

## REFERENSI

1. Tiwana MS LS. Anatomy, Abdomen and Pelvis: Testes. . In: *StatPearls Treasure Island (FL)*. Published online April 2023.
2. Koskenniemi JJ, Virtanen HE, Toppari J. Testicular growth and development in puberty. *Curr Opin Endocrinol Diabetes Obes*. 2017;24(3):215-224. doi:10.1097/MED.0000000000000339
3. Mäkelä JA, Koskenniemi JJ, Virtanen HE, Toppari J. Testis Development. *Endocr Rev*. 2019;40(4):857-905. doi:10.1210/ER.2018-00140
4. Titi-Lartey OA, Khan YS. Embryology, Testicle. *StatPearls*. Published online April 24, 2023. Accessed January 15, 2024. <https://www.ncbi.nlm.nih.gov/books/NBK557763/>
5. Tiwana MS LSW. Anatomy, Abdomen and Pelvis: Testes. *Treasure Island(FL): StatPearls*. Published online January 2024
6. Niedzielski JK, Oszukowska E, Słowikowska-Hilczer J. Undescended testis current trends and guidelines: a review of the literature. *Archives of Medical Science*. 2016;3:667-677. doi:10.5114/aoms.2016.59940
7. Shalet SM. Normal testicular function and spermatogenesis. *Pediatr Blood Cancer*. 2009;53(2):285-288. doi:10.1002/pbc.22000
8. Ogundoyin O, Atalabi O. Comparison between testicular volumes as measured with prader orchidometer and ultrasonography in Healthy Nigerian Newborns. *African Journal of Paediatric Surgery*. 2018;15(2):93. doi:10.4103/ajps.AJPS\_32\_17
9. Krishna KB WSF. Normal and Abnormal Puberty. *South Dartmouth (MA):MDText.com, Inc*. Published online April 2024.
10. Bell D, Morgan M. Testicular and scrotal ultrasound. *Radiopaedia.org*. Published online January 5, 2015. doi:10.53347/RID-33262
11. Pozza C, Tenuta M, Sesti F, et al. Multiparametric Ultrasound for Diagnosing Testicular Lesions: Everything You Need to Know in Daily Clinical Practice. *Cancers (Basel)*. 2023;15(22):5332. doi:10.3390/cancers15225332
12. Pedersen M, Osther P, Rafaelsen S. Ultrasound Evaluation of Testicular Volume in Patients with Testicular Microlithiasis. *Ultrasound Int Open*. 2018;04(03):E99-E103. doi:10.1055/a-0643-4524
13. Delaney LR, Karmazyn B. Ultrasound of the pediatric scrotum. *Semin Ultrasound CT MR*. 2013; 34 (3): 248-256. doi:10.1053/J.SULT.2012.11.010
14. Pozza C, Kanakis G, Carlomagno F, et al. Testicular ultrasound score:

- A new proposal for a scoring system to predict testicular function. *Andrology*. 2020;8(5):1051-1063. doi:10.1111/andr.12822
15. Oehme NHB, Roelants M, Bruserud IS, et al. Ultrasound-based measurements of testicular volume in 6- to 16-year-old boys — intra- and interobserver agreement and comparison with Prader orchidometry. *Pediatr Radiol*. 2018;48(12):1771-1778. doi:10.1007/s00247-018-4195-8
  16. Spaziani M, Lecis C, Tarantino C, Sbardella E, Pozza C, Gianfrilli D. The role of scrotal ultrasonography from infancy to puberty. *Andrology*. 2021;9(5):1306-1321. doi:10.1111/andr.13056
  17. Alkhori NA, Barth RA. Pediatric scrotal ultrasound: review and update. *Pediatr Radiol*. 2017;47(9):1125-1133. doi:10.1007/S00247-017-3923-9
  18. Kesari A, Noel JY. Nutritional Assessment. *Nutritional Care of the Patient with Gastrointestinal Disease*. Published online April 10, 2023:1-5. doi:10.1201/b18748-5
  19. Malnutrition in children. Accessed January 15, 2024. <https://www.who.int/data/nutrition/nlis/info/malnutrition-in-children>
  20. Muhammad I and DEP. Penilaian Status Gizi: ADCD. *Penebit Salemba Medika*. Published online 2018
  21. Kemenkes RI. PMK tentang Standar Antropometri Anak. *Pembelajaran Olah Vokal di Prodi Seni Pertunjukan Universitas Tanjungpura Pontianak*. Published online 2020
  22. Supriasa IDN, BB and FI. Penilaian Status Gizi Edisi 2. *Penerbit Buku Kedokteran: EGC*. Published online 2017
  23. Słowik J, Grochowska-Niedworok E, Maciejewska-Paszek I, et al. Nutritional Status Assessment in Children and Adolescents with Various Levels of Physical Activity in Aspect of Obesity. *Obes Facts*. 2019;12(5):554-563. doi:10.1159/000502698
  24. Alenazi MS, Alqahtani AM, Ahmad MM, Almalki EM, AlMutair A, Almalki M. Puberty Induction in Adolescent Males: Current Practice. *Cureus*. Published online April 5, 2022. doi:10.7759/cureus.23864
  25. Bhatt VR, D'Souza SP, Smith LM, et al. Epidermal Growth Factor Receptor Mutational Status and Brain Metastases in Non-Small-Cell Lung Cancer. *J Glob Oncol*. 2017;3(3):208-217. doi:10.1200/JGO.2016.003392
  26. Caban. LBO. Physiology, Puberty. *Treasure Island (FL): StatPearls Publishing*. Published online 2024
  27. Viner RM, Allen NB, Patton GC. Puberty, Developmental Processes, and Health Interventions. *Disease Control Priorities, Third Edition*

- (Volume 8): *Child and Adolescent Health and Development*. Published online November 20, 2017:107-118. doi:10.1596/978-1-4648-0423-6\_CH9
28. Breehl L, Caban O. Physiology, Puberty. *StatPearls*. Published online March 27, 2023. Accessed January 15, 2024. <https://www.ncbi.nlm.nih.gov/books/NBK534827/>
  29. Tinggaard J, Mieritz MG, Sørensen K, et al. The physiology and timing of male puberty. *Curr Opin Endocrinol Diabetes Obes*. 2012;19(3):197-203. doi:10.1097/MED.0B013E3283535614
  30. Spaziani M, Lecis C, Tarantino C, Sbardella E, Pozza C, Gianfrilli D. The role of scrotal ultrasonography from infancy to puberty. *Andrology*. 2021;9(5):1306. doi:10.1111/ANDR.13056
  31. Soliman A, Alaaraj N, Hamed N, et al. Nutritional interventions during adolescence and their possible effects. *Acta Bio Medica : Atenei Parmensis*. 2022;93(1):2022087. doi:10.23750/ABM.V93I1.12789
  32. Soliman A, De Sanctis V, Elalaily R. Nutrition and pubertal development. *Indian J Endocrinol Metab*. 2014;18(Suppl 1):S39. doi:10.4103/2230-8210.145073
  33. Li W, Liu Q, Deng X, Chen Y, Liu S, Story M. Association between Obesity and Puberty Timing: A Systematic Review and Meta-Analysis. *Int J Environ Res Public Health*. 2017;14(10). doi:10.3390/IJERPH14101266
  34. Mulyadi R, Prihartono J, Yunir E, Lubis DA, Yunus RE. Testicular Volumes Measurement Comparison by Ultrasound and Orchidometer and Its Relationship with Nutritional Status in Transfusion-dependent Thalassemia. *Indonesian Biomedical Journal*. 2023;15(3):247-252. doi:10.18585/INABJ.V15I3.2291
  35. Schäfer FM, Bürgener D, Stehr M, Rompel O. Intra- and Interobserver Variability in Ultrasound Measurement of Testicular Volumes in Pubertal Boys. *Children*. 2024;11(6):741. doi:10.3390/children11060741
  36. Lee D, Chung JM, Lee SD. Pediatric obesity and development of the penis and testis. *Investig Clin Urol*. 2024;65(2):189. doi:10.4111/icu.20230287
  37. Liu C, Liu X, Zhang X, et al. Referential Values of Testicular Volume Measured by Ultrasonography in Normal Children and Adolescents: Z-Score Establishment. *Front Pediatr*. 2021;9. doi:10.3389/fped.2021.648711
  38. Arendt L, Ernst A, Braskhøj Lauridsen L, Brix N, Olsen J, Ramlau-Hansen C. Timing of pubertal development in boys born with cryptorchidism and hypospadias: a nationwide cohort study. *Asian J Androl* [Internet]. 2019;21(6):551. Available from:

- [https://journals.lww.com/10.4103/aja.aja\\_3\\_19](https://journals.lww.com/10.4103/aja.aja_3_19)
39. Schäfer FM, Bürgener D, Stehr M, Rompel O. Intra- and Interobserver Variability in Ultrasound Measurement of Testicular Volumes in Pubertal Boys. *Children* [Internet]. 2024 Jun 17;11(6):741. Available from: <https://www.mdpi.com/2227-9067/11/6/741>
  40. Soliman A, De Sanctis V, Elalaily R. Nutrition and pubertal development. *Indian J Endocrinol Metab* [Internet]. 2014;18(7):39. Available from: <https://journals.lww.com/10.4103/2230-8210.145073>
  41. Buyken AE, Bolzenius K, Karaolis-Danckert N, Günther ALB, Kroke A. Body composition trajectories into adolescence according to age at pubertal growth spurt. *American Journal of Human Biology* [Internet]. 2011 Mar 7;23(2):216–24. Available from: <https://onlinelibrary.wiley.com/doi/10.1002/ajhb.21125>
  42. Lee JM, Wasserman R, Kaciroti N, Gebremariam A, Steffes J, Dowshen S, et al. Timing of Puberty in Overweight Versus Obese Boys. *Pediatrics* [Internet]. 2016 Feb 1;137(2). Available from: <https://publications.aap.org/pediatrics/article/137/2/e20150164/52695/Timing-of-Puberty-in-Overweight-Versus-Obese-Boys>
  43. Low EV, Lee M, Bauer C, Fisher-Hoch SP, McCormick JB, Abughosh S, et al. Association of Puberty Stage and Weight Status with Cardiometabolic Risk in Children and Adolescents Living on the Texas-Mexico Border. *Metab Syndr Relat Disord* [Internet]. 2022 Oct 1;20(8):440–50. Available from: <https://www.liebertpub.com/doi/10.1089/met.2021.0151>
  44. Chan NP, Choi KC, Nelson EAS, Chan JC, Kong AP. Associations of pubertal stage and body mass index with cardiometabolic risk in Hong Kong Chinese children: A cross-sectional study. *BMC Pediatr* [Internet]. 2015 Dec 24;15(1):136. Available from: <http://bmcpediatr.biomedcentral.com/articles/10.1186/s12887-015-0446-0>
  45. Soliman A, De Sanctis V, Elalaily R. Nutrition and pubertal development. *Indian J Endocrinol Metab* [Internet]. 2014;18(7):39. Available from: <https://journals.lww.com/10.4103/2230-8210.145073>
  46. Lee D, Chung JM, Lee SD. Pediatric obesity and development of the penis and testis. *Investig Clin Urol* [Internet]. 2024;65(2):189. Available from: <https://icurology.org/DOIx.php?id=10.4111/icu.20230287>
  47. Cannarella R, Caruso M, Condorelli RA, Timpanaro TA, Caruso MA, La Vignera S, et al. Testicular volume in 268 children and adolescents followed-up for childhood obesity—a retrospective cross-sectional study. *Eur J Endocrinol* [Internet]. 2023 Apr 5;188(4):331–42. Available

- from: <https://academic.oup.com/ejendo/article/188/4/331/7106271>
48. Busch AS, Højgaard B, Hagen CP, Teilmann G. Obesity Is Associated with Earlier Pubertal Onset in Boys. *J Clin Endocrinol Metab* [Internet]. 2020 Apr 1;105(4):e1667–72. Available from: <https://academic.oup.com/jcem/article/105/4/e1667/5639762>
  49. Lee D, Chung JM, Lee SD. Pediatric obesity and development of the penis and testis. *Investig Clin Urol* [Internet]. 2024;65(2):189. Available from: <https://icurology.org/DOIx.php?id=10.4111/icu.20230287>
  50. Sotos JF, Tokar NJ. Appraisal of testicular volumes: volumes matching ultrasound values referenced to stages of genital development. *Int J Pediatr Endocrinol* [Internet]. 2017 Dec 17;2017(1):7. Available from: <http://ijpeonline.biomedcentral.com/articles/10.1186/s13633-017-0046-x>
  51. Arce BGP, Quanico UT. A Retrospective Determination of the Average Testicular Volume of Pubertal and Post-pubertal Male Patients in a Tertiary Institution. *Philippine Journal of Urology* [Internet]. 2023;33(01). Available from: <https://pjuonline.com/index.php/pju/article/view/163>
  52. Pozza C, Kanakis G, Carlomagno F, Lemma A, Pofi R, Tenuta M, et al. Testicular ultrasound score: A new proposal for a scoring system to predict testicular function. *Andrology* [Internet]. 2020 Sep 2;8(5):1051–63. Available from: <https://onlinelibrary.wiley.com/doi/10.1111/andr.12822>
  53. Shiraishi K, Takihara H, Kamiryō Y, Naito K. Usefulness and limitation of punched-out orchidometer in testicular volume measurement. *Asian J Androl* [Internet]. 2005 Mar;7(1):77–80. Available from: <http://www.asiaandro.com/Abstract.asp?doi=10.1111/j.17457262.2005.00010.x>
  54. Dong Y, Mai X, Xu X, Li Y. Effects of the body mass index of males on hormone levels, sperm and embryo parameters, and clinical outcomes in non-obstructive azoospermia: a systematic review and meta-analysis. *Transl Androl Urol*. 2023 Mar 31;12(3):392-405. doi: 10.21037/tau-23-125. PMID: 37032750; PMCID: PMC10080349.
  55. Alghamdi A. Precocious Puberty: Types, Pathogenesis and Updated Management. *Cureus*. 2023 Oct 22;15(10):e47485. doi: 10.7759/cureus.47485. PMID: 38021712; PMCID: PMC10663169.
  56. Ku, J. H., Kim, M. E., Jeon, Y. S., Lee, N. K., & Park, Y. H. (2002). *Factors influencing testicular volume in young men: results of a community-based survey*. *BJU International*, 90(4), 446–450. doi:10.1046/j.1464-410x.2002.02904.x
  57. Tang Fui MN, Hoermann R, Wittert G, Grossmann M. Testicular volume and clinical correlates of hypothalamic-pituitary-testicular function: A

cross-sectional study in obese men. *Asian J Androl.* 2020 Jul-Aug;22(4):354-359. doi: 10.4103/aja.aja\_96\_19. PMID: 31535628; PMCID: PMC7406092.



**REKOMENDASI PERSETUJUAN ETIK**

Nomor : 919/UN4.6.4.5.31/ PP36/ 2024

Tanggal: 28 Oktober 2024

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

No Protokol	UH24100849	No Sponsor	
Peneliti Utama	<b>dr. Sri Nur Ramadhani</b>	Sponsor	
Judul Peneliti	KORELASI STATUS GIZI TERHADAP TANDA PUBERTAS SEKUNDER (TANNER STAGING) DAN VOLUME TESTIS MENGGUNAKAN ULTRASONOGRAFI PADA ANAK USIA 9-14 TAHUN		
No Versi Protokol	<b>1</b>	Tanggal Versi	<b>23 Oktober 2024</b>
No Versi PSP	<b>1</b>	Tanggal Versi	<b>23 Oktober 2024</b>
Tempat Penelitian	RSUD I Lagaligo Wotu pada anak SDN Dauloloe dan SMPN 1 Wotu, Kabupaten Luwu Timur		
Jenis Review	<input type="checkbox"/> Exempted <input checked="" type="checkbox"/> Expedited <input type="checkbox"/> Fullboard Tanggal	Masa Berlaku <b>28 Oktober 2024</b> sampai <b>28 Oktober 2025</b>	Frekuensi review lanjutan
Ketua KEP Universitas Hasanuddin	<b>Prof. dr. Muh Nasrum Massi, PhD, SpMK, Subsp. Bakt(K)</b>	Tanda tangan 	
Sekretaris KEP Universitas Hasanuddin	<b>dr. Firdaus Hamid, PhD, SpMK(K)</b>	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 Lapor 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 prokol yang disetujui (protocol deviation / violation)
- Mematuhi semua peraturan yang ditentukan

# DAFTAR RIWAYAT HIDUP

## *Curriculum Vitae*



### **Data Pribadi / Personal Details**

Nama / Name : dr. Sri Nur Ramadhani K.  
Alamat / Address : BTP Blok M 153, Makassar.  
Nomor Telepon / Phone : 081355532128  
Email : srinurr50@gmail.com  
Jenis Kelamin / Gender : Perempuan  
Tanggal Kelahiran / Date of Birth : Lura, 04 Juni 1984  
Status Marital / Marital Status : Menikah  
Warga Negara / Nationality : Indonesia  
Agama / Religion : Islam  
Nama Orang Tua / Parent's Name :  
    Nama Ayah / Father Name : H. Kuddus  
    Nama Ibu / Mother Name : Hj. Kursani  
Pekerjaan Orang Tua / Parent's Job :  
    Pekerjaan Ayah / Father Job : -  
    Pekerjaan Ibu / Mother Job : -

### **Riwayat Pendidikan**

#### *Educational and Professional Qualification*

Jenjang Pendidikan :

#### *Education Information*

Periode			Sekolah / Institusi / Universitas
1990	-	1996	SDN 481 Lumi, Kab. Luwu
1996	-	1999	SMPN 02 Bua Ponrang, Kab. Luwu
1999	-	2002	SMAN 03 Palopo
2003	-	2010	Universitas Muslim Indonesia
2021	-	2025	PPDS-1 Radiologi Universitas Hasanuddin

**Publikasi***Publication*

<b>Periode</b>	<b>Publikasi</b>
2025	Korelasi Status Gizi dengan Tanda Pubertas Sekunder ( <i>Tanner Staging</i> ) dan Volume Testis Menggunakan Ultrasonografi pada Anak Usia 9-14 Tahun

**Simposium***Symposium*

<b>Periode</b>	<b>Simposium</b>
2017	Emergency Cases in Daily Clinical Practice
2018	Update on Infection, Oncology and Obstructive Lung Disease
2022	Serial Ultrasound Workshop "Basic Hemodynamic And Dopler Ultrasound"
2023	Workshop dan Symposium PIT PERAMI MALANG
2024	Clinical Pathology Conference of 23 <sup>rd</sup> Grand Round Musculoskeletal Tumor "Sarcoma Care Collaboration: Together Fighting Sarcoma"

Demikian riwayat hidup ini saya buat dengan sebenar-benarnya.

Makassar, 17 April 2025



dr. Sri Nur Ramadhani K.