

## DAFTAR PUSTAKA

- Abolfotouh M, Faheem Y, Badawil, Khairallah S. Prevalence of refractive errors and their optical correction among school boys in Abha City, Asir Region, Saudi Arabia. *Health Ser. J.Eastern Mediterran.* 1993; 7(2).
- Akil H, Keskin S, Cavdarli C. Comparison of the refractive measurement with hand-held autorefractometer, table-mounted autorefractometer and cycloplegic retinoscopy in children. *Korean J. Ophtlamol.* 2015; 29(3): 178-184
- American Academy of Ophthalmology. *Basic Clinical Science and Course* New York: American Academy of Ophthalmology. 2018;
- Ashok Akshaya. Refraction and Glass Perscription In Pediatric Age Group. *Kerala Journal of Ophtalmology.* 2019; 31: 78-80
- Bagheri, Abbas , et al. "Effect of Cycloplegia on Corneal Biometrics and Refractive State." *Journal of ophthalmic and Vision research* (2018): 101-109.
- Benjamin, WJ., *Borish's clinical refraction.* Philadelphia: WB Saunders Co. 2006.
- Cheng HC dan Hsieh YT. Short-Term Refractive Change and Ocular Parameter Changes after Cycloplegia. *Optometry and Vision Science.* 2014; 91(9): 1113-1117
- Ciner, EB, Schmidt, PP, Orel-Bixler, D, Dobson, C, Maguire, M, dkk. Vision screening of preschool children: evaluating the past, looking toward the future. *Optometry and Vision Science.* . 1998; 75(8): 571-584.
- Cochrane GM, de Toit R, Mesurier RTL. Management of refractive errors.. *BMJ* 2010;340:c1711
- Corboy, J. M., Norath, D. J., Reffner, R., Stone, R. *The retinoscopy book-an introductory manual for eye care professional.* 5th edition. Slack Inc, New Jersey. 2003.
- Corboy J M, WirtschafterJD,SchwartzGS. *Retinoscopy. The Retinoscopy Book: An Introductory Manual for Eye Care Professionals.* SLACK Incorporated. 2003.
- D.B. Elliott and R.D. Wilkes. A clinical evaluation of the Topcon RM6000 autorefractor. *Clinical and Experimental Optometry.* 1989: 72; 150-153.
- Depkes RI. (2009). Gangguan Penglihatan Masih Menjadi Masalah Kesehatan. Available from <<http://www.depkes.go.id/index.php/berita /press-release/845-gangguan-penglihatanmasih-menjadi-masalah-kesehatan.html>> [Acceseed 1 November 2019].

- Doherty, Sue E, et al. "Comparison of retinoscopy results with and without 1% cyclopentolate in school-aged children." *Ophthalmic and Physiological Optics* (2019): 272-281
- Donald et al. The Effect of Cycloplegia on Measurement of the Ocular Components. *Invest Ophthalmol VisSci*. 1994 ;35:515-527
- Drexler W, Findl O, Schmetterer L, Hitzenberger CK, Fercher AF. Eye elongation during accommodation in humans: differences between emmetropes and myopes. *Invest Ophthalmol Vis Sci* 1998; 39:2140Y7
- Duckman Robert. Quantification of refractive error in visual development, diagnosis and treatment of the pediatric patient. 3rd edition. New York : Lippincott Williams and Wilkins. 2010.
- Fan DSP, Cheung EYY, Lai RYK, dkk., 2004. *Myopia* progression among preschool Chinese children in Hong Kong. *Ann Acad Med Singapore*;33:39-43.
- Farhood, J. Cycloplegic Refraction in Children with Cyclopentolate versus Atropine. *Clin Exp Ophthalmol* 2012; 3: 7
- Fauzi L, Anggorowati L, Heriana C. Skrinign Kelainan Refraksi Mata pada Siswa Sekolah Dasar Menurut Tanda dan Gejala. *Journal of Health Education*. 2016; 1: 78-84.
- Fotouhi A, Morgan IG, Iribarren R et al. Validity of noncycloplegic refraction in the assessment of refractive errors: the Tehran Eye Study. *Acta Ophthalmol* 2012; 90: 380–386
- Funarunart P, Tengtrisorn S, Sangsupawanich P. Accuracy of Noncycloplegic Refraction in Primary School Children in Southern Thailand . *J Med Assoc Thai*. 2009; 92 (6): 806-12
- Furlan W D. Muñoz-Escrivá L, et al. Analysis of lens aberrations using a retinoscope as a Foucault test. Burjassot Spain: Universitat de València. 2000. P:408-411
- Gallimore, Gary. Basic concept in retinoscopy in Retinoscopy in minus cylinder. 2014. Available from <http://www.eyetec.net/group2/M6s1.htm>. Accessed on July 5th 2014.
- Gao L, Zhuo X, Kwok AK, Yu N, Ma L, Wang J. The change in ocular refractive components after cycloplegia in children. *Jpn J Ophthalmol* 2002;46:293Y8.
- Goss, D.A. and Grosvenor, T. Reliability of refraction--a literature review. *J A m Optom Assoc* . 1996; 67: 619-630.
- Grosvenor T. *Retinoscopy in Primary Care Optometry*. 5th edition. St.Louis, Missouri: Butterworth Heinemann Elseiver.2007;.191-200.

- Grzybowski A, et al. A review on the epidemiology of *myopia* in school children worldwide. *BMC Ophthalmology*. 2020; 20(27):1-11
- Guha S, et al. A comparison of cycloplegic autorefraction and retinoscopy in Indian children. *Clinical and Experimental Optometry*. 2017; 100: 73-78.
- Handayani Ariesanti, T., SupradnyaAnom, IG.N., dan Pemayun-Dewayani, C. I. Characteristic Of Patients With Refractive Disorder At Eye Clinic Of Sanglah General Hospital Denpasar, Bali-Indonesia Period of 1st January – 31st December 2011. *Bali Medical Journal (BMJ)*. 2012;1(3); h.101-07
- Hasan KS, et al. Relative Distribution and Amount of Different Types of Astigmatism in Mixed Ethnic Population of Karachi. *Pak J Ophthalmol*. 2009; 25(1): 1-8
- Harvey B, Franklin A. *Retinoscopy in Routine eye examination*. Toronto: Butterworth Heineman Elseiver. 2009.p.81-91.
- Hashemi H, et al. Overestimation of Hyperopia with Autorefraction Compared with Retinoscopy Under Cyclopegia in School-Age Children. *Br j Ophthalmol*. 2018; 0: 1-6.
- Hu YY, et al. Effect of Cycloplegia on the Refractive Status of Children: The Shandong Children Eye Study. *PLoS ONE*. 2015; 10(2): 1-10
- Ihekairei DE. The Comparative Efficacy of Cycloplegic Drugs–Tropicamide and Cyclopentolate on School Children. *International Journal of Scientific Research in Education*. 2012; 5(3); 223-246.
- Ilyas S. *Ilmu Penyakit Mata*. Fakultas Kedokteran Universitas Indonesia. Edisi ke tiga. Balai Penerbit FKUI. Jakarta. 2006. 2. Wijaya N. *Ilmu Penyakit Mata*. Edisi ke-6. Jakarta : Abaditegal. 1993
- Jonathan D. *Retinoscopy in : Duane's Clinical Ophthalmologi (CD-ROM)*. Philadelphia Lippincot William and Wilkins Publisher. 2013.
- Jorge et al. The influence of cycloplegic in objective refraction. *Ophthalmic Physiol Opt*. 2005; 25(4): 340-5
- Kuo YC, Wang JH, Chiu CJ. Comparison of open-field autorefraction, closed-field autorefraction, and retinoscopy for refractive measurements of children and adolescents in Taiwan. *Journal of the Formosan Medical Association*. 2020; 119: 1251-1258
- Lang, Gerhard K, Spraul CW. *Ophthalmology A Pocket Textbook Atlas*. Second edition. German. 2006. P 3-5.
- Lattore-Arteaga S., Gil-González D., Enciso, O., Phelan, A., Garcia-Munoz, A., dan Kohler, J. Reducing visual deficits caused by refractive errors in school and preschool children: results of a pilot school program in the Andean region of Apurimac, Peru. *Global Health Action*. 2014. [Diakses 11 oktober 2020]. Diunduh

dari URL: [http://www.globalhealthaction.net/index.php/gha/article/viewFile/22656/pdf\\_1](http://www.globalhealthaction.net/index.php/gha/article/viewFile/22656/pdf_1)

Launardo AV, Afifudin A, Syamsu N, Taufik R. Kelainan Refraksi Pada Anak Usia 3-6 tahun di Kecamatan Tallo Kota Makasar. Jurnal pascasarja Unhas. 2010.

Li tao, et.al. Effect of cycloplegia on the measurement of refractive error in Chinese children. Clinical and Experimental Optometry. 2019; 102: 160-165

Lundberg K, Suhr Thykjaer A, Sogaard Hansen R, et al. Physical activity and myopia in Danish children-The CHAMPS Eye Study. Acta Ophthalmol. 2017; 96:134-41.

Madge S.N. Clinical techniques in Ophthalmology. Philadelphia: Churchill Livingstone Elsevier.2006.p:30-35

Manny RE, et al. Tropicamide (1%): An Effective Cycloplegic Agent for Myopic Children. Invest Ophthalmol Vis Sci. 2001;42: 1728-1735

Margareta BC, Maria SC, Rodica V, Otilia O. Difference of refraction values between standard autorefractometry and Plusoptix. 2016. Romanian Jpurnal of Ophtalmology. 2016; 60(4): 249-254

McCaghrey GE and Matthews, FE. Clinical evaluation of a range of autorefractors. The Journal Of The College of Ophtometrists. 1993: 13(2); 129-13

Mihartari PG, Sutyanawan IWA, Triningrat AAMP. Gambaran Umum Kelainan Refraksi pada Pasien Anak Usia 6-12 Tahun di Divisi Refraksi dan Lensa Kontak Poliklinik Mata RSUP Sanglah Tahun 2014. E-Jurnal Medika. 2017; 6(12): 170-174

Mirzajani A, Vishteh RA, Khalilian M. Introducing a new method of retinoscopy for refraction of infants and young children: The "Mirza" tele lens retinoscopy. Journal of Optometry. 2020; 4: 1-9

Moore, B., 2006. The Massachusetts preschool vision screening program. Optometry 77 (8), 371- 377.

Mukherjee, PK. Manual of Optics and Refraction: Clinical Methode In Error of Refraction. 2015; 125-150.

Mutti Do, et al. The Effect of Cycloplegia on Measurement of the Ocular Components. Investigative Ophthalmology & Visual Science. 1994; 35(2): 515-527

Natchiar G. A Text Book on Optics and Refraction. Aravind Eye Hospital and Postgraduate institute of Ophthalmology. Tamilnadu India. September 2010.p46-52. 2.

Noviyanti, IA. Pengaruh Sikloplegik terhadap Hasil Refraksi pada Anak Dibawah Usia 10 Tahun. 2020; (Belum dipublikasikan)

- Oral Y, et.al. A Comparison of Different Autorefractometer With Retinoscopy in Children. *J Pediatr Ophthalmol Strabismus*. 2012;49:370- 377
- Panda L, Nayak S, Kahanna RC, Das T. Tribal Odisha Eye Disease Study (TOES)#7. Prevalence of Refractive Error in Children in Tribal Odisha (India) School Screening. *India Journal of Ophthalmology*. 2020; 68: 1596-1599.
- Pi L., Chen L., Liu, Q., Ke, N., Fang, J., Zhang, S., dkk. Refractive Status and Prevalence of Refractive Errors in Suburban School-Aged Children. *International Journal of Medical Sciences*. 2010; 7(6); h.342-53
- Pokupec R, et al. Comparison Between Refractometer and Retinoscopy in Determining Refractive Errors in Children – False Doubt. *Coll. Antropol*. 2013; 37(1): 205–208
- Prabakaran S, et al. Cycloplegic refraction in preschool children: comparisons between the hand-held autorefractor, table-mounted autorefractor and retinoscopy. *Ophthalmic and Physiological Optics*. 2009; 29(4): 422-426
- Prema N. Prevalence of Refractive Error in School Children. *Indian Journal of Sciences and Technology*. 2011;4(2); h.1160-61 5.
- Rajavi Zhale, et al. Accuracy and Repeatability of Refractive Error Measurements by Photorefractometry. *J Ophthalmic Vis Res* 2015; 10 (3): 221-228.
- Rosenfield M, Chin NN. Repeatability of subjective and objective refraction. *Ophthalmol Vis Sci*. 1995;72:577-579.
- Rotsos T, Grigoriou D, Kokkalaki A, Manios N. A comparison of manifest refractions, cycloplegic refractions and retinoscopy on the RMA-3000 autorefractometer in children aged 3 to 15 years. *Clinical Ophthalmology*. 2009; 3: 429–431
- Saad, A. & El Bayoumy, B.M. Environmental risk factors for refractive error among Egyptian schoolchildren. *EMHJ - Eastern Mediterranean Health Journal*. 2007; 13 (4); 819-828
- Sankaridurg P, et.al. Comparison of noncycloplegic and cycloplegic autorefraction in categorizing refractive error data in children. *Acta Ophthalmologica*. 2017; e633-e640.
- Saw AM, et al. Intervention to retard *myopia* progression in children. *American Academy of Ophthalmology*. 2002; 109(3): 415-421
- Schiefer U, Kraus C, Baumbach P, Ungewib J, Michels R. Refractive errors Epidemiology, Effects and Treatment Options. *Deutsches Ärzteblatt International | Dtsch Arztebl Int* 2016; 113: 693–702)

- Shetty NK and Sushmitha MS. A Study of Proportion of Pseudomyopia in *Hypermetropia*. Journal of Clinical and Diagnostic Research. 2020; Vol-14(4): NC09-NC14
- Shirzadi K, et al. Comparison of Manual Refraction Versus Autorefractometry in 60 Diabetic Retinopathy Patients. Med Arch. 2016 Aug; 70(4): 280-283.
- Shrestha G.S., Sujakhu D., Joshi P. Refractive Error Among School Children in Jhapa, Nepal. 2011. [Diakses 23 Januari 2013] Diunduh dari URL: [www.journalofoptometry.org/en/refractive-error-among-school-children/articulo/90023831](http://www.journalofoptometry.org/en/refractive-error-among-school-children/articulo/90023831)
- Skuta GL, Cantor LB, Weiss JS. The Pediatric Eye Examination. Pediatric Ophthalmology and Strabismus. USA:American Academy of Ophthalmology; 2015.
- Sobrinho MVA, Biselli LG, Hoehr GC, Neves GL. Comparison of Cycloplegic and Manifest Refraction in Children and Adolescent. Vis. Pan-Am. 2017; 16(3): 79-81
- Stenberg Li. Correlation between Retinoscopy and Monocular and Binocular Subjective Refraction. Sweden: University of Kalmar.2009.p1 3.
- Steele G, Ireland D, Block S. Cycloplegic autorefractometry results in pre-school children using the Nikon Retinomax Plus and the Welch Allyn SureSight. Optom Vis Sci. 2003; 80: 573-577
- Sun Y-Y, et al. Cycloplegic refraction by 1% cyclopentolate in young adults: is it the gold standard? The Anyang University Students Eye Study (AUSES). Br J Ophthalmol 2018;0:1–5.
- Walline JJ, Kinney KA, Zadnik K, Mutti, DO. Repeatability and Validity of *Astigmatism* Measurements. J Refract Surg. 1999;15(1):23-31
- Wright KW, Hengst TC, Spiegel PH. Neuro-Ophthalmology. Pediatric Ophthalmology and Strabismus: Springer New York; 2013. pp. 865-878.
- Yahya AN, Kaur SS, dan Akhir SM. Distribution of Refractive Errors among Healthy Infants and Young Children between the Age of 6 to 36 Months in Kuala Lumpur, Malaysia—A Pilot Study. Int. J. Environ. Res. Public Health 2019; 16(4730): 1-11
- Yazdani N, et al. Comparison of cyclopentolate versus tropicamide cycloplegia: A systematic review and meta-analysis. Journal of Optometry. 2018; 11: 135-143.
- Yuan Y, et al. Responses of the Ocular Anterior Segment and Refraction to 0.5% Tropicamide in Chinese School-Aged Children of *Myopia*, Emmetropia, and Hyperopia. Hindawi Journal of Ophthalmology. 2015; Vol: 1-6

Zhao J, et al. Accuracy of noncycloplegic autorefraction in school-age children in China. *Optom Vis Sci.* 2004; 81: 49-55

Zhu Dan, et al. Pre- and Postcycloplegic Refractions in Children and Adolescents. *Journal plus one.* 2016; 11(12): 1-11.

# LAMPIRAN





**KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN  
UNIVERSITAS HASANUDDIN FAKULTAS KEDOKTERAN  
KOMITE ETIK PENELITIAN KESEHATAN  
RSPTN UNIVERSITAS HASANUDDIN  
RSUP Dr. WAHIDIN SUDIROHUSODO MAKASSAR**



Sekretariat : Lantai 3 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 : 363/UN4.6.4.5.31/PP36/2020

Tanggal: 13 Juli 2020

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

No Protokol	UH20060264	No Sponsor Protokol	
Peneliti Utama	<b>dr Delvi Indera Mayasari</b>	Sponsor	
Judul Peneliti	Perbandingan Hasil pemeriksaan Refraksi Anak Dengan dan Tanpa Siklopegik Menggunakan Alat Retinoskop dan Autorefraktometer		
No Versi Protokol	2	Tanggal Versi	<b>7 Juli 2020</b>
No Versi PSP	2	Tanggal Versi	<b>7 Juli 2020</b>
Tempat Penelitian	<b>RSPTN Universitas Hasanuddin Makassar dan Klinik Mata Orbita Makassar</b>		
Jenis Review	<input type="checkbox"/> Exempted <input checked="" type="checkbox"/> Expedited <input type="checkbox"/> Fullboard	Masa Berlaku <b>13 Juli 2020</b> Sampai <b>13 Juli 2021</b>	Frekuensi review lanjutan
Ketua Komisi Etik Penelitian Kesehatan FK UH	Nama <b>Prof.Dr.dr.Suryani As'ad.,MSc,Sp.GK (K)</b>	Tanda tangan 	Tanggal
Sekretaris Komisi Etik Penelitian Kesehatan FK UH	Nama <b>dr. Agussalim Bukhari,M.Med,PhD,Sp.GK (K)</b>	Tanda tangan 	Tanggal

**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 prokol yang disetujui (protocol deviation / violation)
- Mematuhi semua peraturan yang ditentukan



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**RSUP dr. Wahidin Sudirohusodo Makassar**  
**Sekretariat : Lantai 2 Gedung Laboratorium Terpadu FKUH**  
**JL. PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM.10, MAKASSAR 90245**  
**Contact Person: dr. Agussalim Bukhari, M.Med, Ph.D, Sp.GK 081241850858**  
**e-mail:agussalimbukhari@yahoo.com**

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## Lampiran 1.

### NASKAH PENJELASAN PADA SUBYEK

## PERBANDINGAN HASIL PEMERIKSAAN REFRAKSI ANAK DENGAN DAN TANPA SIKLOPEGIK MENGGUNAKAN ALAT RETINOSKOP DAN AUTOREFRAKTOMETER

Selamat pagi/Assalamualaikum bapak/ ibu/ saudara(i), ..... Saya dr. Delvi Indera Mayasari, dari bagian Ilmu Kesehatan Mata Unhas. Saya akan melakukan penelitian mengenai perbandingan hasil pemeriksaan refraksi anak dengan dan tanpa siklopegik menggunakan alat retinoskop dan autorefraktometer.

Saya akan melakukan penelitian mengenai perbandingan hasil pemeriksaan refraksi anak dengan dan tanpa siklopegik menggunakan alat retinoskop dan autorefraktometer. Kelainan refraksi adalah suatu keadaan adanya gangguan proses terbentuknya focus di retina mata. Kelainan refraksi dapat dipengaruhi oleh beberapa faktor antara lain usia, jenis kelamin, ras dan lingkungan. Kelainan refraksi pada anak dapat menimbulkan gangguan konsentrasi anak saat belajar dan beraktifitas. Melalui deteksi dini dan diberikan penatalaksanaan yang tepat dapat menurunkan penyakit kelainan refraksi mata anak. Kelainan refraksi dipengaruhi oleh kekuatan akomodasi pada mata anak yang membantu memfokuskan bayangan di retina mata yang akan berubah lebih kuat seiring ketika melihat kabur saat melihat dekat. Penggunaan siklopegik diperlukan untuk menghambat kekuatan akomodasi pada anak saat dilakukan pemeriksaan. Siklopegik tetes mata memiliki beberapa efek samping berupa gangguan melihat dekat, silau, mata merah, mata bengkak, tanda inflamasi, gatal, bahkan gelisah dan delirium (yang jarang) terjadi yang akan hilang dalam 24 jam.

Penanganan kelainan refraksi dapat dilakukan melalui pemeriksaan secara objektif terutama pada anak usia lebih muda dengan cara retinoskopi dan autorefraktometer. Retinoskop menggunakan metode netralisasi. Pemeriksaan ini menggunakan alat untuk melihat refleksi cahaya dari cermin ke mata secara langsung yang akan melewati pupil dan hasilnya tergantung kondisi refraksi mata. Sedangkan alat autorefraktometer merupakan alat digital yang digunakan untuk mengukur kelainan refraksi secara digital dan komputerisasi. Penggunaan kedua alat ini masih diperlukan bantuan siklopegik tetes mata untuk mengontrol daya akomodasi pada anak untuk mendapatkan hasil yang lebih akurat yang akan dilakukan sebanyak 2 kali penetesan menit pertama dan 30 menit kemudian. Siklopegik yang digunakan adalah *cyclopentolate* 1% tetes mata. Kemudian dilakukan pemeriksaan sebelum dan setelah penetesan menggunakan kedua alat pemeriksaan. Hal ini berhubungan untuk pemberian penatalaksanaan berupa kacamata dengan ukuran yang tepat dan

menghindari keluhan rasa tidak nyaman, nyeri kepala sehingga dapat membuat anak tidak nyaman bahkan tidak mau menggunakan kacamata.

Kami mengikutsertakan anak Bapak/Ibu/Wali dalam penelitian ini untuk menilai akurasi pemeriksaan kelainan refraksi dengan retinoskop dan autorefraktometer dengan pemberian dan tanpa siklopegik pada anak usia 4-10 tahun. Prosedur penelitian ini merupakan prosedur yang dilakukan dalam pemeriksaan kelainan refraksi. Penelitian ini dilakukan tanpa ada paksaan, sukarela sehingga dapat menolak dalam pemeriksaan. Bapak/Ibu/Wali dapat melakukan konsultasi mengenai status kesehatan anak sebelum dilakukan prosedur penelitian. Walaupun Bapak/Ibu/Wali tidak bersedia mengikuti penelitian ini, anak akan tetap mendapatkan pelayanan kesehatan sesuai standar.

Bila masih ada hal-hal yang ingin Bapak/Ibu ketahui, maka Bapak/Ibu dapat bertanya atau meminta penjelasan pada kami di Bagian Ilmu Kesehatan Mata UNHAS, atau secara langsung melalui nomor telepon saya: dr. Delvi Indera Mayasari, 085251499797.

Semua data dari penelitian ini akan dicatat dan dipublikasikan tanpa membuka data pribadi pasien dan jika akan dipublikasi, kami akan meminta persetujuan dari Bapak/Ibu. Data pada penelitian ini akan dikumpulkan dan disimpan dalam *file* manual dan elektronik, diaudit dan diproses serta dipresentasikan pada:

- Forum ilmiah Departemen Ilmu Kesehatan Mata, FK - Universitas Hasanuddin
- Publikasi pada jurnal ilmiah dalam negeri

Bila bapak/ibu setuju maka kami berharap bapak/ibu menandatangani surat persetujuan setelah mengikuti penjelasan ini.

Atas kesediaan dan kerjasamanya kami sampaikan terima kasih.

### Identitas Peneliti

Nama : Delvi  
Alamat : Perumahan Sapiria Garden, Arwana II, B-10, Makassar  
Hp : 085251499797

DISETUJUI OLEH KOMISI PENELITIAN  
KESEHATAN FAKULTAS KEDOKTERAN UNHAS

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**e-mail:agussalimbukhari@yahoo.com**

**Lampiran 2.**

**FORMULIR PERSETUJUAN**

Saya yang bertanda tangan di bawah ini :

Nama : ..... Umur : .....  
tahun

Alamat : .....

Telepon/HP : .....

Menyatakan bersedia untuk berpartisipasi pada penelitian ini yang berjudul :

**“PERBANDINGAN HASIL PEMERIKSAAN REFRAKSI ANAK  
DENGAN DAN TANPA SIKLOPEGIK MENGGUNAKAN ALAT  
RETINOSKOP DAN AUTOREFRAKTOMETER”**

setelah mendengar/membaca dan mengerti penjelasan yang diberikan mengenai tujuan dan manfaat yang akan didapatkan pada penelitian ini, khususnya bagi kemajuan ilmu kedokteran.

Makassar, .....

Orang Tua/Wali

Saksi I

(.....)

(.....)

Penanggung jawab penelitian:

dr. Delvi Indera Mayasari  
Perumahan Sapiria Garden, Arwana II, B-10, Makassar (0852515499797)

Penanggung jawab medik:

dr. Marlyanti N. Akib, Sp.M(K), M.Kes  
Perumahan Citraland, Jalan Tun Abdul Rajak, Maroon Voque F9/22, Makassar  
Telp.08114441610

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Tabel 1. Data Primer Penelitian

NO	Usia	JK	Mata	Sebelum siklopegik						Setelah siklopegik					
				Retinoskop	Sferikal Ekuivalen	Diagnosa	Autorefraktometer	Sferikal Ekuivalen	Diagnosa	Retinoskop	Sferikal Ekuivalen	Diagnosa	Autorefraktometer	Sferikal Ekuivalen	Diagnosa
1	5th	L	OD	plano/-0.75x180	-0.37	SMA	+0.25/-0.50x170	0	MA	plano/-0.75x180	-0.37	SMA	+1.00/-0.75x179	+0.62	CHA
2	5th	L	OS	plano/-0.75x180	-0.37	SMA	+0.25/-0.50x180	0	MA	plano/-0.75x180	-0.37	SMA	+1.00/-0.75x10	+0.62	CHA
3	9th 2bl	P	OD	-5.50/-3.50x180	-7.25	CMA	-5.75/-4.00x180	-7.75	CMA	-5.75/-3.75x180	-7.62	CMA	-6.50/-3.75x8	-8.37	CMA
4	9th 2bl	P	OS	-5.00/-3.50x180	-6.75	CMA	-4.50/-4.50x171	-6.75	CMA	-5.25/-3.00x180	-7.75	CMA	-5.50/-3.25x1	-7.12	CMA
5	8th 8bl	P	OD	-12.00/-3.00x10	-13.50	CMA	-12.00/-1.62x9	-12.81	CMA	-12.50/-2.00x10	-13.50	CMA	-11.75/-2.12x10	-12.81	CMA
6	8th 8bl	P	OS	-11.00/-3.00x180	-12.50	CMA	-6.50/-1.37x143	-7.18	CMA	-11.50/-1.75x160	-12.37	CMA	-10.25/-2.37x150	-11.43	CMA
7	5th	L	OD	-11.00/-1.50x180	-11.75	CMA	-11.50/-1.50x168	-12.25	CMA	-11.50/-1.50x180	-12.25	CMA	-11.25/-1.25x164	-11.87	CMA
8	5th	L	OS	-11.00/-1.50x180	-11.75	CMA	-11.75/-0.25x15	-11.87	CMA	-11.50/-1.50x180	-12.25	CMA	-11.00/-1.50x169	-11.75	CMA
9	7th 3bl	P	OD	-7.00/-6.00x10	-10.00	CMA	-6.50/-6.75x3	-9.87	CMA	-7.00/-5.50x10	-9.75	CMA	-6.37/-5.87x8	-9.30	CMA
10	7th 3bl	P	OS	-8.00/-6.00x180	-11.00	CMA	-7.75/-6.00x174	-10.75	CMA	-8.00/-6.00x180	-11.00	CMA	-7.00/-5.75x178	-9.87	CMA
11	5th	P	OD	-4.00/-3.50x180	-5.75	CMA	-3.50/-3.75x1	-5.37	CMA	-4.00/-3.75x180	-5.87	CMA	-3.50/-3.50x3	-5.25	CMA
12	5th	P	OS	-4.00/-3.50x180	-5.75	CMA	-4.00/-4.25x173	-6.12	CMA	-4.00/-4.25x180	-6.12	CMA	-3.75/-4.00x174	-5.75	CMA
13	7th 7bl	P	OD	+5.50/-1.50x150	+4.75	CHA	+5.62/-1.12x131	+5.06	CHA	+5.50/-1.00x150	+5.00	CHA	+7.00/-0.87x135	+6.56	CHA
14	7th 7bl	P	OS	0	0	E	+1.12/-0.25x60	+0.99	CHA	+1.00/-0.50x180	+0.75	CHA	+1.87/-	+1.87/-	H
15	8th 1bl	L	OD	plano/-0.50x170	-0.25	SMA	-1.12/-0.50x157	-1.37	CMA	plano/-0.50x170	-0.25	SMA	+1.12/-0.75x5	+0.74	CHA
16	8th 1bl	L	OS	plano/-3.00x10	-1.50	SMA	+0.37/-3.25x8	-1.25	MA	plano/-3.00x10	-1.50	SMA	+1.62/-3.50x10	-0.13	MA
17	7th 3bl	L	OD	-0.50/-2.00x170	-1.50	CMA	-0.87/-2.50x170	-2.12	CMA	-1.00/-2.75x170	-2.37	CMA	-0.62/-2.50x169	-1.87	CMA
18	7th 3bl	L	OS	-1.50/-2.50x180	-2.75	-2.75	-2.25/-2.62/5	-3.56	CMA	-2.50/-2.50x10	-3.75	CMA	-1.75/-2.75x3	-3.12	CMA
19	10th	L	OD	+0.50/-1.75x150	-0.37	MA	+0.62/-2.12x146	-0.44	MA	+0.50/-1.75x150	-0.37	MA	+1.37/-2.00x139	+0.37	MA
20	10th	L	OS	plano/-0.50x180	-0.25	SMA	+0.87/-0.25x118	+0.74	CHA	plano/-0.50x180	-0.25	SMA	+0.87/-0.37x118	+0.68	CHA
21	8th 11bl	L	OD	+7.00	+7.00	+7.00	+7.00/-0.75x161	+6.62	CHA	+7.00/-0.50x170	+6.75	CHA	+7.25/-0.75x150	+6.87	CHA
22	8th 11bl	L	OS	+5.00	+5.00	+5.00	+5.50/-1.00x2	+5.00	CHA	+5.00/-0.50x180	+4.75	CHA	+5.75/-0.75x18	+5.37	CHA
23	9bl 5bl	P	OD	+0.50/-0.75x170	+0.13	MA	+1.00/-0.75x168	+0.62	CHA	+0.50/-0.75x170	+0.12	MA	+1.25/-0.50x170	+1.00	CHA
24	9bl 5bl	P	OS	+0.75/-1.25x180	+0.12	MA	+1.50/-1.25x173	+0.87	CHA	+1.00/-1.00x180	+0.50	SHA	+1.50/-1.25x2	+0.87	CHA
25	6th 8bl	L	OD	0	0	E	0	0	E	+1.00	+1.00	H	+1.75/-0.50x168	+1.50	CHA
26	6th 8bl	L	OS	0	0	E	-0.50/-0.50x168	-0.75	CMA	+1.00/-0.50x180	+0.50	CHA	+1.75/-0.50x142	+1.50	CHA
27	9th 10bl	L	OD	0	0	E	+0.12	+0.12	E	plano/-0.50x180	-0.25	SMA	+0.75/-0.25x178	+0.62	CHA
28	9th 10bl	L	OS	+1.00/-4.00x180	-1.00	MA	+1.75/-4.25x169	-0.37	MA	+1.50/-4.00x175	-0.50	MA	+2.25/-4.12x168	+0.19	MA
29	7th 9bl	P	OD	-1.00/-2.00x5	-2.00	CMA	-1.75/-2.12x7	-2.81	CMA	-1.00/-2.00x5	-2.00	CMA	-1.12/-1.87x10	-2.05	CMA
30	7th 9bl	P	OS	-1.00/-2.00x180	-2.00	CMA	-1.25/-1.87x174	-2.18	CMA	-1.00/-2.00x180	-2.00	CMA	-0.87/-2.00x173	-1.87	CMA

31	7th 1bl	P	OD	-14.00/-2.50x180	-15.25	CMA	-14.00/-2.87x150	-15.43	CMA	-14.00/-3.00x170	-15.50	CMA	-13.25/-3.50x153	-15.00	CMA
32	7th 1bl	P	OS	-14.00/-4.50x180	-16.25	CMA	-17.75/-1.62x16	-18.56	CMA	-16.00/-2.00x10	-17.00	CMA	-16.75/-2.50x17	-18.00	CMA
33	7th 1bl	P	OD	-14.00/-2.50x180	-15.25	CMA	-15.00/-0.12x118	-15.00	CMA	-15.00/-2.00x170	-16.00	CMA	-13.50/-1.50x13	-14.25	CMA
34	7th 1bl	P	OS	-14.00/-4.00x20	-16.00	CMA	-17.37/-4.62x28	-19.68	CMA	-17.00/-4.50x30	-19.25	CMA	-16.50/-3.75x33	-18.37	CMA
35	10th	P	OD	-11.00/-2.00x180	-12.00	CMA	-11.75/-1.75x170	-12.62	CMA	-11.00/-2.00x180	-12.00	CMA	-11.00/-2.00x170	-2.00	CMA
36	10th	P	OS	-8.50/-2.50x10	-9.75	CMA	-8.75/-2.50x20	-10.00	CMA	-8.50/-2.50x20	-9.75	CMA	-8.12/-2.62x20	-4.06	CMA
37	5th 4bl	L	OD	-1.00/-4.00x180	-3.00	CMA	-1.87/-4.00x175	-3.87	CMA	-2.00/-4.00x180	-4.00	CMA	-1.50/-4.50x170	-3.75	CMA
38	5th 4bl	L	OS	-2.00/-4.00/180	-4.00	CMA	-2.25/-3.75x175	-4.12	CMA	-2.00/-4.00x180	-4.00	CMA	-2.25/-3.62x175	-4.06	CMA
39	7th	P	OD	-12.00/-1.50x20	-12.75	CMA	-12.00/-1.25x24	-12.62	CMA	-11.00/-1.50x20	-11.75	CMA	-11.25	-11.25	MA
40	7th	P	OS	-9.00/-2.00x170	-10.00	CMA	-8.50/-2.25x162	-9.62	CMA	-9.00/-2.00x170	-10.00	CMA	-8.75/-2.00x170	-9.75	CMA
41	6th	P	OD	+0.50/-1.75x180	-0.37	MA	+0.75/-1.00x170	+0.25	MA	+1.50/-1.50x180	+0.75	SMA	+2.25/-1.25x170	+1.62	CHA
42	6th	P	OS	+0.50/-1.50x180	-0.25	MA	+0.25/-0.75x5	-0.12	MA	+1.50/-1.25x180	+0.87	CHA	+2.00/-1.00x5	+1.50	CHA
43	4th 8bl	L	OD	plano/-0.75x180	-0.37	SMA	-0.25/-0.50x15	-0.50	CMA	+0.50/-1.00x180	0	MA	+1.00/-0.75x175	+0.62	CHA
44	4th 8bl	L	OS	plano/-0.75x180	-0.37	SMA	+0.25/-0.75x150	-0.12	MA	+0.50/-1.00x170	0	MA	+1.00/-0.75x165	+0.62	CHA
45	5th	P	OD	plano/-2.50x180	-1.25	SMA	-0.87/-3.25x175	-2.49	CMA	-1.00/-3.00x180	-2.50	CMA	-0.50/-3.12x173	-2.06	CMA
46	5th	P	OS	-0.50/-3.00x180	-2.00	CMA	-0.50/-3.00x180	-2.00	CMA	-1.00/-3.00x180	-2.50	CMA	-0.12/-3.12x1	-1.68	CMA
47	8th 7bl	L	OD	-9.00/-5.00x10	-11.50	CMA	-8.75/-5.00x6	-11.25	CMA	-9.00/-5.00x10	-11.50	CMA	-9.00/-5.25x11	-11.62	CMA
48	8th 7bl	L	OS	-11.00/-5.00x180	-13.50	CMA	-10.25/-4.75x164	-12.62	CMA	-11.50/-5.00x170	-14.00	CMA	-10.12/-5.12x164	-12.68	CMA
49	5th	L	OD	plano/-2.50x180	-1.25	SMA	-0.87/-3.25x175	-2.49	CMA	-1.00/-3.00x180	-2.50	CMA	-0.50/-3.12x173	-2.06	CMA
50	5th	L	OS	-0.50/-3.00x180	-2.00	CMA	-0.50/-3.00x180	-2.00	CMA	-1.00/-3.00x180	-2.50	CMA	-0.12/-3.12x1	-1.68	CMA
51	4th	P	OD	+0.50/-1.50x180	-0.25	MA	plano/-1.37/174	-0.68	SMA	+1.00/-1.50x180	+0.25	MA	+2.50/-1.62x168	+1.69	CHA
52	4th	P	OS	+0.50/-1.50x180	-0.25	MA	-0.62/-1.75x174	-1.49	CMA	+1.50/-1.50x180	+0.75	SHA	+3.37/-2.25x178	+2.24	CHA
53	4th	L	OD	+1.50/-2.00x180	+0.50	MA	+1.37/-2.12/175	+0.31	MA	+1.00/-2.00x180	0	MA	+1.62/-2.37/173	+0.43	MA
54	4th	L	OS	+1.50/-2.00x180	+0.50	MA	+1.25/-2.00/11	+0.25	MA	+1.00/-2.00x180	0	MA	+1.37/-1.87x13	+0.43	MA
55	6th 8bl	P	OD	+1.50/-3.00x180	0	MA	+1.75/-3.12x175	+0.19	MA	+1.50/-3.00x180	0	MA	+2.37/-3.25x180	+0.74	MA
56	6th 8bl	P	OS	+1.00/-2.00x170	0	MA	+2.37/-2.00x170	+1.37	CHA	+1.00/-2.00x170	0	MA	+2.62/-2.37x170	+1.43	CHA
57	7th 10bl	L	OD	-2.25/-5.00x10	-4.75	CMA	-2.62/-4.87x1	-5.05	CMA	-2.25/-5.00x10	-5.00	CMA	-2.37/-5.00x177	-4.87	CMA
58	7th 10bl	L	OS	-1.50/-5.00x180	-4.00	CMA	-2.00/-5.00x117	-4.50	CMA	-1.50/-5.00x180	-4.00	CMA	-2.00/-4.62x171	-4.31	CMA
59	8th 9bl	P	OD	-1.00	-1.00/-	M	-1.62/-0.50x162	-1.87	CMA	-0.75/-0.50x180	-1.00	CMA	-1.37/-0.62x155	-1.68	CMA
60	8th 9bl	P	OS	-2.00/-0.50x180	-2.25	CMA	-1.87/-0.12x134	-1.93	CMA	-2.00/-0.50x180	-2.25	CMA	-1.37/-0.37x118	-1.55	CMA
61	8th 9bl	L	OD	+0.50/-0.50x180	0	SHA	+0.25/-0.25x44	-0.25	SHA	+1.00/-	+1.00	H	+1.37/-0.37x56	+1.18	CHA
62	8th 9bl	L	OS	+1.25/-5.00x170	-1.25	MA	+1.62/-5.62x170	-1.19	MA	+2.00/-5.50x170	-0.75	MA	+3.12/-5.50x168	+0.37	MA
63	7th 8bl	L	OD	+11.00/-2.50x170	+9.75	CHA	+10.75/-2.25x170	+9.62	CHA	+11.00/-3.50x170	+9.25	CHA	+11.25/-2.50x170	+10.00	CHA
64	7th 8bl	L	OS	+11.00/-2.50x180	+9.75	CHA	+10.75/-2.50x175	+9.50	CHA	+11.00/-2.50x180	+9.75	CHA	+11.50/-2.25x175	+10.37	CHA

65	6th	P	OD	-12.00/-1.50x20	-12.75	CMA	-12.00/-1.25x24	-12.62	CMA	-11.00/-1.50x20	-11.75	CMA	-11.25	-11.25	E
66	6th	P	OS	-9.00/-2.00x170	-10.00	CMA	-8.50/-2.25x162	-9.62	CMA	-9.00/-2.00x170	-10.00	CMA	-8.75/-2.00x170	-9.75	CMA
67	8th	L	OD	+9.00/-1.75x180	+7.85	CHA	+10.62/-1.62x10	+9.81	CHA	+10.50/-1.75x10	+9.62	CHA	+11.37/-2.25x5	+10.24	CHA
68	8th	L	OS	+6.50/-1.75x180	+7.85	CHA	+10.87/-2.62x165	+9.56	CHA	+11.00/-2.00x165	+10.00	CHA	+11.12/-2.25x165	+9.99	CHA
69	10th	P	OD	-1.00/-2.50x180	-2.25	CMA	-1.00/-2.75x165	-2.37	CMA	-0.75/-2.50x170	-2.00	CMA	-0.87/-2.37x165	-2.05	CMA
70	10th	P	OS	-1.75/-2.00x180	-2.75	CMA	-2.00/-2.62x180	-3.31	CMA	-1.25/-2.75x180	-2.62	CMA	-1.62/-3.00x175	-3.12	CMA
71	8th 8bl	P	OD	plano/-1.00x90	-0.50	SMA	+0.25/-0.87x85	-0.18	MA	-0.25/-0.75x90	-0.62	CMA	+0.50/-0.62x105	+0.19	MA
72	6th 3bl	L	OD	plano/-1.00x180	-0.50	SMA	-0.25/-0.75x10	-0.62	CMA	plano/-1.00x10	-0.50	SMA	+0.50/-0.75x10	+0.12	MA
73	6th 3bl	L	OS	plano/-1.00x180	-0.50	SMA	+0.37/-1.12x180	-0.19	MA	plano/-1.00x180	-0.50	SMA	+0.50/-1.12x180	+0.06	MA
74	8th 7bl	P	OS	+0.75/-2.50x170	-0.50	MA	+0.75/-2.25x165	-0.37	MA	+0.75/-2.50x170	-0.50	MA	+1.12/-2.37x165	-0.06	MA
75	7th 9bl	L	OD	plano/-2.50x180	-1.25	SMA	+0.12/-2.50x180	-1.13	MA	plano/-2.50x180	-1.25	SMA	+0.25/-2.50x180	-1.00	MA
76	7th 9bl	L	OS	plano/-2.50x180	-1.25	SMA	-0.25/-2.62x180	-1.56	CMA	plano/-2.50x180	-1.25	SMA	+0.25/-2.62x180	-1.06	MA
77	9th 10bl	P	OD	0	0	E	+0.12	+0.12	E	plano/-0.50x180	-0.25	SMA	+0.75/-0.25x178	+0.62	CHA
78	9th 10bl	P	OS	+1.00/-4.00x180	-2.00	MA	+1.75/-4.25x169	-0.37	MA	+1.50/-4.00x175	-0.50	MA	+2.50/-4.12x168	+0.44	MA
79	7th 8bl	P	OD	plano/-1.50x180	-0.75	SMA	+0.12/-1.62x175	-0.69	MA	+0.50/-1.50x180	-0.25	MA	+0.37/-1.62x179	-0.44	MA
80	7th 8bl	P	OS	0	0	E	plano/-0.12x18	0	SMA	0	0	E	+0.25	+0.25/-	H
81	4th 7bl	P	OD	plano/-1.00x180	-0.50	SMA	-2.62/-0.75x7	-2.99	CMA	plano/-1.00x180	-0.50	SMA	-2.50/-0.75x7	-2.87	CMA
82	4th 7bl	P	OS	plano/-1.00x180	-0.50	SMA	-2.25/-1.00x170	-2.75	CMA	plano/-1.00x180	-0.50	SMA	-2.12/-1.25x168	-2.74	CMA
83	7th 7bl	P	OD	-7.00/-2.00x10	-8.00	CMA	-7.12/-1.62x13	-7.93	CMA	-7.00/-2.00x10	-8.00	CMA	-6.12/-1.75x13	-6.99	CMA
84	7th 7bl	P	OS	-2.00/-1.50x170	-2.75	CMA	-2.62/-1.75x173	-3.49	CMA	-2.50/-2.00x170	-3.50	CMA	-2.12/-1.87x172	-3.05	CMA
85	7th 3bl	L	OD	-0.50/-2.00x170	-1.50	CMA	-0.87/-2.50x170	-2.12	CMA	-1.00/-2.75x170	-2.37	CMA	-0.62/-2.50x169	-1.87	CMA
86	7th 3bl	L	OS	-1.50/-2.50x180	-2.75	CMA	-2.25/-2.62x5	-3.56	CMA	-2.50/-2.50x10	-3.75	CMA	-1.75/-2.75x3	-3.12	CMA
87	10th	L	OD	plano/-0.50x180	-0.25	SMA	+0.50/-0.25x1	+0.37	CHA	plano/-0.50x180	-0.25	SMA	+0.75/-0.25x38	+0.62	CHA
88	10th	L	OS	-9.00/-1.00x30	-9.50	CMA	-8.50/-1.00x35	-9.00	CMA	-9.00/-1.50x20	-9.75	CMA	-8.00/-1.25x22	-8.62	CMA
89	8th 9bl	L	OD	-4.00/-3.50x180	-5.75	CMA	-3.50/-3.50x3	-5.25	CMA	-4.00/-3.75x180	-5.87	CMA	-3.50/-3.75x1	-5.37	CMA
90	8th 9bl	L	OS	-4.00/-3.50x180	-5.75	CMA	-3.75/-4.00x174	-5.75	CMA	-4.00/-4.25x180	-6.12	CMA	-4.00/-4.25x173	-6.12	CMA

KETERANGAN	
EM	: Emetropia
M	: Myopia
H	: Hypermetropia
SMA	: Simple myopia astigmatism
CMA	: Compound myopia astigmatism
SHA	: Simple hypermetropia astigmatism
CHA	: Compound hypermetropia astigmatism
MA	: Mixed astigmatism

Tabel 2. Perubahan Diagnosis Sebelum dan Setelah Sikloplegik dengan Menggunakan Alat Ukur Retinoskop

Diagnosis 1	Diagnosis 2							Total
	<i>Emetropia</i>	<i>Hypermetropia</i>	<i>Simple myopia astigmatism</i>	<i>Compound myopia astigmatism</i>	<i>Simple Hypermetropia astigmatism</i>	<i>Compound hypermetropia astigmatism</i>	<i>Mixed astigmatism</i>	
<i>Emmetropia</i>	1	1	2	0	0	2	0	6
<i>Myopia</i>	0	0	0	1	0	0	0	1
<i>Hypermetropia</i>	0	0	0	0	0	2	0	2
<i>Simple myopia astigmatism</i>	0	0	12	3	0	0	3	18
<i>Compound myopia astigmatism</i>	0	0	0	42	0	0	0	42
<i>Simple hypermetropia astigmatism</i>	0	1	0	0	0	0	0	1
<i>Compound hypermetropia astigmatism</i>	0	0	0	0	0	5	0	5
<i>Mixed astigmatism</i>	0	0	0	0	3	1	11	15
<b>Total</b>	<b>1</b>	<b>2</b>	<b>14</b>	<b>46</b>	<b>3</b>	<b>10</b>	<b>14</b>	<b>90</b>

Keterangan : Diagnosa 1 adalah diagnosa sebelum ditetes sikloplegik

Diagnosa 2 adalah diagnosa setelah ditetes sikloplegik,  $p = 0,001$ ,  $p$  bermakna  $< 0,05$



Tabel 3. Perubahan Diagnosis Sebelum dan Setelah Sikloplegik dengan Menggunakan Alat Ukur Autorefraktometer

Diagnosis 1	Diagnosis 2						Total
	<i>Emetropi a</i>	<i>Myopi a</i>	<i>Hypermetropi a</i>	<i>Compound myopia astigmatism</i>	<i>Compound hypermetropi a astigmatism</i>	<i>Mixed astigmatism m</i>	
<i>Emmetropia</i>	0	0	0	0	3	0	3
<i>Simple myopia astigmatism</i>	0	0	1	0	1	0	2
<i>Compound myopia astigmatism</i>	1	1	0	45	4	2	53
<i>Compound hypermetropia astigmatism</i>	0	0	0	0	1	0	1
<i>Simple Hypermetropia astigmatism</i>	0	0	1	0	12	0	13
<i>Mixed astigmatism</i>	0	0	0	0	5	13	18
Total	1	1	2	45	26	15	90

Keterangan : Diagnosa 1 adalah diagnosa sebelum ditetes sikloplegik  
Diagnosa 2 adalah diagnosa setelah ditetes sikloplegik,

Tabel 4. Data Tabulasi Perubahan Diagnosa Antara Alat Retinoskop dan Autorefraktometer Pada Keadaan Tanpa Sikloplegik

<b>Retinoskop</b>	<b>Autorefraktometer</b>					<b>Total</b>			
	<i>Emetropia</i>	<i>Myopia</i>	<i>Hypermetropia</i>	<i>Simple myopia astigmatism</i>	<i>Compound myopia astigmatism</i>		<i>Simple hypermetropia astigmatism</i>	<i>Compound hypermetropia astigmatism</i>	<i>Mixed astigmatism</i>
<i>Emetropia</i>	3				2	1			6
<i>Myopia</i>					1				1
<i>Hypermetropia</i>							2		2
<i>Simple myopia astigmatism</i>					8		2	8	18
<i>Compound myopia astigmatism</i>					42				42
<i>Simple hypermetropia astigmatism</i>						1			1
<i>Compound hypermetropia astigmatism</i>							5		5
<i>Mixed astigmatism</i>				1	1		3	10	15
<b>Total</b>	3			1	54	2	12	18	90

Tabel 5. Data Tabulasi Perubahan Diagnosa Antara Alat Retinoskop dan Autorefraktometer Pada Keadaan Dengan Sikloplegik

<b>Retinoskop</b>	<b>Autorefraktometer</b>							<b>Total</b>	
	<i>Emetropia</i>	<i>Myopia</i>	<i>Hypermetropia</i>	<i>Simple myopia astigmatism</i>	<i>Compound myopia astigmatism</i>	<i>Simple hypermetropia astigmatism</i>	<i>Compound hypermetropia astigmatism</i>		<i>Mixed astigmatism</i>
<i>Emetropia</i>			1						1
<i>Myopia</i>									
<i>Hypermetropia</i>							2		2
<i>Simple myopia astigmatism</i>					2		7	5	14
<i>Compound myopia astigmatism</i>	1	1			43			1	46
<i>Simple hypermetropia astigmatism</i>							3		3
<i>Compound hypermetropia astigmatism</i>			1				9		10
<i>Mixed astigmatism</i>							5	9	14
<b>Total</b>	1	1	2		45		26	15	90

Tabel 6. Uji Sensitivitas dan Spesifitas Antara Alat Retinoskop dan Autorefraktometer Pada Keadaan Tanpa Sikloplegik

Uji	Kelainan Refraksi							
	Emetropia	Myopia	Hypermetropia	Simple myopia astigmatism	Compound myopia astigmatism	Simple hypermetropia astigmatism	Compound hypermetropia astigmatism	Mixed astigmatism
<b>Sensitivitas</b>	50%	0%	0%	0%	100%	100%	100%	55,56%
<b>Spesifisitas</b>	100%	100%	100%	98,61%	75%	98,88%	91,76%	93,06%
<b>Positive predictive value</b>	100%	0%	0%	0%	77,78%	50%	41,67%	66,67%
<b>Negative predictive value</b>	96,55%	98,87%	97,78%	79,77%	100%	100%	100%	89,33%

Tabel 7. Uji Sensitivitas dan Spesifitas Antara Alat Retinoskop dan Autorefraktometer Pada Keadaan Dengan Sikloplegik

Uji	Kelainan Refraksi							
	Emmetro pia	<i>Myopia</i>	<i>Hypermetropia</i>	<i>Simple myopia astigmatism</i>	<i>Compound myopia astigmatism</i>	<i>Simple hypermetrop ia astigmatism</i>	<i>Compound hypermetropia astigmatism</i>	Mixed astighmatis m
<b>Sensitivitas</b>	0%	0%	0%	0%	93,48	100%	100%	66,67%
<b>Spesifisitas</b>	98,87%	98,87%	97,72%	100%	95,45%	98,88%	91,76%	89,33%
<b>Positive predictive value</b>	0%	0%	0%	0%	95,56%	50%	41,67%	55,56%
<b>Negative predictive value</b>	98,87%	100%	97,72%	84,44%	93,33%	100%	100%	93,06%

Tabel 8. Uji Statistik

**Tabulasi silang diagnosa retinoskopi dan autorefraktometer sebelum siklopegik**

**RETsebelum \* AUTOsebelum Crosstabulation**

		AUTO sebelum						Total
		Emmetropia	<i>simple myopia astigmatism</i>	<i>compound myopia astigmatism</i>	<i>simple hypermetropia astigmatism</i>	<i>compound hypermetropia astigmatism</i>	<i>mixed astigmatism</i>	
RET sebelum	Emmetropia	3	1	1	0	1	0	6
	<i>Myopia</i>	0	0	1	0	0	0	1
	<i>Hypermetropia</i>	0	0	0	0	2	0	2
	<i>simple myopia astigmatism</i>	0	0	8	0	2	8	18
	<i>compound myopia astigmatism</i>	0	0	42	0	0	0	42
	<i>simple hypermetropia astigmatism</i>	0	0	0	1	0	0	1
	<i>compound hypermetropia astigmatism</i>	0	0	0	0	5	0	5
	<i>mixed astigmatism</i>	0	1	1	0	3	10	15
Total	3	2	53	1	13	18	18	

**Symmetric Measures**

		Value	Asymptotic Standard Error <sup>a</sup>	Approximate T <sup>b</sup>	Approximate Significance
Measure of Agreement	Kappa	,524	,060	9,631	,000
N of Valid Cases		90			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

**Tabulasi silang diagnosa retinoskopi dan autorefraktometer setelah siklopegik**

		AUTO sesudah						Total
		emmetropia	myopia	hypermetropia	compound myopia astigmatism	compound hypermetropia astigmatism	mixed astigmatism	
RET sesudah	Emmetropia	0	0	1	0	0	0	1
	hypermetropia	0	0	0	0	2	0	2
	simple myopia astigmatism	0	0	0	2	7	5	14
	compound myopia astigmatism	1	1	0	43	0	1	46
	simple hypermetropia astigmatism	0	0	0	0	3	0	3
	compound hypermetropia astigmatism	0	0	1	0	9	0	10
	mixed astigmatism	0	0	0	0	5	9	14
	Total	1	1	2	45	26		15

**Symmetric Measures**

	Value	Asymptotic Standard Error <sup>a</sup>	Approximate T <sup>b</sup>	Approximate Significance
Measure of Agreement	,530	,055	9,447	,000
N of Valid Cases	90			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.

**Mean spherical equivalen**

<b>Descriptive Statistiks</b>					
	N	Minimum	Maximum	Mean	Std. Deviation
SE RET seblm	90	-16.25	9.75	-3.2030	5.72303
SE AUTO sblm	90	-19.68	9.81	-3.2460	5.87546
SE RET ssdh	90	-19.25	10.00	-3.2356	5.98146
SE AUTO ssdh	90	-18.37	10.37	-2.5730	5.91303
Valid N (listwise)	90				



## Wilcoxon Signed Ranks Test perbandingan SE retinoskopi sebelum dan sesudah siklopegik

		Ranks		
		N	Mean Rank	Sum of Ranks
SEAUTOsblm –	Negative Ranks	41 <sup>a</sup>	45,10	1849,00
SERETseblm	Positive Ranks	42 <sup>b</sup>	38,98	1637,00
	Ties	7 <sup>c</sup>		
	Total	90		

- a. SEAUTOsblm < SERETseblm
- b. SEAUTOsblm > SERETseblm
- c. SEAUTOsblm = SERETseblm

### Test Statistiks<sup>a</sup>

SEAUTOsblm – SERETseblm	
Z	-,481 <sup>b</sup>
Asymp. Sig. (2-tailed)	,630

- a. Wilcoxon Signed Ranks Test
- b. Based on positive ranks.

## Wilcoxon Signed Ranks Test perbandingan SE autorefraktometer sebelum dan sesudah siklopegik

		Ranks		
		N	Mean Rank	Sum of Ranks
SEAUTOssdh - SERETssdh	Negative Ranks	13 <sup>a</sup>	32,69	425,00
	Positive Ranks	76 <sup>b</sup>	47,11	3580,00
	Ties	1 <sup>c</sup>		
	Total	90		

- a. SEAUTOssdh < SERETssdh
- b. SEAUTOssdh > SERETssdh
- c. SEAUTOssdh = SERETssdh

### Test Statistiks<sup>a</sup>

SEAUTOssdh -

SERETssdh

Z	-6,456 <sup>b</sup>
Asymp. Sig. (2-tailed)	,000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

