DAFTAR PUSTAKA

Agesti, L. P. (2019). *Hubungan Smartphone Addiction dan Self Efficacy dengan Prestasi Akademik pada Remaja*. (Skripsi, Universitas Airlangga, 2019) Diakses dari http://repository.unair.ac.id.

Akindele, M. O., Phillips, J. S., & Igumbor, E. U. (2016). The relationship between body fat percentage and body mass index in overweight and obese individuals in an urban African setting. *Journal of Public Health in Africa*, *7*(1), 15–19. https://doi.org/10.4081/jphia.2016.515

Al-Nakeeb, Y., Lyons, M., Dodd, L. J., & Al-Nuaim, A. (2015). An investigation into the lifestyle, health habits and risk factors of young adults. *International Journal of Environmental Research and Public Health*, *12*(4), 4380–4394. https://doi.org/10.3390/ijerph120404380

Al Rahmad, A. H. (2019). Sedentary as a factor of overweight at adoslecents. *Jurnal Vokasi Kesehatan*, *5*(1), 16–21.

Alrashidi, M. (2016). *The Prevalence, Risk Factors and Perception of Overweight and Obesity in KuwaitiChildren: A Mixed Methods Approach* (Issue May). (Thesis, RMIT *University*, 2016) Diakses dari https://core.ac.uk.

Asnita, Y. (2020). *Pengaruh Polakonsumsi Makanan Jajanan Dan Gaya Hidup Sedentariterhadap Kejadian Obesitaspada Remajadi Smun 7 Banda Aceh*. Universitas Sumatra Utara.

Ayu, D., Rosyida, C., Setiawandari, S., & Java, S. (2020). *Effects of sedentary behavior and fast-food consumption habit on body mass index among obese children in siwalankerto village, surabaya*. *14*(2), 153–158.

Barone Gibbs, B., Pettee Gabriel, K., Carnethon, M. R., Gary-Webb, T., Jakicic, J. M., Rana, J. S., Reis, J. P., Siddique, J., Sternfeld, B., & Lewis, C. E. (2017). Sedentary Time, Physical Activity, and Adiposity: Cross-sectional and Longitudinal Associations in CARDIA. *American Journal of Preventive Medicine*, *53*(6), 764–771. https://doi.org/10.1016/j.amepre.2017.07.009

Bauman, A. E., Petersen, C. B., Blond, K., Rangul, V., & Hardy, L. L. (2018). *The Descriptive Epidemiology of Sedentary Behaviour*. https://doi.org/10.1007/978-3-319-61552-3_4

Benaich, S., Mehdad, S., Andaloussi, Z., Boutayeb, S., Alamy, M., Aguenaou, H., & Taghzouti, K. (2021). Weight status, dietary habits, physical activity, screen time and sleep duration among university students. *Nutrition and Health*, *27*(1), 69–78. https://doi.org/10.1177/0260106020960863

Berlin, K. S., Kamody, R. C., Thurston, I. B., Banks, G. G., Rybak, T. M., & Ferry, R. J. (2017). Physical Activity, Sedentary Behaviors, and Nutritional Risk Profiles and Relations to Body Mass Index, Obesity, and Overweight in Eighth Grade. *Behavioral Medicine*, *43*(1), 31–39. https://doi.org/10.1080/08964289.2015.1039956

Bhadoria, A., Sahoo, K., Sahoo, B., Choudhury, A., Sufi, N., & Kumar, R. (2015). Childhood obesity: Causes and consequences. *Journal of Family Medicine and Primary Care*, *4*(2), 187. https://doi.org/10.4103/2249-4863.154628

Biller, V. S., Leitzmann, M. F., Sedlmeier, A. M., Berger, F. F., Ortmann, O., & Jochem, C. (2021). Sedentary behaviour in relation to ovarian cancer risk : a systematic review and meta - analysis. *European Journal of Epidemiology*, *0123456789*. https://doi.org/10.1007/s10654-020-00712-6

Braun, S. I., Kim, Y., Jetton, A. E., Kang, M., & Morgan, D. W. (2015). Prediction of bone mineral density and content from measures of physical activity and sedentary behavior in younger and older females. *Preventive Medicine Reports*, *2*, 300–305. https://doi.org/10.1016/j.pmedr.2015.04.012

Buck, C., Loyen, A., Foraita, R., Cauwenberg, J. Van, De, M., Craemer, M. De, Donncha, C. Mac, Oppert, J., Brug, J., Lien, N., Cardon, G., Pigeot, I., & Chastin, S. (2019). *Factors influencing sedentary behaviour : A system based analysis using Bayesian networks within DEDIPAC*. 1–18.

Castro, O., Bennie, J., Vergeer, I., Bosselut, G., & Biddle, S. J. H. (2020). How Sedentary Are University Students? A Systematic Review and Meta-Analysis. *Prevention Science*, *21*(3), 332–343. https://doi.org/10.1007/s11121-020-01093-8

Chastin, S. F. M., De Craemer, M., Lien, N., Bernaards, C., Buck, C., Oppert, J. M., Nazare, J. A., Lakerveld, J., O'Donoghue, G., Holdsworth, M., Owen, N., Brug, J., Cardon, G., Conroy, D., Healy, G., Langøien, L. J., Reilly, J., Rutter, H., Salmon, J., … Wong, S. (2016). The SOS-framework (Systems of Sedentary behaviours): An international transdisciplinary consensus framework for the study of determinants, research priorities and policy on sedentary behaviour across the life course: A DEDIPAC-study. *International Journal of Behavioral Nutrition and Physical Activity*, *13*(1), 1–13. https://doi.org/10.1186/s12966-016-0409-3

Chatterjee, A., Gerdes, M. W., & Martinez, S. G. (2020). Identification of risk factors associated with obesity and overweight—a machine learning overview. *Sensors (Switzerland)*, *20*(9). https://doi.org/10.3390/s20092734

Diaz, K. M., Howard, V. J., Hutto, B., Colabianchi, N., Vena, J. E., Blair, S. N., & Hooker, S. P. (2017). *Adults : The REGARDS Study*. *48*(3), 430–438. https://doi.org/10.1249/MSS.0000000000000792.Patterns

Ekelund, U., Kolle, E., Steene-Johannessen, J., Dalene, K. E., Nilsen, A. K. O., Anderssen, S. A., & Hansen, B. H. (2017). Objectively measured sedentary time and physical activity and associations with body weight gain: Does body weight determine a decline in moderate and vigorous intensity physical activity? *International Journal of Obesity*, *41*(12), 1769–1774. https://doi.org/10.1038/ijo.2017.186

Ekelund, Ulf, Steene-Johannessen, J., Brown, W. J., Fagerland, M. W., Owen, N., Powell, K. E., Bauman, A., Lee, I. M., Ding, D., Heath, G., Hallal, P. C., Kohl, H. W., Pratt, M., Reis, R., Sallis, J., Aadahl, M., Blot, W. J., Chey, T., Deka, A., … Yi-Park, S. (2016). Does physical activity attenuate, or even eliminate, the detrimental association of sitting time with mortality? A harmonised meta-analysis of data from more than 1 million men and women. *The Lancet*, *388*(10051), 1302–1310. https://doi.org/10.1016/S0140-6736(16)30370-1

Faiq, A. R., Zulhamidah, Y., Widayanti, E., Kedokteran, P., Anatomi, B., & Biologi, B. (2018). *Gambaran Sedentary Behaviour dan Indeks Massa Tubuh Mahasiswa Fakultas Kedokteran Universitas YARSI di Masa Pendidikan Tahun Pertama dan Kedua Profile of Sedentary Behaviour and Body Mass Index of medical students of YARSI University in first and second y*. *5*(2), 66–73.

Falconer, C. L., Page, A. S., Andrews, R. O. B. C., & Cooper, A. R. (2015). *Time in Adults with Type 2 Diabetes*. *23*, 2070–2075. https://doi.org/10.1249/MSS.0000000000000651

Ferrari, G. L. D. M., Araújo, T. L., Oliveira, L. C., Matsudo, V., & Fisberg, M. (2015). Association between electronic equipment in the bedroom and sedentary lifestyle, physical activity, and body mass index of children. *Jornal de Pediatria*, *91*(6), 574–582. https://doi.org/10.1016/j.jped.2015.01.009

Fuadianti, T. F. (2018). *Hubungan Antara Gaya Hidup Sedentary Dan Stres Dengan Obesitas Pada Ibu Rumah Tangga*. (Skripsi, Universitas Muhammadiyah Surakarta, 2018) Diakses dari https://eprints.ums.ac.id.

Gebrie, A., Alebel, A., Zegeye, A., Tesfaye, B., & Ferede, A. (2018). Prevalence and associated factors of overweight/ obesity among children and adolescents in Ethiopia: A systematic review and meta-analysis. *BMC Obesity*, *5*(1), 1–12. https://doi.org/10.1186/s40608-018-0198-0

Grasdalsmoen, M., Eriksen, H. R., Lønning, K. J., & Sivertsen, B. (2019). Physical exercise and body-mass index in young adults: A national survey of Norwegian university students. *BMC Public Health*, *19*(1), 1–9. https://doi.org/10.1186/s12889-019-7650-z

Gruda, N. (2019). *Assessing the impact of environmental factors on the quality of greenhouse produce*. 413–444. https://doi.org/10.19103/as.2019.0052.16

Henson, J., Dunstan, D. D., Davies, M. J., & Yates, T. (2016). Sedentary Behaviour as a New Behavioural target in the prevention and treatment of type 2 diabetes. *Diabetes/Metabolism Research and Reviews*, *32*, 213-22-. https://doi.org/10.1002/dmrr

Hernández-Yumar, A., Wemrell, M., Alessón, I. A., López-Valcárcel, B. G., Leckie, G., & Merlo, J. (2018). Socioeconomic differences in body mass index in Spain: An intersectional multilevel analysis of individual heterogeneity and discriminatory accuracy. *PLoS ONE*, *13*(12), 1–23. https://doi.org/10.1371/journal.pone.0208624

Hsieh, K., Hilgenkamp, T. I. M., Murthy, S., Heller, T., & Rimmer, J. H. (2017). Low levels of physical activity and sedentary behavior in adults with intellectual disabilities. *International Journal of Environmental Research and Public Health*, *14*(12). https://doi.org/10.3390/ijerph14121503

Hwang, H., & Jisu, W. J. (2019). *Comparison of association between physical activity and resting metabolic rate in young and middle- aged Korean adults*. *Journal of Exercise Nutrition & Biochemistry*, *23*(2), 16–21.

Ikeda, S., Kato, H. K., Ohtake, F., & Tsutsui, Y. (2016). Behavioral economics of preferences, choices, and happiness. In *Behavioral Economics of Preferences, Choices, and Happiness*. https://doi.org/10.1007/978-4-431-55402-8

Ilman, M., Zuhairini, Y., & Siddiq, A. (2015). Correlation between Body Mass Index and Body Fat Percentage. *Althea Medical Journal*, *2*(4), 575–578. https://doi.org/10.15850/amj.v2n4.642

Irianto, D. P. (2017). *Pedoman Gizi Lengkap Keluarga Dan Olahragawan*. Andi Publisher.

Isnaini, N., & Ratnasari, R. (2018). Faktor risiko mempengaruhi kejadian Diabetes mellitus tipe dua. *Jurnal Kebidanan Dan Keperawatan Aisyiyah*, *14*(1), 59–68. https://doi.org/10.31101/jkk.550

Jannah, M., & Utami, T. N. (2018). *Sekolah Di Sd N 1 Sigli Kabupaten Pidie Tahun*. *1*(3), 110–118.

Johnsson, A., Broberg, P., Johnsson, A., & Tornberg, Å. B. (2017). *Occupational sedentariness and breast cancer risk*. https://doi.org/10.1080/0284186X.2016.1262547

Kazi, A., Haslam, C., Duncan, M., Clemes, S., & Twumasi, R. (2019). Sedentary behaviour and health at work: an investigation of industrial sector, job role, gender and geographical differences. *Ergonomics*, *62*(1), 21–30. https://doi.org/10.1080/00140139.2018.1489981

Kerr, J., Anderson, C., & Lippman, S. M. (2017). Series Cancer prevention 2 Physical activity , sedentary behaviour , diet , and cancer : an update and emerging new evidence. *Lancet Oncology*, *18*(8), e457–e471. https://doi.org/10.1016/S1470-2045(17)30411-4

Koedijk, J. B., Rijswijk, J. Van, Oranje, W. A., Bergh, J. P. Van Den, & Bours, S. P. (2017). *Sedentary behaviour and bone health in children , adolescents and young adults : a systematic review*. 2507–2519. https://doi.org/10.1007/s00198-017-4076-2

Kolimechkov S. (2016). *Body Mass Index. STK Sport UK. November*, 1–7. https://doi.org/10.13140/RG.2.2.31492.94086

Koning, M., Hoekstra, T., Jong, E. De, Visscher, T. L. S., Seidell, J. C., & Renders, C. M. (2016). Identifying developmental trajectories of body mass index in childhood using latent class growth (mixture) modelling : associations with dietary , sedentary and physical activity behaviors : a longitudinal study. *BMC Public Health*, 1–12. https://doi.org/10.1186/s12889-016-3757-7

Leitzmann, M. F. (n.d.). *Sedentary Behaviour Epidemiology*. Germany: Springer Series on Epidemiology and Public Health.

Leiva, A. M., Martínez, M. A., Cristi-Montero, C., Salas, C., Ramírez-Campillo, R., Martínez, X. D., Aguilar-Farías, N., & Celis-Morales, C. (2017). El sedentarismo se asocia a un incremento de factores de riesgo cardiovascular y metabólicos independiente de los niveles de actividad física. *Revista Medica de Chile*, *145*(4), 458–467. https://doi.org/10.4067/S0034-98872017000400006

Lim, J. U., Lee, J. H., Kim, J. S., Hwang, Y. Il, Kim, T., Yong, S., & Yoo, K. H. (2017). Comparison of World Health Organization and Asia-Pacific Body Mass Index Classifications in Copd Patient. *Respirology*, *22*, 4–4. https://doi.org/10.1111/resp.13206

Lobenius-Palmér, K., Sjöqvist, B., Hurtig-Wennlöf, A., & Lundqvist, L. O. (2018). Accelerometer-assessed physical activity and sedentary time in youth with disabilities. *Adapted Physical Activity Quarterly*, *35*(1), 1–19. https://doi.org/10.1123/apaq.2015-0065

Ma, Y., Nolan, A., & Smith, J. P. (2018). The value of education to health: Evidence from Ireland. *Economics and Human Biology*, *31*, 14–25. https://doi.org/10.1016/j.ehb.2018.07.006

Magnon, V., Dutheil, F., & Auxiette, C. (2018). Sedentariness: A need for a definition. *Frontiers in Public Health*, *6*(DEC), 55–58. https://doi.org/10.3389/fpubh.2018.00372

Mandriyarini, R., Sulchan, M., & Nissa, C. (2017). Sedentary lifestyle sebagai risiko kejadian obesitas pada remaja SMA stunted di Kota Semarang. *Journal of Nutrition College*, *6*(2), 149. https://doi.org/10.14710/jnc.v6i2.16903

Mar'ah, F. (2017). *Hubungan Sedentary Lifedengan Kejadian Obesitas Pada Anak Di Sdn Mangkura 1 Makassar*. (Skripsi, Universitas Hasanuddin, 2017) Diakses dari http://digilib.unhas.ac.id.

Mielke, G. I., Brown, W. J., Nunes, B. P., Silva, I. C. M., & Hallal, P. C. (2017). Socioeconomic Correlates of Sedentary Behavior in Adolescents: Systematic Review and Meta-Analysis. *Sports Medicine*, *47*(1), 61–75. https://doi.org/10.1007/s40279-016-0555-4

Miquetichuc, F., Nascente, N., Jardim, T. V., Gondim, R., Carneiro, C. D. S., Mendonça, K. L., Inácio, T., Póvoa, R., Luiza, A., & Sousa, L. (2016). Sedentary lifestyle and its associated factors among adolescents from public and private schools of a Brazilian state capital. *BMC Public Health*, 1–8. https://doi.org/10.1186/s12889-016-3836-9

Misa, W., Sekeon, S., Kawatu, P., Kesehatan, F., Universitas, M., & Ratulangi, S. (2017). Hubungan Indeks Massa Tubuh Dan Tingkat Pendidikan Dengan Kualitas Hidup Pada Penduduk Kelurahan Kinilow Kecamatan Tomohon Utara Kota Tomohon. *Kesmas*, *6*(3), 1–7.

Moulin, M. S., Truelove, S., Burke, S. M., & Irwin, J. D. (2019). Sedentary time among undergraduate students: A systematic review. *Journal of American College Health*, *0*(0), 1–8. https://doi.org/10.1080/07448481.2019.1661422

Mullane, S. L., Toledo, M. J. L., Rydell, S. A., Feltes, L. H., Vuong, B., Crespo, N. C., Pereira, M. A., & Buman, M. P. (2017). Social ecological correlates of workplace sedentary behavior. *International Journal of Behavioral Nutrition and Physical Activity*, *14*(1), 1–10. https://doi.org/10.1186/s12966-017-0576-x

Nguyen, L. P. T., Nguyen, B. X., Ngo, T. T., Nguyen, Y. H. N., & Phan, H. T. (2020). Correlations between Excessive Body Mass Index, Body Perception, Physical Activity, and Respiratory Functions among Youths in an Urban Setting of Vietnam. *BioMed Research International*, *2020*. https://doi.org/10.1155/2020/9627605

Nugroho, D. W. (2018). *Hubungan Indeks Massa Tubuh Dengan Tekanan Darahpada Anggota Prolanis Di Puskesmas Simo Kecamatan Balerejo*. (Skripsi, Stikes Bhakti Husada Mulia Madiun, 2018).

Nuttall, F. Q. (2015). Body mass index: Obesity, BMI, and health: A critical review. *Nutrition Today*, *50*(3), 117–128. https://doi.org/10.1097/NT.0000000000000092

Omorou, A. Y., Coste, J., Escalon, H., & Vuillemin, A. (2016). Patterns of physical activity and sedentary behaviour in the general population in France: Cluster analysis with personal and socioeconomic correlates. *Journal of Public Health (United Kingdom)*, *38*(3), 483–492. https://doi.org/10.1093/pubmed/fdv080

Park, J., Joh, H., Lee, G., Je, S., Cho, S., Kim, S., Oh, S., & Kwon, H. (2018). *Association between Sedentary Time and Cardiovascular Risk Factors in Korean Adults*. 29–36.

Paulo, V., Miranda, N., Roberto, P., Bastos, R. R., Gabriel, V., Souza, B., Faria, E. R. De, Castro, C., & Priore, S. E. (2019). *Evaluation of lifestyle of female adolescents through latent class analysis approach*. 1–12.

Pell, C., Allotey, P., Evans, N., Hardon, A., Imelda, J. D., Soyiri, I., & Reidpath, D. D. (2016). Coming of age, becoming obese: A cross-sectional analysis of obesity among adolescents and young adults in Malaysia. *BMC Public Health*, *16*(1), 1–10. https://doi.org/10.1186/s12889-016-3746-x

Peterson, N. E., Sirard, J. R., Kulbok, P. A., DeBoer, M. D., & Erickson, J. M. (2018). Sedentary behavior and physical activity of young adult university students. *Research in Nursing and Health*, *41*(1), 30–38. https://doi.org/10.1002/nur.21845

Poobalan, A., & Aucott, L. (2016). Obesity Among Young Adults in Developing Countries: A Systematic Overview. *Current Obesity Reports*, *5*(1), 2–13. https://doi.org/10.1007/s13679-016-0187-x

Rachmah, Q., Setyaningtyas, S. W., Rifqi, M. A., Indriani, D., Nindya, T. S., Megatsari, H., Mahmudiono, T., & Kriengsinyos, W. (2019). Self-efficacy to engage in physical activity and overcome barriers, sedentary behavior, and their relation to body mass index among elderly Indonesians with diabetes. *Journal of Preventive Medicine and Public Health*, *52*(4), 242–249. https://doi.org/10.3961/jpmph.19.003

Raheb Ghorbani, M. (2015). Overweight and Obesity and Associated Risk Factors among the Iranian Middle-Aged Women. *International Journal of Collaborative Research on Internal Medicine & Public Health*, *7*(6), 120–131.

Romieu, I., Dossus, L., Barquera, S., Blottière, H. M., Franks, P. W., Gunter, M., Hwalla, N., Hursting, S. D., Leitzmann, M., Margetts, B., & Nishida, C. (2017). Energy balance and obesity : what are the main drivers ? *Cancer Causes & Control*, *28*(3), 247–258. https://doi.org/10.1007/s10552-017-0869-z

Sandor, I., Soos, I., Biddle, S. J. H., & Ling, J. (2015). *Physical activity and sedentary behavior in youth , in the context of different geographical environments* . 5–7.

Staiano, A. E., Martin, C. K., Champagne, C. M., Rood, J. C., & Katzmarzyk, P. T. (2018). Sedentary time, physical activity, and adiposity in a longitudinal cohort of nonobese young adults. *American Journal of Clinical Nutrition*, *108*(5), 946–952. https://doi.org/10.1093/ajcn/nqy191

Suliga, E., Cieśla, E., Rębak, D., Kozieł, D., & Głuszek, S. (2018). Relationship between sitting time, physical activity, and metabolic syndrome among adults depending on body mass index (BMI). *Medical Science Monitor*, *24*, 7633–7645. https://doi.org/10.12659/MSM.907582

Tanwi, T. S., Chakrabarty, S., Hasanuzzaman, S., Saltmarsh, S., & Winn, S. (2019). Socioeconomic correlates of overweight and obesity among ever-married urban women in Bangladesh. *BMC Public Health*, *19*(1), 3–9. https://doi.org/10.1186/s12889-019-7221-3

Thivel, D., Tremblay, A., Genin, P. M., Panahi, S., Rivière, D., & Duclos, M. (2018). Physical Activity, Inactivity, and Sedentary Behaviors: Definitions and Implications in Occupational Health. *Frontiers in Public Health*, *6*(October), 1–5. https://doi.org/10.3389/fpubh.2018.00288

Tremblay, M. S., Aubert, S., Barnes, J. D., Saunders, T. J., Carson, V., Latimer-Cheung, A. E., Chastin, S. F. M., Altenburg, T. M., Chinapaw, M. J. M., Aminian, S., Arundell, L., Hinkley, T., Hnatiuk, J., Atkin, A. J., Belanger, K., Chaput, J. P., Gunnell, K., Larouche, R., Manyanga, T., … Wondergem, R. (2017). Sedentary Behavior Research Network (SBRN) - Terminology Consensus Project process and outcome. *International Journal of Behavioral Nutrition and Physical Activity*, *14*(1), 1–17. https://doi.org/10.1186/s12966-017-0525-8

Tsai, M., Strong, C., & Lin, C. (2015). Effects of pubertal timing on deviant behaviors in Taiwan : A longitudinal analysis of 7th- to 12th-grade adolescents. *Journal of Adolescence*, *42*, 87–97. https://doi.org/10.1016/j.adolescence.2015.03.016

Twig, G., Yaniv, G., Levine, H., Leiba, A., Goldberger, N., Derazne, E., Ben-Ami Shor, D., Tzur, D., Afek, A., Shamiss, A., Haklai, Z., & Kark, J. D. (2016). Body-Mass Index in 2.3 Million Adolescents and Cardiovascular Death in Adulthood. *New England Journal of Medicine*, *374*(25), 2430–2440. https://doi.org/10.1056/nejmoa1503840

Ulilalbab, A., Anggraeni, E., Lestari, I. A., & Wakhidah, A. N. (2017). Obesitas anak usia sekolah / Arya Ulilalbab, S.TP., M.Kes, Enggar Anggraeni, SST., M.Gizi, dan Iga Ayu Lestari ; editor, Aan Nurul Wakhidah, A.Md.Gz. | OPAC Perpustakaan Nasional RI. In *Deepublish*. https://opac.perpusnas.go.id/DetailOpac.aspx?id=1143929

Unick, J. L., Lang, W., Tate, D. F., Bond, D. S., Espeland, M. A., & Wing, R. R. (2017). Objective Estimates of Physical Activity and Sedentary Time among Young Adults. *Journal of Obesity*, *2017*. https://doi.org/10.1155/2017/9257564

Vainshelboim, B., Brennan, G. M., LoRusso, S., Fitzgerald, P., & Wisniewski, K. S. (2019). Sedentary behavior and physiological health determinants in male and female college students. *Physiology and Behavior*, *204*(November 2018), 277–282. https://doi.org/10.1016/j.physbeh.2019.02.041

Vizcaino, M., Buman, M., Desroches, T., & Wharton, C. (2020). From TVs to tablets: The relation between device-specific screen time and health-related behaviors and characteristics. *BMC Public Health*, *20*(1), 1–10. https://doi.org/10.1186/s12889-020-09410-0

Walukouw, C. S. J., Lampah, C., & Gessal, J. (2020). *Hubungan Perilaku Sedentary dengan Indeks Massa Tubuh dan Tekanan Darah serta Denyut Jantung pada Pegawai Struktural dan Administrasi RSUD Provinsi Sulawesi Utara*. *8*(28), 132–136.

Wärnberg, J., Carlos, J., Felipe, S., Labayen, I., Zapico, A. G., Gusi, N., Aznar, S., Alcaraz, P. E., Gonz, M., Serra-majem, L., Tur, J. A., Seg, M., Jim, F., Mar, E., Sevilla-s, M., Herrera-ramos, E., Pulgar, S., Bibiloni, M., Sancho-moron, O., … Bar, F. J. (2021). *Screen Time and Parents ' Education Level Are Associated with Poor Adherence to the Mediterranean Diet in Spanish Children and Adolescents : The PASOS Study*.

WHO/Europe | Nutrition - Body mass index - BMI. (n.d.). Retrieved February 27, 2021, from https://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi

World Health Organization. (2016). *Obesity and overweight*. https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight

Wulandari, A. (2014). *Terhadap Masalah Kesehatan Dan Keperawatannya*. 39–43.

Yusuf, R. N., & Ibrahim. (2019). *Jurnal Kesehatan Saintika Meditory Correlation Of Body Mass Index (Bmi) With Cholesterol Jurnal Kesehatan Saintika Meditory*. *1*, 50–56.

Zalewska, M., & Maciorkowska, E. (2017). Selected nutritional habits of teenagers associated with overweight and obesity. *PeerJ*, *2017*(9), 1–13. https://doi.org/10.7717/peerj.3681

Zellatifanny, C. M., & Mudjiyanto, B. (2018). *Tipe Penelitian Deskripsi Dalam Ilmu Komunikasi*. Jurnal Diakom, *1*(2), 83–90.

LAMPIRAN

Lampiran 1 Surat Izin Penelitian

1202119300 4119

PEMERINTAH PROVINSI SULAWESI SELATAN
DINAS PENANAMAN MODAL DAN PELAYANAN TERPADU SATU PINTU
BIDANG PENYELENGGARAAN PELAYANAN PERIZINAN

Nomor : **13730/S.01/PTSP/2021**
Lampiran :
Perihal : **Izin Penelitian**

KepadaYth.
Bupati Bantaeng

di-
Tempat

Berdasarkan surat Dekan Fak. Keperawatan UNHAS Makassar Nomor : 2130//UN4.18.1/PT.01.04/2021 tanggal 14 April 2021 perihal tersebut diatas, mahasiswa/peneliti dibawah ini:

N a m a	:	**LUTHFIYAH MAWADDAHTUL ISHAN**
Nomor Pokok	:	C041171008
Program Studi	:	Fisioterapi
Pekerjaan/Lembaga	:	Mahasiswa(S1)
Alamat	:	Jl. P. Kemerdekaan Km. 10, Makassar

Bermaksud untuk melakukan penelitian di daerah/kantor saudara dalam rangka penyusunan Skripsi, dengan judul :

" HUBUNGAN PERILAKU SEDENTER DENGAN INDEKS MASSA TUBUH PADA PEREMPUAN REMAJA AKHIR "

Yang akan dilaksanakan dari : Tgl. ***22 April s/d 22 Mei 2021***

Sehubungan dengan hal tersebut diatas, pada prinsipnya kami ***menyetujui*** kegiatan dimaksud dengan ketentuan yang tertera di belakang surat izin penelitian.
Dokumen ini ditandatangani secara elektronik dan Surat ini dapat dibuktikan keasliannya dengan menggunakan ***barcode***,
Demikian surat izin penelitian ini diberikan agar dipergunakan sebagaimana mestinya.

Diterbitkan di Makassar
Pada tanggal : 22 April 2021

A.n. GUBERNUR SULAWESI SELATAN
KEPALA DINAS PENANAMAN MODAL DAN PELAYANAN TERPADU
SATU PINTU PROVINSI SULAWESI SELATAN
Selaku Administrator Pelayanan Perizinan Terpadu

Dr. JAYADI NAS, S.Sos., M.Si
Pangkat : Pembina Tk.I
Nip : 19710501 199803 1 004

Tembusan Yth
1. Dekan Fak. Keperawatan UNHAS Makassar di Makassar;
2. *Pertinggal.*

SIMAP PTSP 22-04-2021

Jl.Bougenville No.5 Telp. (0411) 441077 Fax. (0411) 448936
Website : http://simap.sulselprov.go.id Email : ptsp@sulselprov.go.id
Makassar 90231

Lampiran 2 Surat telah Menyelesaikan Penelitian

PEMERINTAH KABUPATEN BANTAENG
KECAMATAN BANTAENG
Jl. Elang Nomor 19 Kab. Bantaeng Telp. (0413) 21619

SURAT KETERANGAN
TELAH MELAKSANAKAN PENELITIAN
Nomor : 138/66/Kesi/V/2021

Yang bertanda tangan dibawah ini an. Camat Bantaeng Kasi Pemerintahan Kecamatan Bantaeng menerangkan:

Nama	: Luthfiyah Mawaddahtul Ishan
NIM	: C041171008
Program Studi	: Fisioterapi
Tanggal	: 22 April sampai 11 mei 2021

Benar mahasiswa Fisioterapi Universitas Hasanuddin telah melaksanakan penelitian di Kecamatan Bantaeng Kabupaten Bantaeng. Sehubungan akan dilaksanakan penyusunan skripsi maka peneliti memilih judul **"Hubungan Perilaku Sedenter dengan Indeks Massa Tubuh pada Perempuan Remaja Akhir".**

Demikian surat keterangan ini, dibuat dengan sebenarnya agar dapat dipergunakan sebagaimana mestinya.

Bantaeng, 11 Mei 2021
An. Plt. Camat Bantaeng
Kasi Pemerintahan

HJ. NURAENI, S, SH., MM
NIP. 19681026 200604 2 008

Lampiran 3 Surat Lolos Kaji Etik

KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS HASANUDDIN
FAKULTAS KESEHATAN MASYARAKAT
KOMITE ETIK PENELITIAN KESEHATAN
Sekretariat :
Jl. Perintis Kemerdekaan Km. 10 Makassar 90245, Telp. (0411) 585658, 516-005,
Fax (0411) 586013E-mail : kepkfkmuh@gmail.com, website : www.fkm.unhas.ac.id

REKOMENDASI PERSETUJUAN ETIK
Nomor : **3493/UN4.14.1/TP.01.02/2021**

Tanggal : 17 Mei 2021

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

No.Protokol	1521091058	No. Sponsor Protokol	
Peneliti Utama	**Luthfiyah Mawaddahtul Ishan**	Sponsor	Pribadi
Judul Peneliti	**Hubungan Perilaku Sedenter dengan Indeks Massa Tubuh pada Perempuan Remaja Akhir**		
No.Versi Protokol	1	Tanggal Versi	1 Mei 2021
No.Versi PSP	1	Tanggal Versi	1 Mei 2021
Tempat Penelitian	**Kecamatan Bantaeng**		
Judul Review	[x] Exempted [ ] Expedited [ ] Fullboard	Masa Berlaku **17 Mei 2021 sampai 17 Mei 2022**	Frekuensi review lanjutan
Ketua Komisi Etik Penelitian	Nama : Prof.dr.Veni Hadju, M.Sc, Ph.D	Tanda tangan	Tanggal 17 Mei 2021
Sekretaris komisi Etik Penelitian	Nama : Dr. Wahiduddin, SKM., M.Kes	Tanda tangan	Tanggal 17 Mei 2021

Kewajiban Peneliti Utama :

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

Lampiran 4 *Informed Consent*

Lampiran 4 *Informed Consent*

LEMBAR PERSETUJUAN MENJADI RESPONDEN PENELITIAN
(*INFORMED CONSENT*)

Saya yang bertandatangan di bawah ini, menyatakan (bersedia/tidak bersedia) menjadi responden atas penelitian yang dilakukan oleh Luthfiyah Mawaddahtul Ishan, mahasiswa Program Studi Fisioterapi Fakultas Keperawatan Universitas Hasanuddin Makassar dengan dosen pembimbing :

1. Irianto, S.Ft., Physio, M.Kes
2. Rabia, S.Ft., M.Biomed

Telah mendapat keterangan secara terinci dan jelas mengenai :

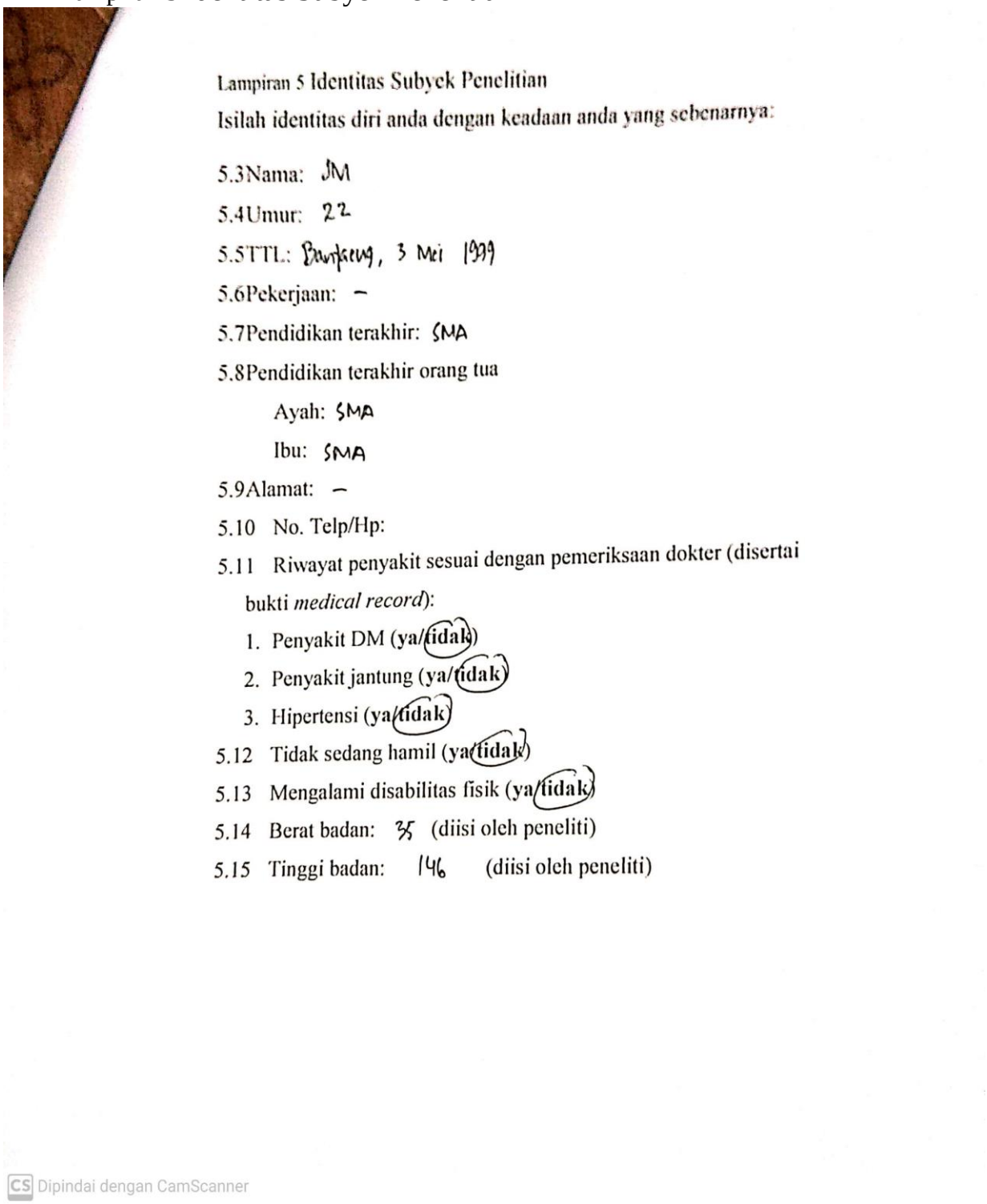
a. Penelitian yang berjudul "Hubungan Perilaku Sedenter dengan Indeks Massa Tubuh pada Perempuan Remaja Akhir"
b. Perlakuan yang akan diterapkan pada subyek
c. Prosedur penelitian
d. Kerahasiaan informasi

Subyek penelitian mendapat kesempatan mengajukan pertanyaan mengenai segala sesuatu yang berhubungan dengan penelitian tersebut. Oleh karena itu, saya (bersedia/tidak bersedia) secara sukarela untuk menjadi subyek penelitian dengan penuh kesadaran serta tanpa keterpaksaan. Demikian pernyataan ini saya buat dengan sebenarnya tanpa tekanan dari pihak manapun.

Bantaeng, 25 APRIL 2021

Peneliti	Responden
(.....)	(.....)

Lampiran 5 Identitas Subyek Penelitian



Lampiran 5 Identitas Subyek Penelitian

Isilah identitas diri anda dengan keadaan anda yang sebenarnya:

5.3Nama: JM

5.4Umur: 22

5.5TTL: Bantaeng, 3 Mei 1999

5.6Pekerjaan: –

5.7Pendidikan terakhir: SMA

5.8Pendidikan terakhir orang tua

Ayah: SMA

Ibu: SMA

5.9Alamat: –

5.10 No. Telp/Hp:

5.11 Riwayat penyakit sesuai dengan pemeriksaan dokter (disertai bukti *medical record*):

1. Penyakit DM (ya/**tidak**)
2. Penyakit jantung (ya/**tidak**)
3. Hipertensi (ya/**tidak**)

5.12 Tidak sedang hamil (ya/**tidak**)

5.13 Mengalami disabilitas fisik (ya/**tidak**)

5.14 Berat badan: 35 (diisi oleh peneliti)

5.15 Tinggi badan: 146 (diisi oleh peneliti)

Lampiran 6 *Sedentary Behaviour Quesionnaire (SBQ)*

Perilaku Sedenter (hari Senin – Jumat)									
Setiap harinya (Senin sampai Jumat), berapa lama waktu yang anda habiskan (dari saat bangun tidur hingga tidur pada malam hari) melakukan hal-hal berikut?									
	Tidak ada	15 min. atau kurang	30 menit	1 jam	2 jam	3 jam	4 jam	5 jam	6 jam atau lebih
Menonton TV (termasuk DVD)									
Menggunaka n komputer atau bermain *video game*									
Duduk mendengarkan musik									
Duduk dan menelepon									
Mengerjakan tugas dan/atau pekerjaan kantor									
Duduk membaca buku, koran, atau majalah									
Memainkan alat musik									
Mengerjakan karya seni									
Duduk di dalam kendaraan seperti mobil, bus, dan kereta api									

Perilaku sedentari (hari Sabtu dan Minggu)									
Setiap harinya (Sabtu dan Minggu), berapa lama waktu yang anda habiskan (dari saat bangun tidur hingga tidur pada malam hari) melakukan hal-hal berikut?									
	Tidak ada	15 min. atau kurang	30 menit	1 jam	2 jam	3 jam	4 jam	5 jam	6 jam atau lebih
Menonton TV (termasuk DVD)									
Menggunakan komputer atau bermain *video game*									
Duduk mendengarkan musik									
Duduk dan menelepon									
Mengerjakan tugas dan/atau pekerjaan kantor									
Duduk membaca buku, koran, atau majalah									
Memainkan alat musik									
Mengerjakan karya seni									
Duduk di dalam kendaraan seperti mobil, bus, dan kereta api									

Lampiran 7 Status Sosial Ekonomi

Pertanyaan	Jawaban
Apakah keluarga Anda memiliki mobil atau kendaraan bermotor lain?	0-Tidak
	1-Ya, Satu
	2- Ya, dua atau lebih
Apakah Anda memiliki kamar tidur sendiri?	0-Tidak
	1-Ya
Berapa kali Anda dan keluarga Anda bepergian ke luar kota untuk liburan / liburan tahun lalu?	0-Tidak sama sekali
	1-Sekali
	2-Dua kali
	3-Lebih dari dua kali
Berapa banyak komputer (termasuk laptop dan tablet, tidak termasuk konsol game dan smartphone) keluarga kamu sendiri?	0-Tidak
	1-Satu
	2-Dua
	3-Lebih dari dua
Apakah keluarga Anda memiliki mesin cuci?	0-Tidak
	1-Ya
Ada berapa kamar mandi (kamar dengan bak mandi / pancuran atau keduanya) di rumah Anda?	0-Tidak
	1-Satu
	2-Dua
	3-Lebih dari dua

Lampiran 8 Hasil Uji SPSS

1. Karakteristik Demografi dan Klinis Subyek Penelitian

Pekerjaan Responden

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Tidak ada	20	17.2	17.2	17.2
	Mahasiswa	64	55.2	55.2	72.4
	Wiraswasta	12	10.3	10.3	82.8
	Karyawan	12	10.3	10.3	93.1
	Honorer	7	6.0	6.0	99.1
	Tentor	1	.9	.9	100.0
	Total	116	100.0	100.0	

Pendidikan Terakhir

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SD	2	1.7	1.7	1.7
	SMP	7	6.0	6.0	7.8
	SMA	95	81.9	81.9	89.7
	D1/D2/D3/D4	7	6.0	6.0	95.7
	S1	5	4.3	4.3	100.0
	Total	116	100.0	100.0	

Total Nilai Status Sosial Ekonomi

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	17	14.7	14.7	14.7
	Medium	97	83.6	83.6	98.3
	Low	2	1.7	1.7	100.0
	Total	116	100.0	100.0	

Indeks Massa Tubuh					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Gemuk tingkat berat	11	9.5	9.5	9.5
	Gemuk tingkat ringan	8	6.9	6.9	16.4
	Normal	76	65.5	65.5	81.9
	Kurus tingkat ringan	15	12.9	12.9	94.8
	Kurus tingkat berat	6	5.2	5.2	100.0
	Total	116	100.0	100.0	

Perilaku Sedenter					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Tinggi	31	26.7	26.7	26.7
	Sedang	21	18.1	18.1	44.8
	Rendah	64	55.2	55.2	100.0
	Total	116	100.0	100.0	

Pendidikan Terakhir * Kategori Indeks Massa Tubuh Crosstabulation

			Kategori Indeks Massa Tubuh					
			Gemuk tingkat berat	Gemuk tingkat ringan	Normal	Kurus tingkat ringan	Kurus tingkat berat	Total
Pendidikan Terakhir	SD	Count	0	0	2	0	0	2
		% within Pendidikan Terakhir	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
		% within Kategori Indeks Massa Tubuh	0.0%	0.0%	2.6%	0.0%	0.0%	1.7%
		% of Total	0.0%	0.0%	1.7%	0.0%	0.0%	1.7%
	SMP	Count	1	2	3	1	0	7
		% within Pendidikan Terakhir	14.3%	28.6%	42.9%	14.3%	0.0%	100.0%
		% within Kategori Indeks Massa Tubuh	9.1%	25.0%	3.9%	6.7%	0.0%	6.0%
		% of Total	0.9%	1.7%	2.6%	0.9%	0.0%	6.0%
	SMA	Count	7	4	66	13	5	95
		% within Pendidikan Terakhir	7.4%	4.2%	69.5%	13.7%	5.3%	100.0%
		% within Kategori Indeks Massa Tubuh	63.6%	50.0%	86.8%	86.7%	83.3%	81.9%
		% of Total	6.0%	3.4%	56.9%	11.2%	4.3%	81.9%
	D1/D2/D3/D4	Count	1	1	3	1	1	7
		% within Pendidikan Terakhir	14.3%	14.3%	42.9%	14.3%	14.3%	100.0%
		% within Kategori Indeks Massa Tubuh	9.1%	12.5%	3.9%	6.7%	16.7%	6.0%
		% of Total	0.9%	0.9%	2.6%	0.9%	0.9%	6.0%
	S1	Count	2	1	2	0	0	5
		% within Pendidikan Terakhir	40.0%	20.0%	40.0%	0.0%	0.0%	100.0%
		% within Kategori Indeks Massa Tubuh	18.2%	12.5%	2.6%	0.0%	0.0%	4.3%
		% of Total	1.7%	0.9%	1.7%	0.0%	0.0%	4.3%
Total		Count	11	8	76	15	6	116
		% within Pendidikan Terakhir	9.5%	6.9%	65.5%	12.9%	5.2%	100.0%
		% within Kategori Indeks Massa Tubuh	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	9.5%	6.9%	65.5%	12.9%	5.2%	100.0%

Pekerjaan Responden * Kategori SBQ Crosstabulation

			Kategori SBQ			
			Tinggi	Sedang	Rendah	Total
Pekerjaan Responden	Tidak ada	Count	2	5	13	20
		% within Pekerjaan Responden	10.0%	25.0%	65.0%	100.0%
	Mahasiswa	Count	24	18	22	64
		% within Pekerjaan Responden	37.5%	28.1%	34.4%	100.0%
	Wiraswasta	Count	1	3	8	12
		% within Pekerjaan Responden	8.3%	25.0%	66.7%	100.0%
	Karyawan	Count	2	1	9	12
		% within Pekerjaan Responden	16.7%	8.3%	75.0%	100.0%
	Honorer	Count	2	1	4	7
		% within Pekerjaan Responden	28.6%	14.3%	57.1%	100.0%
	Tentor	Count	0	0	1	1
		% within Pekerjaan Responden	0.0%	0.0%	100.0%	100.0%
Total		Count	31	28	57	116
		% within Pekerjaan Responden	26.7%	24.1%	49.1%	100.0%

Pendidikan Terakhir * Kategori SBQ Crosstabulation

			Kategori SBQ			
			Tinggi	Sedang	Rendah	Total
Pendidikan Terakhir	SD	Count	0	1	1	2
		% within Pendidikan Terakhir	0.0%	50.0%	50.0%	100.0%
	SMP	Count	0	0	7	7
		% within Pendidikan Terakhir	0.0%	0.0%	100.0%	100.0%
	SMA	Count	30	22	43	95
		% within Pendidikan Terakhir	31.6%	23.2%	45.3%	100.0%
	D1/D2/D3/D4	Count	1	3	3	7
		% within Pendidikan Terakhir	14.3%	42.9%	42.9%	100.0%
	S1	Count	0	2	3	5
		% within Pendidikan Terakhir	0.0%	40.0%	60.0%	100.0%
Total		Count	31	28	57	116
		% within Pendidikan Terakhir	26.7%	24.1%	49.1%	100.0%

Total Nilai Status Sosial Ekonomi * Kategori SBQ Crosstabulation

			Kategori SBQ			
			Tinggi	Sedang	Rendah	Total
Total Nilai Status Sosial Ekonomi	High	Count	9	5	3	17
		% within Total Nilai Status Sosial Ekonomi	52.9%	29.4%	17.6%	100.0%
	Medium	Count	22	22	53	97
		% within Total Nilai Status Sosial Ekonomi	22.7%	22.7%	54.6%	100.0%
	Low	Count	0	1	1	2
		% within Total Nilai Status Sosial Ekonomi	0.0%	50.0%	50.0%	100.0%
Total		Count	31	28	57	116
		% within Total Nilai Status Sosial Ekonomi	26.7%	24.1%	49.1%	100.0%

Pendidikan Terakhir * Kategori Indeks Massa Tubuh Crosstabulation

			Kategori Indeks Massa Tubuh					
			Gemuk tingkat berat	Gemuk tingkat ringan	Normal	Kurus tingkat ringan	Kurus tingkat berat	Total
Pendidikan Terakhir	SD	Count	0	0	2	0	0	2
		% within Pendidikan Terakhir	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
	SMP	Count	1	2	3	1	0	7
		% within Pendidikan Terakhir	14.3%	28.6%	42.9%	14.3%	0.0%	100.0%
	SMA	Count	7	4	66	13	5	95
		% within Pendidikan Terakhir	7.4%	4.2%	69.5%	13.7%	5.3%	100.0%
	D1/D2/D3/D4	Count	1	1	3	1	1	7
		% within Pendidikan Terakhir	14.3%	14.3%	42.9%	14.3%	14.3%	100.0%
	S1	Count	2	1	2	0	0	5
		% within Pendidikan Terakhir	40.0%	20.0%	40.0%	0.0%	0.0%	100.0%
Total		Count	11	8	76	15	6	116
		% within Pendidikan Terakhir	9.5%	6.9%	65.5%	12.9%	5.2%	100.0%

Pekerjaan Responden * Kategori Indeks Massa Tubuh Crosstabulation

			Kategori Indeks Massa Tubuh					
			Gemuk tingkat berat	Gemuk tingkat ringan	Normal	Kurus tingkat ringan	Kurus tingkat berat	Total
Pekerjaan Responden	Tidak ada	Count	2	2	4	7	5	20
		% within Pekerjaan Responden	10.0%	10.0%	20.0%	35.0%	25.0%	100.0%
	Mahasiswa	Count	5	3	50	5	1	64
		% within Pekerjaan Responden	7.8%	4.7%	78.1%	7.8%	1.6%	100.0%
	Wiraswasta	Count	0	2	10	0	0	12
		% within Pekerjaan Responden	0.0%	16.7%	83.3%	0.0%	0.0%	100.0%
	Karyawan	Count	2	1	8	1	0	12
		% within Pekerjaan Responden	16.7%	8.3%	66.7%	8.3%	0.0%	100.0%
	Honorer	Count	2	0	3	2	0	7
		% within Pekerjaan Responden	28.6%	0.0%	42.9%	28.6%	0.0%	100.0%
	Tentor	Count	0	0	1	0	0	1
		% within Pekerjaan Responden	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
Total		Count	11	8	76	15	6	116
		% within Pekerjaan Responden	9.5%	6.9%	65.5%	12.9%	5.2%	100.0%

Total Nilai Status Sosial Ekonomi * Kategori Indeks Massa Tubuh Crosstabulation

			Kategori Indeks Massa Tubuh					
			Gemuk tingkat berat	Gemuk tingkat ringan	Normal	Kurus tingkat ringan	Kurus tingkat berat	Total
Total Nilai Status Sosial Ekonomi	High	Count	0	2	13	1	1	17
		% within Total Nilai Status Sosial Ekonomi	0.0%	11.8%	76.5%	5.9%	5.9%	100.0%
	Medium	Count	11	6	63	12	5	97
		% within Total Nilai Status Sosial Ekonomi	11.3%	6.2%	64.9%	12.4%	5.2%	100.0%
	Low	Count	0	0	0	2	0	2
		% within Total Nilai Status Sosial Ekonomi	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Total		Count	11	8	76	15	6	116
		% within Total Nilai Status Sosial Ekonomi	9.5%	6.9%	65.5%	12.9%	5.2%	100.0%

2. Hasil Uji Korelasi

Correlations

			Kategori Indeks Massa Tubuh	Kategori SBQ
Spearman's rho	Kategori Indeks Massa Tubuh	Correlation Coefficient	1.000	.053
		Sig. (2-tailed)	.	.572
		N	116	116
	Kategori SBQ	Correlation Coefficient	.053	1.000
		Sig. (2-tailed)	.572	.
		N	116	116

Lampiran 9 Dokumentasi Penelitian

Lampiran 10 Draft Artikel Penelitian

ASSOCIATION BETWEEN SEDENTARY BEHAVIOUR AND BODY MASS INDEX IN LATE ADOLESCENT WOMEN

Luthfiyah Mawaddahtul Ishan[a]*, Irianto[a], Rabia[a]

[a]Physiotherapy Dept, Faculty of Nursing, Hasanuddin University, Makassar Makassar, South Sulawesi, Indonesia, 90245

Email: ishanluthfiyah@gmail.com

Abstract

Sedentary behavior that occurs in all circles, especially for girls who are undergoing a transition period from adolescence to early adulthood, is something that needs to be studied along with the factors that influence it because it can improve health conditions or productivity in that period. The existence of problems related to health conditions that arise due to frequent sedentary behavior will have an impact on a person's body index, changes in lifestyle plus technological developments so that it is necessary to examine from the health aspect. This study aims to determine the relationship between sedentary behavior and body mass index in late adolescent women. This study used a cross-sectional design with a sample size of one hundred and sixteen people (n = 116) who were late adolescents aged 18-22 years. Some of the data that will be collected, including sedentary behavior level and body mass index value. Collecting the data using a questionnaire and measuring height and weight. This study showed no display between sedentary behavior and body mass index (p> 0.05).

INTRODUCTION

Overweight and obesity in late adolescence have increased in recent decades. Obesity during adolescence is associated with increased cardiovascular risk and a lower life expectancy at entering early adulthood (Twig et al., 2016). There is a pattern of overweight and obesity that varies between late adolescents and early adulthood due to several factors, namely female gender, physical activity, and nutritional intake (Gebrie *et al.*, 2018).

The transition from adolescence to adulthood has undergone significant lifestyle changes, causing the percentage of overweight to be found to reach 2.3-12% and obesity to reach 28.8% in those aged 18-25 years. This transition is prone to energy balances that often lead to weight gain (Poobalan & Aucott, 2016). According to the World Health Organization (WHO) in 2016, more than 1.9 billion adults aged 18 years and over were overweight and more than 650 million were obese. An

increase in BMI will affect the risk of comorbid diseases such as metabolic, cardiovascular, type two diabetes mellitus and obesity (Bhadoria et al., 2015). influence of lifestyle behaviors such as unhealthy habits and lack of physical activity lead to physiological risks and obesity or overweight as one of the consequences. This lifestyle behavior occurs because of increased sedentary or sedentary behavior, the influence of globalization and the growth of supermarkets can be risk factors for unhealthy behavior (Chatterjee et al., 2020).

Many activities involve sedentary behavior including technology-based sedentary behavior. Time spent is more involved with the use of technology such as playing on mobile phones, watching television, reading, sitting for long periods of time and other leisure activities (Peterson et al., 2018). Research conducted by Bauman et al. (2018) stated that sedentary behavior shows an increase with age. Likewise those who are in the late adolescence phase towards adulthood where growth and development occurs increasing. During this period, habits of healthy or unhealthy behavior such as being physically inactive and engaging in sedentary behavior will remain as long as a person is alive (Tsai et al., 2015).

METHOD

This research is an analytical study with a cross sectional design by examining the re- lationship between sedentary behavior and body mass index in late adolescent. The population in this study were female, age 18 – 22 years. Participants were not included in the study sample if they had a history of cardiovascular disease, diabetes mellitus, hypertension, disabilities.

Data collection was carried out using a questionnaire in the form of google form and direct measurements. In- formation regarding the characteristics and general condition of the respondents, including name, age, socioeconomic status, medical history, injury history, job, and last education were identified through a questionnaire. The value of sedentary behavior was measured using the Sedentary Behavior Questionnaire (SBQ). After that, the measurement of the value of body mass index was carried out and direct measurements of height and weight.

The data that has been obtained are primary data which is the result of measuring seden- tary behavior and body mass index. After the data was collected, it was analyzed using univariate and bivariate analysis. Univariate analysis was used to determine the distribution frequency of each variable. Meanwhile, the bivariate analysis which was processed by means of the normality test of the data first. Furthermore, the Spearman test was carried out using a computer program statistical product and service solutions (SPSS) 24 to determine the relationship between the independent variable and the dependent variable.

RESULTS

The results of this study indicate that of the 116 respondents, most of them were a student. In addition, the respondents of this study were dominated by the last level of education SMA/SMK, most of them came from moderate socioeconomic status. In this study, distribution the general characteristics of respondents can be seen in the table 1 respondent characteristics based on latest education, occupation and socioeconomic status. The proportion of respondents at most is based on the latest high school level education as much as 95 people (81.9%) and at least 2 people at the elementary level (1.7%). In the data on

the characteristics of the respondent's job, there were 64 students (55.2%) and only one as a tutor (0.9%). Furthermore, the characteristics of respondents seen from the socioeconomic status were dominated by medium or medium socioeconomic status as many as 97 people (83.6%).

Table 1: Distribution of General Characteristics of Respondents

Respondent Characteristics	**Frekuensi (n)**	**Persentase (%)**
Latest Education		
SD	2	1.7
SMP	7	6.0
SMA	95	81.9
D1/D2/D3/D4	7	6.0
S1	5	4.3
Total	**116**	**100**
Jobs		
No job	20	17.2
Student	64	55.2
Entrepreneur	12	10.3
Employees	12	10.3
Honorary	7	6.0
Tentor	1	0.9
Total	**116**	**100**
Socioeconomic Status		
High	17	14.7
Moderate	97	83.6
Low	2	1.7
Total (N)	**116**	**100**

Source: Primary Data, 2021 (Note: N = Total Number of Samples, n = Frequency)

After analyzing the respondent's data, the data normality test was then carried out to determine the state of the distribution of the research data carried out. The results obtained, a significant value of 0.572 (>0.05). So it can be concluded that the data is not normally distributed. Then the correlation test was carried out using the Spearman test. The Spearman test results showed no relationship between sedentary behavior and body mass index (p = 0.057), with an r value 0.053.

Table 2. Analysis of The Relationship between Sedentary Behavior and Body Mass Index.

	Kurus Tingkat Berat **n (%)**	**Kurus Tingkat Ringan** **n (%)**	**Normal** **n (%)**	**Gemuk Tingkat Ringan** **n (%)**	**Gemuk Tingkat Berat** **n (%)**	**p**	**r**
Perilaku Sedenter Rendah	4 (66.6)	7 (46.7)	38 (50)	3 (37.5)	5 (45.4)		
Perilaku Sedenter Sedang	1 (16.7)	5 (33.3)	15 (19.7)	4 (50)	3 (27.3)	0.572	0.053
Perilaku Sedenter Tinggi	1 (16.7)	3 (20)	23 (30.3)	1 (12.5)	3 (27.3)		
Total	6 (100)	15 (100)	76 (100)	8 (100)	11 (100)		

Source: Primary data, 2021 (Note: n = total number of samples, p = Significance Spearmen, r = Spearmen correlation)

DISCUSSION

In this study, it was found that sedentary behavior did not have a significant relationship with body mass index in late adolescence. This is similar to the research conducted by Walukouw et al., (2020) that in their research there was no relationship between sedentary behavior and body mass index but, it was positively correlated with blood pressure and heart rate. The increase in BMI depends on the number of calories absorbed from food, physical activity and metabolism. However, there are other factors that play a role in influencing BMI, namely socioeconomic status and employment (Walukouw et al., 2020). Subjects in the same study also focused more on those who had worked so that the same activities within the work scope created a habit of sedentary behavior in the form of sitting time.

Although the subjects in this study were dominated by students whose daily activities were in a sitting position, many of the respondents were also workers. Thus, sitting time can also occur in subjects who are not students. However, there are other factors that support sedentary behavior for students, such as academic factors and extracurricular activities. In a study, it was reported that extracurricular activities included running and weightlifting communities which were positively related to an increase in BMI (Peterson et al., 2018). Time spent both sitting time and screen time is related to low consumption of healthy foods and high

consumption of fast food. This has an impact on increasing body mass index. The adoption of healthy eating habits must be in line with lifestyle improvements such as increased physical activity and reduced sedentary behavior (Wärnberg et al., 2021).

Although almost all studies suggest that there is no relationship between sedentary behavior and body mass index, there are several other studies that show a correlation between sedentary behavior and BMI. In a study conducted by Faiq et al., (2018), there is a significant relationship between high sedentary behavior and an increase in body mass index in students. This happens because of the adjustment of study habits and uniform activities that tend to spend time sitting, studying and doing assignments. In addition, research conducted by Al Rahmad (2019) used a case control study design by comparing obese and normal children, it turns out that sedentary behavior has a significant effect on the incidence of obesity. Sedentary behavior that is carried out continuously can have a 4.6 times greater risk of obesity. In the same study, the number of samples used was only 42 people with the characteristics of the sample ages of children 7-14 years. So that this is the cause of the differences in the results of this study.

Research conducted by Unick et al., (2017) reported that there was a significant relationship between sedentary time and BMI. In the same study, to measure the accuracy of sedentary behavior combined with SWA (Sense Wear Armband), a technology used by the sample to measure the total energy expended during one week. In addition, the sample criteria are taken based on subjects who have followed SNAP (The Study of Novel Approach for Prevention). According to another study conducted by Staiano et al., (2018), among those in their late adolescence with normal BMI have high sedentary behavior and low physical activity. This is related to an increase in adiposity or obesity. Apart from sedentary behavior and physical activity there are other factors such as consumption of certain food components. Consumption of fast food or unhealthy eating patterns can also be the cause. Foods that contain a lot of energy from fat, carbohydrates and sugar will affect the quality of the diet and increase the risk of obesity (Ayu et al., 2020). In addition, according to Mandriyarini et al. (2017) in their study said that different sedentary time for each person can have a different impact, such as watching TV can increase the risk of obesity by 23% for each increased viewing duration for two hours, in contrast to those who spend time sitting in place. work or transportation is much lower by only 5%.

The differences in research results can be caused by several things. Not all factors affecting sedentary behavior and body mass index were investigated in this study. Individual patterns of physical activity and nutritional intake were found to predict differences in the increase in body mass index (Berlin et al., 2017). In research subjects as workers, sedentary behavior including time spent sitting in doing work is influenced by individual factors such as the type of work and work involvement as well as cultural factors (Mullane et al., 2017). In addition, it is

necessary to review the measurement tools or the SBQ questionnaire used. Although the SBQ measurement tool used is valid, it is still very rarely used in other studies related to the relationship between sedentary behavior and body mass index. The average measuring instrument is commonly used with longitudinal research designs and pre post intervention (Moulin et al., 2019). Thus, differences in research results may also occur due to differences in the use of indicators in assessing sedentary behavior.

BIBLIOGRAPHY

Al Rahmad, A. H. (2019). Sedentary as a factor of overweight at adoslecents. *Jurnal Vokasi Kesehatan*, *5*(1), 16–21.

Ayu, D., Rosyida, C., Setiawandari, S., & Java, S. (2020). *Effects of sedentary behavior and fast-food consumption habit on body mass index among obese children in siwalankerto village, surabaya*. *14*(2), 153–158.

Bauman, A. E., Petersen, C. B., Blond, K., Rangul, V., & Hardy, L. L. (2018). *The Descriptive Epidemiology of Sedentary Behaviour*. https://doi.org/10.1007/978-3-319-61552-3_4

Berlin, K. S., Kamody, R. C., Thurston, I. B., Banks, G. G., Rybak, T. M., & Ferry, R. J. (2017). Physical Activity, Sedentary Behaviors, and Nutritional Risk Profiles and Relations to Body Mass Index, Obesity, and Overweight in Eighth Grade. *Behavioral Medicine*, *43*(1), 31–39. https://doi.org/10.1080/08964289.2015.1039956

Bhadoria, A., Sahoo, K., Sahoo, B., Choudhury, A., Sufi, N., & Kumar, R. (2015). Childhood obesity: Causes and consequences. *Journal of Family Medicine and Primary Care*, *4*(2), 187. https://doi.org/10.4103/2249-4863.154628

Chatterjee, A., Gerdes, M. W., & Martinez, S. G. (2020). Identification of risk factors associated with obesity and overweight—a machine learning overview. *Sensors (Switzerland)*, *20*(9). https://doi.org/10.3390/s20092734

Faiq, A. R., Zulhamidah, Y., Widayanti, E., Kedokteran, P., Anatomi, B., & Biologi, B. (2018). *Gambaran Sedentary Behaviour dan Indeks Massa Tubuh Mahasiswa Fakultas Kedokteran Universitas YARSI di Masa Pendidikan Tahun Pertama dan Kedua Profile of Sedentary Behaviour and Body Mass Index of medical students of YARSI University in first and second y*. *5*(2), 66–73.

Gebrie, A., Alebel, A., Zegeye, A., Tesfaye, B., & Ferede, A. (2018). Prevalence and associated factors of overweight/ obesity among children and adolescents in Ethiopia: A systematic review and meta-analysis. *BMC Obesity*, *5*(1), 1–12. https://doi.org/10.1186/s40608-018-0198-0

Moulin, M. S., Truelove, S., Burke, S. M., & Irwin, J. D. (2019). Sedentary time among undergraduate students: A systematic review. *Journal of American College Health*, *0*(0), 1–8. https://doi.org/10.1080/07448481.2019.1661422

Mullane, S. L., Toledo, M. J. L., Rydell, S. A., Feltes, L. H., Vuong, B., Crespo, N. C., Pereira, M. A., & Buman, M. P. (2017). Social ecological correlates of workplace sedentary behavior. *International Journal of Behavioral Nutrition and Physical Activity*, *14*(1), 1–10. https://doi.org/10.1186/s12966-017-0576-x

Peterson, N. E., Sirard, J. R., Kulbok, P. A., DeBoer, M. D., & Erickson, J. M. (2018). Sedentary behavior and physical activity of young adult university students. *Research in Nursing and Health*, *41*(1), 30–38. https://doi.org/10.1002/nur.21845

Peterson, N. E., Sirard, J. R., Kulbok, P. A., DeBoer, M. D., & Erickson, J. M. (2018). Sedentary behavior and physical activity of young adult university students. *Research in Nursing and Health*, *41*(1), 30–38. https://doi.org/10.1002/nur.21845

Poobalan, A., & Aucott, L. (2016). Obesity Among Young Adults in Developing Countries: A Systematic Overview. *Current Obesity Reports*, *5*(1), 2–13. https://doi.org/10.1007/s13679-016-0187-x

Tsai, M., Strong, C., & Lin, C. (2015). Effects of pubertal timing on deviant behaviors in Taiwan : A longitudinal analysis of 7th- to 12th-grade adolescents. *Journal of Adolescence*, *42*, 87–97. https://doi.org/10.1016/j.adolescence.2015.03.016

Twig, G., Yaniv, G., Levine, H., Leiba, A., Goldberger, N., Derazne, E., Ben-Ami Shor, D., Tzur, D., Afek, A., Shamiss, A., Haklai, Z., & Kark, J. D. (2016). Body-Mass Index in 2.3 Million Adolescents and Cardiovascular Death in Adulthood. *New England Journal of Medicine*, *374*(25), 2430–2440. https://doi.org/10.1056/nejmoa1503840

Unick, J. L., Lang, W., Tate, D. F., Bond, D. S., Espeland, M. A., & Wing, R. R. (2017). Objective Estimates of Physical Activity and Sedentary Time among Young Adults. *Journal of Obesity*, *2017*. https://doi.org/10.1155/2017/9257564

Walukouw, C. S. J., Lampah, C., & Gessal, J. (2020). *Hubungan Perilaku Sedentary dengan Indeks Massa Tubuh dan Tekanan Darah serta Denyut Jantung pada Pegawai Struktural dan Administrasi RSUD Provinsi Sulawesi Utara*. *8*(28), 132–136.

Wärnberg, J., Carlos, J., Felipe, S., Labayen, I., Zapico, A. G., Gusi, N., Aznar, S., Alcaraz, P. E., Gonz, M., Serra-majem, L., Tur, J. A., Seg, M., Jim, F., Mar, E., Sevilla-s, M., Herrera-ramos, E., Pulgar, S., Bibiloni, M., Sancho-moron, O., … Bar, F. J. (2021). *Screen Time and Parents ' Education Level Are Associated with Poor Adherence to the Mediterranean Diet in Spanish Children and Adolescents : The PASOS Study*.