy: the development and initial validation of a novel risk assessment tool*. Available at: <http://ccforum.com/content/15/6/R268>.
- Hill, A. (2021) 'Nutrition in the intensive care unit', *Critical Care*, 3(5), pp. 1–26. Available at: <https://doi.org/10.1186/cc360>.
- Ibrahim, D.A. *et al.* (2020) 'Modified NUTRIC score and outcomes in critically ill patients: A meta-analysis', *Egyptian Journal of Anaesthesia*, 36(1), pp. 288–296. Available at: <https://doi.org/10.1080/11101849.2020.1848240>.
- Idrissi, H.B. El *et al.* (2015) 'Alteración del metabolismo proteico en paciente crítico con síndrome de respuesta inflamatoria sistémica al ingreso en la unidad de cuidados intensivos', *Nutricion Hospitalaria*, 32(6), pp. 2848–2854. Available at: <https://doi.org/10.3305/nh.2015.32.6.9827>.
- Jeong, D.H. *et al.* (2018) 'Comparison of accuracy of NUTRIC and modified NUTRIC scores in predicting 28-day mortality in patients with sepsis: A single center retrospective study', *Nutrients*, 10(7). Available at: <https://doi.org/10.3390/nu10070911>.
- Kalaiselvan, M.S., Renuka, M.K. and Arunkumar, A.S. (2017) 'Use of nutrition risk in critically ill (NUTRIC) score to assess nutritional risk in mechanically ventilated patients: A prospective observational study', *Indian Journal of Critical Care Medicine*, 21(5), pp. 253–256. Available at: https://doi.org/10.4103/ijccm.IJCCM_24_17.
- Kumar, S. *et al.* (2020) 'Comparison of the performance of apache ii, sofa, and mnutric scoring systems in critically ill patients: 2 year cross-sectional study', *Indian Journal of Critical Care Medicine*, 24(11), pp. 1057–1061. Available at: <https://doi.org/10.5005/jp-journals-10071-23549>.
- Lambden, S. *et al.* (2019) 'The SOFA score - Development, utility and challenges of accurate assessment in clinical trials', *Critical Care*. BioMed Central Ltd. Available at: <https://doi.org/10.1186/s13054-019-2663-7>.
- Lew, C.C.H. *et al.* (2017) 'Association between Malnutrition and Clinical Outcomes in the Intensive Care Unit: A Systematic Review', *Journal of Parenteral and Enteral Nutrition*. SAGE Publications Inc., pp. 744–758. Available at: <https://doi.org/10.1177/0148607115625638>.
- Maslove, D.M. *et al.* (2022) 'Redefining critical illness', *Nature Medicine*, 28(6), pp. 1141–1148. Available at: <https://doi.org/10.1038/s41591-022-01843-x>.
- Mayr, V.D. *et al.* (2006) 'Causes of death and determinants of outcome in critically ill patients', *Critical Care*, 10(6), pp. 1–13. Available at: <https://doi.org/10.1186/cc5086>.
- McClave, S.A. *et al.* (2016) 'Guidelines for the Provision and Assessment of Nutrition Support Therapy in the Adult Critically Ill Patient: Society of Critical Care Medicine (SCCM) and American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.)', *Journal of Parenteral and Enteral Nutrition*, 40(2), pp. 159–211. Available at: <https://doi.org/10.1177/0148607115621863>.
- Mukhopadhyay, A. *et al.* (2017) 'Association of modified NUTRIC score with 28-day mortality in critically ill patients', *Clinical Nutrition*, 36(4), pp. 1143–1148. Available at: <https://doi.org/10.1016/j.clnu.2016.08.004>.
- Mumtaz, H. *et al.* (2023) 'APACHE scoring as an indicator of mortality rate in ICU patients: a cohort study', *Annals of Medicine and Surgery*, 85(3), pp. 416–421. Available at: <https://doi.org/10.1097/MS9.0000000000000264>.
- Narayan, S.K., Gudivada, K.K. and Krishna, B. (2020) 'Assessment of nutritional

- status in the critically ill', *Indian Journal of Critical Care Medicine*. Jaypee Brothers Medical Publishers (P) Ltd, pp. S152–S156. Available at: <https://doi.org/10.5005/jp-journals-10071-23617>.
- Orban, J.C. *et al.* (2015) 'Causes and characteristics of death in ICU: A national study', *Intensive Care Medicine Experimental*, 3(Suppl 1), pp. 1–2. Available at: <https://doi.org/10.1186/2197-425X-3-S1-A770>.
- Pertzov, B. *et al.* (2022) 'The effect of indirect calorimetry guided isocaloric nutrition on mortality in critically ill patients—a systematic review and meta-analysis', *European Journal of Clinical Nutrition*, 76(1), pp. 5–15. Available at: <https://doi.org/10.1038/s41430-021-00919-0>.
- Preiser, J.C. *et al.* (2014) 'Metabolic response to the stress of critical illness', *British Journal of Anaesthesia*. Elsevier Ltd, pp. 945–954. Available at: <https://doi.org/10.1093/bja/aeu187>.
- Puthuchery, Z.A. *et al.* (2013) 'Acute skeletal muscle wasting in critical illness', *Jama*, 310(15), pp. 1591–1600. Available at: <https://doi.org/10.1001/jama.2013.278481>.
- Rahman, A. *et al.* (2016) 'Identifying critically-ill patients who will benefit most from nutritional therapy: Further validation of the “modified NUTRIC” nutritional risk assessment tool', *Clinical Nutrition*, 35(1), pp. 158–162. Available at: <https://doi.org/10.1016/j.clnu.2015.01.015>.
- Raymond, J.L. and Morrow, K. (2020) *Krause and Mahan's Food & The Nutrition Care Process 15TH EDITION*.
- Robertson, L.C. and Al-Haddad, M. (2013) 'Recognizing the critically ill patient', *Anaesthesia and Intensive Care Medicine*. Elsevier Ltd, pp. 11–14. Available at: <https://doi.org/10.1016/j.mpaic.2012.11.010>.
- Rubinsky, M.D. and Clark, A.P. (2012) 'Early enteral nutrition in critically ill patients', *Dimensions of Critical Care Nursing*, 31(5), pp. 267–274. Available at: <https://doi.org/10.1097/DCC.0b013e3182619944>.
- Sattari, H. *et al.* (2021) 'The Ability of SOFA Score to Predict Mortality Rate and ICU Length of Stay for Trauma Patients', *NVEO - NATURAL VOLATILES & ESSENTIAL OILS Journal | NVEO*, 8(5), pp. 12995–13002. Available at: <https://www.nveo.org/index.php/journal/article/view/4251>.
- Singer, P. *et al.* (2019) 'ESPEN guideline on clinical nutrition in the intensive care unit', *Clinical Nutrition*, 38(1), pp. 48–79. Available at: <https://doi.org/10.1016/j.clnu.2018.08.037>.
- Siobal, M.S., Jami Baltz, F.E. and Jodi Richardson, C. (2021) *A Guide to the Nutritional Assessment and Treatment of the Critically Ill Patient*.
- Sutrisnawati, I. *et al.* (2021) 'Correlation between nutric score and adequacy of energy and protein intake with duration of mechanical ventilation in the intensive care unit Dr. Kariadi Hospital, Semarang-Indonesia', *Bali Medical Journal*, 10(1), pp. 392–396. Available at: <https://doi.org/10.15562/bmj.v10i1.2196>.
- Thorell, A. *et al.* (2004) 'Intensive insulin treatment in critically ill trauma patients normalizes glucose by reducing endogenous glucose production', *Journal of Clinical Endocrinology and Metabolism*, 89(11), pp. 5382–5386. Available at: <https://doi.org/10.1210/jc.2004-1118>.
- Vincent, J.L. and Creteur, J. (2019) *The Critically Ill Patient*. Third Edit, *Critical Care Nephrology: Third Edition*. Third Edit. Available at: <https://doi.org/10.1016/B978-0-323-44942-7.00001-7>.
- De Vries, M.C. *et al.* (2018) 'Nutritional assessment of critically ill patients: Validation of the modified NUTRIC score', in *European Journal of Clinical Nutrition*. Nature Publishing Group, pp. 428–435. Available at: <https://doi.org/10.1038/s41430-017-0008-7>.

- Wang, N. *et al.* (2021) 'Association between the modified Nutrition Risk in Critically Ill (mNUTRIC) score and clinical outcomes in the intensive care unit: a secondary analysis of a large prospective observational study', *BMC Anesthesiology*, 21(1). Available at: <https://doi.org/10.1186/s12871-021-01439-x>.
- Weijs, P.J.M. *et al.* (2014) 'Early high protein intake is associated with low mortality and energy overfeeding with high mortality in non-septic mechanically ventilated critically ill patients', *Critical Care*, 18(1), pp. 1–10. Available at: <https://doi.org/10.1186/s13054-014-0701-z>.
- Welna, M. *et al.* (2023) 'The NUTRIC Score as a Tool to Predict Mortality and Increased Resource Utilization in Intensive Care Patients with Sepsis', *Nutrients*, 15(7), pp. 1–13. Available at: <https://doi.org/10.3390/nu15071648>.
- Van Zanten, A.R.H., De Waele, E. and Wischmeyer, P.E. (2019) 'Nutrition therapy and critical illness: Practical guidance for the icu, post-icu, and long-term convalescence phases', *Critical Care*. BioMed Central Ltd. Available at: <https://doi.org/10.1186/s13054-019-2657-5>.
- Zusman, O. *et al.* (2016) 'Resting energy expenditure, calorie and protein consumption in critically ill patients: A retrospective cohort study', *Critical Care*, 20(1), pp. 1–8. Available at: <https://doi.org/10.1186/s13054-016-1538-4>.

Lampiran 1



KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET DAN TEKNOLOGI
 UNIVERSITAS HASANUDDIN FAKULTAS KEDOKTERAN
 KOMITE ETIK PENELITIAN UNIVERSITAS HASANUDDIN
 RSPTN UNIVERSITAS HASANUDDIN
 RSUP Dr. WAHIDIN SUDIROHUSODO MAKASSAR
 Sekretariat : Lantai 2 Gedung Laboratorium Terpadu
 JL.PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM.10 MAKASSAR 90245.
 Contact Person: dr. Agussalim Bukhari,,MMed,PhD, SpGK TELP. 081241850858, 0411 5780103, Fax : 0411-581431



REKOMENDASI PERSETUJUAN ETIK

Nomor : 651/UN4.6.4.5.31/ PP36/ 2023

Tanggal: 8 September 2023

Dengan ini Menyatakan bahwa Protokol dan Dokumen yang Berhubungan Dengan Protokol berikut ini telah mendapatkan Persetujuan Etik :

No Protokol	UH23080636	No Sponsor	
Peneliti Utama	dr. Husmiani	Sponsor	
Judul Peneliti	Hubungan Antara modified Nutric Score Dengan Length of Stay Dan Mortalitas Pada Pasien Kritis Yang Mendapat Terapi Medik Gizi Di Ruang Perawatan Intensive Care Unit RSUP Wahidin Sudirohusodo		
No Versi Protokol	1	Tanggal Versi	28 Agustus 2023
No Versi PSP		Tanggal Versi	
Tempat Penelitian	RSUP Dr. Wahidin Sudirohusodo Makassar		
Jenis Review	<input type="checkbox"/> Exempted <input checked="" type="checkbox"/> Expedited <input type="checkbox"/> Fullboard Tanggal	Masa Berlaku 8 September 2023 sampai 8 September 2024	Frekuensi review lanjutan
Ketua KEP Universitas Hasanuddin	Nama Prof. dr. Muh Nasrum Massi, PhD, SpMK(K)	Tanda tangan 	
Sekretaris KEP Universitas Hasanuddin	Nama dr. Firdaus Hamid, PhD, SpMK(K)	Tanda tangan 	

Kewajiban Peneliti Utama:

- Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan
- Menyerahkan Laporan SAE ke Komisi Etik dalam 24 Jam dan dilengkapi dalam 7 hari dan Laporan SUSAR dalam 72 jam setelah Peneliti Utama menerima laporan
- Menyerahkan Laporan Kemajuan (progress report) setiap 6 bulan untuk penelitian resiko tinggi dan setiap setahun untuk penelitian resiko rendah
- Menyerahkan laporan akhir setelah Penelitian berakhir
- Melaporkan penyimpangan dari protokol yang disetujui (protocol deviation / violation)
- Mematuhi semua peraturan yang ditentukan

Lampiran 2



KEMENTERIAN KESEHATAN REPUBLIK INDONESIA

DIREKTORAT JENDERAL PELAYANAN KESEHATAN

RUMAH SAKIT UMUM PUSAT DR. WAHIDIN SUDIROHUSODO
Jalan Perintis Kemerdekaan Km. 11 Tamalanrea, Makassar, Kode Pos 90245
Telp. (0411) 584675 – 581818 (*Hunting*), Fax. (0411) 587676
Laman : www.rsupwahidin.com Surat Elektronik : tu@rsupwahidin.com



Nomor : DP.04.03/D.XIX.2/17432/2023
Hal : Izin Penelitian

18 September 2023

Yth. Ketua Program Studi Ilmu Gizi Klinik
Fakultas Kedokteran Universitas Hasanuddin

Sehubungan dengan surat saudara nomor 17217/UN4.6.8/PT.01.04/2023, tertanggal 21 Juli 2023, hal Permohonan Izin Penelitian, dapat kami fasilitasi dan memberikan izin pelaksanaan penelitian kepada:

Nama : dr. Husmiani
NIM : C175191006
Prog. Pend. : PPDS Ilmu Gizi Klinik
No. HP : 08124155740
Judul : Hubungan Antara *Modified Nutric Score* dengan *Length of Stay* dan Mortalitas pada Pasien Kritis yang Mendapat Terapi Medik Gizi di Ruang Perawatan *Intensive Care Unit* RSUP Dr. Wahidin Sudirohusodo Makassar
Jangka Waktu : Tiga Bulan Setelah Surat ini di Keluarkan
Lokasi : Inst. Rekam Medik; Inst Sistem Informasi Rumah Sakit

dengan ketentuan sebagai berikut :

1. Sesuai dengan peraturan dan ketentuan penelitian yang berlaku di lingkup RSUP Dr Wahidin Sudirohusodo
2. Sebelum meneliti, peneliti wajib melapor kepada Pengawas Penelitian di masing-masing unit yang menjadi lokasi penelitian
3. Pelaksanaan penelitian tidak mengganggu proses pelayanan serta mendukung upaya peningkatan mutu pelayanan dan keselamatan pasien
4. Pemeriksaan penunjang, BHP dan lain-lain yang digunakan dalam penelitian, menjadi tanggung jawab peneliti, tidak dibebankan kepada pasien ataupun RS
5. Peneliti melaporkan proses penelitian secara periodik serta hasil penelitian di akhir waktu penelitian
6. Mencantumkan nama RSUP Dr Wahidin Sudirohusodo sebagai afiliasi institusi dalam naskah dan publikasi penelitian
7. Surat Keterangan Selesai Penelitian menjadi salah satu syarat untuk mengikuti Seminar Hasil Penelitian
8. Bukti Penyerahan Skripsi/Thesis/Disertasi ke RSUP Dr Wahidin Sudirohusodo menjadi syarat penyelesaian studi

Mohon dapat dipastikan agar ketentuan tersebut dipenuhi peneliti sebelum menyelesaikan studi di institusi saudara. Atas perhatian dan Kerjasama yang baik, diucapkan terima kasih.

a.n. Direktur Utama
Direktur SDM, Pendidikan dan Penelitian,



Dr. dr. Nu'man AS Daud, Sp.PD, K-GEH, FINASIM
NIP197112142000031004

Tembusan:

1. Kepala Instalasi Rekam Medik
2. Kepala Instalasi Sistem Informasi Rumah Sakit