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**Lampiran 1****SURAT PERNYATAAN  
KESEDIAAN MENJADI RESPONDEN**

Yang bertanda tangan dibawah ini

Nama :

Umur :

Jenis Kelamin :

Alamat :

Selaku pelatih PB Avanti di Kota Makassar menyatakan bahwa anak didik kami bersedia menjadi responden dalam penelitian yang dilakukan oleh Hermilasari dengan judul "*Pengaruh Pemberian Eccentric Strengthening Exercise Terhadap Perubahan Foot Alignment, Malleolus Height dan Tingkat Agility pada Pemain Bulu Tangkis Junior di Kota Makassar*". Penelitian ini dilakukan selama enam minggu di GOR Soulmate dan GOR Mutiara yang waktunya disesuaikan dengan jadwal bermain atlet junior tersebut.

Demikian surat pernyataan kesediaan ini saya buat dengan penuh rasa kesadaran dan sukarela.

Makassar, 2019  
Pelatih PB Avanti,



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**SURAT PERNYATAAN  
KESEDIAAN MENJADI RESPONDEN**

Yang bertanda tangan dibawah ini

Nama :

Umur :

Jenis Kelamin :

Alamat :

Selaku pelatih PB Fillawatch di Kota Makassar menyatakan bahwa anak didik kami bersedia menjadi responden dalam penelitian yang dilakukan oleh Hermilasari dengan judul “*Pengaruh Pemberian Eccentric Strengthening Exercise Terhadap Perubahan Foot Alignment, Malleolus Height dan Tingkat Agility pada Pemain Bulu Tangkis Junior di Kota Makassar*”. Penelitian ini dilakukan selama enam minggu di GOR Anugrah yang waktunya disesuaikan dengan jadwal bermain atlet junior tersebut.

Demikian surat pernyataan kesediaan ini saya buat dengan penuh rasa kesadaran dan sukarela.

Makassar, 2019  
Pelatih PB Avanti,

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**Lampiran 2*****INFORMED CONSENT***

Saya yang bertanda tangan dibawah ini :

Nama :

Umur :

Alamat :

Bersedia untuk berpartisipasi dalam penelitian yang dilakukan oleh salah satu mahasiswa S1 Fisioterapi Universitas Hasanuddin dengan judul “*Pengaruh Pemberian Eccentric Strengthening Exercise Terhadap Perubahan Foot Alignment, Malleolus Height dan Tingkat Agility pada Pemain Bulu Tangkis Junior di Kota Makassar*” hingga selesai. Saya telah mendapatkan penjelasan dan memahami informasi yang diberikan oleh peneliti serta mengetahui tujuan dan manfaat penelitian tersebut. Saya mengerti bahwa peneliti akan menjaga kerahasiaan data diri saya. Demikian secara sadar, sukarela, dan tidak ada unsur paksaan dari siapapun, saya bersedia menandatangani lembar persetujuan ini.

Makassar, Februari 2019

Peneliti

Responden

**HERMILASARI**  
**C13115010**

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## Lampiran 4

## HASIL OLAH DATA STATISTIKA

## A. Karakteristik Sampel

		Umur			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	11	9	30,0	30,0	30,0
	12	2	6,7	6,7	36,7
	13	9	30,0	30,0	66,7
	14	7	23,3	23,3	90,0
	15	3	10,0	10,0	100,0
	Total	30	100,0	100,0	

B. Distribusi Perubahan *foot Alignment*1. *Rearfoot Angle Kanan*

		PreRAkan			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-4-4	13	43,3	43,3	43,3
	<-5	17	56,7	56,7	100,0
	Total	30	100,0	100,0	

		P1Rakan			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-4-4	13	43,3	43,3	43,3
	<-5	17	56,7	56,7	100,0
	Total	30	100,0	100,0	

		P2Rakan			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-4-4	15	50,0	50,0	50,0
	<-5	15	50,0	50,0	100,0
	Total	30	100,0	100,0	

		P3RAKAN			
		Frequency	Percent	Valid Percent	Cumulative Percent
	4-4	19	63,3	63,3	63,3
	-5	11	36,7	36,7	100,0
	total	30	100,0	100,0	





**P4RAKAN**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-4-4	22	73,3	73,3	73,3
	<-5	8	26,7	26,7	100,0
	Total	30	100,0	100,0	

**P5RAKAN**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-4-4	25	83,3	83,3	83,3
	<-5	5	16,7	16,7	100,0
	Total	30	100,0	100,0	

**P6RAKAN**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-4-4	28	93,3	93,3	93,3
	<-5	2	6,7	6,7	100,0
	Total	30	100,0	100,0	

## 2. Rearfoot Angle Kiri

**P1RAKIRI**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-4-4	13	43,3	43,3	43,3
	<-5	17	56,7	56,7	100,0
	Total	30	100,0	100,0	

**P2RAKIRI**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-4-4	14	46,7	46,7	46,7
	<-5	16	53,3	53,3	100,0
	Total	30	100,0	100,0	

**P3RAKIRI**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-4-4	18	60,0	60,0	60,0
	<-5	12	40,0	40,0	100,0
	Total	30	100,0	100,0	

**P4RAKIR**

		Frequency	Percent	Valid Percent	Cumulative Percent
	-4-4	20	66,7	66,7	66,7
	<-5	10	33,3	33,3	100,0
	Total	30	100,0	100,0	



**P5RAKIRI**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-4-4	23	76,7	76,7	76,7
	<-5	7	23,3	23,3	100,0
	Total	30	100,0	100,0	

**P6RAKIRI**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-4-4	26	86,7	86,7	86,7
	<-5	4	13,3	13,3	100,0
	Total	30	100,0	100,0	

### C. Distribusi Perubahan *Malleolus Height* Sebelum dan Sesudah Diberikan *Eccentric strenghtening exercise*

#### 1. *Malleolus Height Kanan Lateral*

**Descriptives**

		Statistic	Std. Error	
Pre Test Malleolus Height Kanan Lateral	Mean	4,6733	,09837	
	95% Confidence Interval for Mean	Lower Bound	4,4721	
		Upper Bound	4,8745	
	5% Trimmed Mean	4,6741		
	Median	4,6000		
	Variance	,290		
	Std. Deviation	,53879		
	Minimum	3,80		
	Maximum	5,50		
	Range	1,70		
	Interquartile Range	1,00		
	Skewness	,061	,427	
	Kurtosis	-1,401	,833	
Post 1 Test Malleolus Height Kanan Lateral	Mean	4,6733	,09837	
	95% Confidence Interval for Mean	Lower Bound	4,4721	
		Upper Bound	4,8745	
	5% Trimmed Mean	4,6741		
	Median	4,6000		
	Variance	,290		
	Std. Deviation	,53879		
	Minimum	3,80		
	Maximum	5,50		
	Range	1,70		



	Interquartile Range		1,00	
	Skewness		,061	,427
	Kurtosis		-1,401	,833
Post 2 Test Malleolus Height Kanan Lateral	Mean		4,7400	,09572
	95% Confidence Interval for Mean	Lower Bound	4,5442	
		Upper Bound	4,9358	
	5% Trimmed Mean		4,7481	
	Median		4,6000	
	Variance		,275	
	Std. Deviation		,52431	
	Minimum		3,80	
	Maximum		5,50	
	Range		1,70	
	Interquartile Range		,83	
	Skewness		,034	,427
	Kurtosis		-1,248	,833
	Post 3 Test Malleolus Height Kanan Lateral	Mean		4,8067
95% Confidence Interval for Mean		Lower Bound	4,6072	
		Upper Bound	5,0062	
5% Trimmed Mean			4,8093	
Median			4,7500	
Variance			,285	
Std. Deviation			,53430	
Minimum			3,80	
Maximum			5,80	
Range			2,00	
Interquartile Range			,92	
Skewness			,050	,427
Kurtosis			-1,007	,833
Post 4 Test Malleolus Height Kanan Lateral		Mean		4,8433
	95% Confidence Interval for Mean	Lower Bound	4,6415	
		Upper Bound	5,0452	
	5% Trimmed Mean		4,8426	
	Median		4,7500	
	Variance		,292	
	Std. Deviation		,54055	
	Minimum		3,90	
	Maximum		5,80	
	Range		1,90	
	Interquartile Range		,92	
	Skewness		,124	,427
	Kurtosis		-1,147	,833
	Post 5 Test Malleolus Height Kanan Lateral	Mean		4,9133
95% Confidence Interval for Mean		Lower Bound	4,7210	
		Upper Bound	5,1057	
5% Trimmed Mean			4,9148	
Median			4,8000	
Variance		,265		



	Std. Deviation		,51511	
	Minimum		4,00	
	Maximum		5,80	
	Range		1,80	
	Interquartile Range		,90	
	Skewness		,040	,427
	Kurtosis		-1,108	,833
Post 6 Test Malleolus Height Kanan Lateral	Mean		4,9533	,09574
	95% Confidence Interval for Mean	Lower Bound	4,7575	
		Upper Bound	5,1491	
	5% Trimmed Mean		4,9537	
	Median		4,8500	
	Variance		,275	
	Std. Deviation		,52439	
	Minimum		4,00	
	Maximum		5,90	
	Range		1,90	
	Interquartile Range		,90	
	Skewness		,030	,427
	Kurtosis		-,931	,833

## 2. Malleolus Height Kanan Medial

### Descriptives

		Statistic	Std. Error	
Pre Test Malleolus Height Kanan Medial	Mean	5,6933	,10656	
	95% Confidence Interval for Mean	Lower Bound	5,4754	
		Upper Bound	5,9113	
	5% Trimmed Mean	5,7093		
	Median	5,7000		
	Variance	,341		
	Std. Deviation	,58365		
	Minimum	4,40		
	Maximum	6,60		
	Range	2,20		
	Interquartile Range	,92		
	Skewness	-,197	,427	
	Kurtosis	-,812	,833	
	Post 1 Test Malleolus Height Kanan Medial	Mean	5,6933	,10656
95% Confidence Interval for Mean		Lower Bound	5,4754	
		Upper Bound	5,9113	
5% Trimmed Mean		5,7093		
Median		5,7000		
Variance		,341		
Std. Deviation	,58365			



	Minimum		4,40	
	Maximum		6,60	
	Range		2,20	
	Interquartile Range		,92	
	Skewness		-,197	,427
	Kurtosis		-,812	,833
Post 2 Test Malleolus Height Kanan Medial	Mean		5,7100	,10409
	95% Confidence Interval for Mean	Lower Bound	5,4971	
		Upper Bound	5,9229	
	5% Trimmed Mean		5,7278	
	Median		5,7000	
	Variance		,325	
	Std. Deviation		,57015	
	Minimum		4,40	
	Maximum		6,60	
	Range		2,20	
	Interquartile Range		,90	
	Skewness		-,234	,427
	Kurtosis		-,653	,833
	Post 3 Test Malleolus Height Kanan Medial	Mean		5,7467
95% Confidence Interval for Mean		Lower Bound	5,5259	
		Upper Bound	5,9674	
5% Trimmed Mean			5,7648	
Median			5,7500	
Variance			,349	
Std. Deviation			,59116	
Minimum			4,40	
Maximum			6,60	
Range			2,20	
Interquartile Range			,90	
Skewness			-,209	,427
Kurtosis			-,774	,833
Post 4 Test Malleolus Height Kanan Medial		Mean		5,8400
	95% Confidence Interval for Mean	Lower Bound	5,6328	
		Upper Bound	6,0472	
	5% Trimmed Mean		5,8574	
	Median		5,8500	
	Variance		,308	
	Std. Deviation		,55498	
	Minimum		4,70	
	Maximum		6,60	
	Range		1,90	
	Interquartile Range		,92	
	Skewness		-,255	,427
	Kurtosis		-,973	,833
	Post 5 Test Malleolus Height Kanan Medial	Mean		5,8933
95% Confidence Interval for Mean		Lower Bound	5,6921	
		Upper Bound	6,0945	



	5% Trimmed Mean		5,9074	
	Median		5,9000	
	Variance		,290	
	Std. Deviation		,53879	
	Minimum		4,70	
	Maximum		6,70	
	Range		2,00	
	Interquartile Range		,92	
	Skewness		-,270	,427
	Kurtosis		-,805	,833
Post 6 Test Malleolus Height Kanan Medial	Mean		5,9700	,09099
	95% Confidence Interval for Mean	Lower Bound	5,7839	
		Upper Bound	6,1561	
	5% Trimmed Mean		5,9796	
	Median		6,0500	
	Variance		,248	
	Std. Deviation		,49838	
	Minimum		5,00	
	Maximum		6,70	
	Range		1,70	
	Interquartile Range		,75	
	Skewness		-,162	,427
	Kurtosis		-1,104	,833

### 3. Malleolus Height Kiri Lateral

#### Descriptives

		Statistic	Std. Error	
Pre Test Malleolus Height Kiri Lateral	Mean	4,6433	,10201	
	95% Confidence Interval for Mean	Lower Bound	4,4347	
		Upper Bound	4,8520	
	5% Trimmed Mean	4,6426		
	Median	4,6500		
	Variance	,312		
	Std. Deviation	,55874		
	Minimum	3,80		
	Maximum	5,50		
	Range	1,70		
	Interquartile Range	1,13		
	Skewness	,067	,427	
	Kurtosis	-1,329	,833	
Post Malleolus Height Kiri Lateral	Mean	4,6433	,10201	
	95% Confidence Interval for Mean	Lower Bound	4,4347	
		Upper Bound	4,8520	
	5% Trimmed Mean	4,6426		





	Median		4,6500	
	Variance		,312	
	Std. Deviation		,55874	
	Minimum		3,80	
	Maximum		5,50	
	Range		1,70	
	Interquartile Range		1,13	
	Skewness		,067	,427
	Kurtosis		-1,329	,833
Post 2 Test Malleolus Height Kiri Lateral	Mean		4,7067	,10731
	95% Confidence Interval for Mean	Lower Bound	4,4872	
		Upper Bound	4,9261	
	5% Trimmed Mean		4,7037	
	Median		4,8000	
	Variance		,345	
	Std. Deviation		,58777	
	Minimum		3,80	
	Maximum		5,70	
	Range		1,90	
	Interquartile Range		,97	
	Skewness		,038	,427
	Kurtosis		-1,279	,833
Post 3 Test Malleolus Height Kiri Lateral	Mean		4,7467	,10888
	95% Confidence Interval for Mean	Lower Bound	4,5240	
		Upper Bound	4,9694	
	5% Trimmed Mean		4,7407	
	Median		4,8000	
	Variance		,356	
	Std. Deviation		,59639	
	Minimum		3,80	
	Maximum		5,80	
	Range		2,00	
	Interquartile Range		,97	
	Skewness		,154	,427
	Kurtosis		-1,196	,833
Post 4 Test Malleolus Height Kiri Lateral	Mean		4,8267	,10645
	95% Confidence Interval for Mean	Lower Bound	4,6090	
		Upper Bound	5,0444	
	5% Trimmed Mean		4,8278	
	Median		4,9000	
	Variance		,340	
	Std. Deviation		,58306	
	Minimum		3,80	
	Maximum		5,80	
	Range		2,00	
	Interquartile Range		,92	
	Skewness		-,010	,427



	Kurtosis		-1,079	,833
Post 5 Test Malleolus Height Kiri Lateral	Mean		4,8600	,10555
	95% Confidence Interval for Mean	Lower Bound	4,6441	
		Upper Bound	5,0759	
	5% Trimmed Mean		4,8611	
	Median		4,9500	
	Variance		,334	
	Std. Deviation		,57811	
	Minimum		3,90	
	Maximum		5,80	
	Range		1,90	
	Interquartile Range		,92	
	Skewness		-,071	,427
	Kurtosis		-1,176	,833
	Post 6 Test Malleolus Height Kiri Lateral	Mean		4,9267
95% Confidence Interval for Mean		Lower Bound	4,7050	
		Upper Bound	5,1483	
5% Trimmed Mean			4,9315	
Median			4,9500	
Variance			,352	
Std. Deviation			,59361	
Minimum			3,90	
Maximum			5,90	
Range			2,00	
Interquartile Range			,95	
Skewness			-,059	,427
Kurtosis			-1,130	,833

#### 4. Malleolus Height Kiri Lateral

##### Descriptives

		Statistic	Std. Error	
Pre Test Malleolus Height Kiri Medial	Mean	5,700	,1069	
	95% Confidence Interval for Mean	Lower Bound	5,481	
		Upper Bound	5,919	
	5% Trimmed Mean	5,702		
	Median	5,650		
	Variance	,343		
	Std. Deviation	,5855		
	Minimum	4,8		
	Maximum	6,6		
	Range	1,8		
	Interquartile Range	1,0		
	Skewness	,039	,427	
	Kurtosis	-1,379	,833	
	Mean	5,7000	,10689	



Post 1 Test Malleolus Height Kiri Medial	95% Confidence Interval for Mean	Lower Bound	5,4814	
		Upper Bound	5,9186	
	5% Trimmed Mean		5,7019	
	Median		5,6500	
	Variance		,343	
	Std. Deviation		,58546	
	Minimum		4,80	
	Maximum		6,60	
	Range		1,80	
	Interquartile Range		1,02	
	Skewness		,039	,427
	Kurtosis		-1,379	,833
	Post 2 Test Malleolus Height Kiri Medial	Mean		5,7200
95% Confidence Interval for Mean		Lower Bound	5,5053	
		Upper Bound	5,9347	
5% Trimmed Mean			5,7222	
Median			5,6500	
Variance			,331	
Std. Deviation			,57500	
Minimum			4,80	
Maximum			6,60	
Range			1,80	
Interquartile Range			1,02	
Skewness			,019	,427
Kurtosis			-1,344	,833
Post 3 Test Malleolus Height Kiri Medial	Mean		5,7600	,10641
	95% Confidence Interval for Mean	Lower Bound	5,5424	
		Upper Bound	5,9776	
	5% Trimmed Mean		5,7648	
	Median		5,6500	
	Variance		,340	
	Std. Deviation		,58286	
	Minimum		4,80	
	Maximum		6,60	
	Range		1,80	
	Interquartile Range		1,05	
	Skewness		-,002	,427
	Kurtosis		-1,368	,833
Post 4 Test Malleolus Height Kiri Medial	Mean		5,8067	,10238
	95% Confidence Interval for Mean	Lower Bound	5,5973	
		Upper Bound	6,0161	
	5% Trimmed Mean		5,8074	
	Median		5,7000	
	Variance		,314	
	Std. Deviation		,56075	
	Maximum		6,60	



	Range		1,60	
	Interquartile Range		1,13	
	Skewness		,095	,427
	Kurtosis		-1,457	,833
Post 5 Test Malleolus Height Kiri Medial	Mean		5,8667	,10220
	95% Confidence Interval for Mean	Lower Bound	5,6576	
		Upper Bound	6,0757	
	5% Trimmed Mean		5,8667	
	Median		5,8000	
	Variance		,313	
	Std. Deviation		,55976	
	Minimum		5,00	
	Maximum		6,70	
	Range		1,70	
	Interquartile Range		1,03	
	Skewness		,053	,427
	Kurtosis		-1,437	,833
	Post 6 Test Malleolus Height Kiri Medial	Mean		5,9767
95% Confidence Interval for Mean		Lower Bound	5,7703	
		Upper Bound	6,1830	
5% Trimmed Mean			5,9796	
Median			5,9000	
Variance			,305	
Std. Deviation			,55254	
Minimum			5,20	
Maximum			6,70	
Range			1,50	
Interquartile Range			1,10	
Skewness			,078	,427
Kurtosis			-1,570	,833

## 5. Distribusi Agility

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Pre test Agility	30	13,39	22,51	17,5423	2,47315
Post Test 1 Agility	30	11,24	20,00	15,2543	2,23865
Post Test 2 Agility	30	10,63	18,24	14,8673	1,81835
Post Test 3 Agility	30	10,74	18,12	14,0887	1,59660
Post Test 4 Agility	30	9,87	18,70	13,6643	1,66777
Post Test 5 Agility	30	10,42	17,07	13,3180	1,49254
Post Test 6 Agility	30	10,25	15,94	12,6820	1,38459
Post Test (Postwise)	30				



## D. Perbedaan *Foot Alignment* Sebelum dan Setelah Pemberian *Eccentric Strenghtening Exercise*

### 1. *Rearfoot Angle*

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre test Rearfoot Angel Kanan	,213	30	,001	,925	30	,036
Post test 1 Rearfoot Angel Kanan	,213	30	,001	,925	30	,036
Post test 2 Rearfoot Angel Kanan	,169	30	,029	,915	30	,020
Post test 3 Rearfoot Angel Kanan	,165	30	,036	,918	30	,024
Post test 4 Rearfoot Angel Kanan	,225	30	,000	,857	30	,001
Post test 5 Rearfoot Angel Kanan	,258	30	,000	,911	30	,016
Post test 6 Rearfoot Angel Kanan	,216	30	,001	,931	30	,052

a. Lilliefors Significance Correction

## Friedman Test

	Mean Rank
Pre test Rearfoot Angel Kanan	2,07
Post test 1 Rearfoot Angel Kanan	2,07
Post test 2 Rearfoot Angel Kanan	2,58
Post test 3 Rearfoot Angel Kanan	3,93
Post test 4 Rearfoot Angel Kanan	4,73
Rearfoot Angel	5,82
Rearfoot Angel	6,80



**Test Statistics<sup>a</sup>**

N	30
Chi-Square	159,402
df	6
Asymp. Sig.	,000

a. Friedman Test

**Test Statistics<sup>a</sup>**

	Post test 1 Rearfoot Angel Kanan - Pre test	Post test 2 Rearfoot Angel Kanan - Post test 1	Post test 3 Rearfoot Angel Kanan - Post test 2	Post test 4 Rearfoot Angel Kanan - Post test 3	Post test 5 Rearfoot Angel Kanan - Post test 4	Post test 6 Rearfoot Angel Kanan - Post test 5
Z	,000 <sup>b</sup>	-2,460 <sup>c</sup>	-3,586 <sup>c</sup>	-3,357 <sup>c</sup>	-3,630 <sup>c</sup>	-4,289 <sup>c</sup>
Asymp. Sig. (2- tailed)	1,000	,014	,000	,001	,000	,000

a. Wilcoxon Signed Ranks Test

b. The sum of negative ranks equals the sum of positive ranks.

c. Based on negative ranks.

## 2. Rearfoot Angle kiri

**Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre test Rearfoot Angel Kiri	,199	30	,004	,885	30	,004
Post 1 test Rearfoot Angel Kiri	,199	30	,004	,885	30	,004
Post 2 test Rearfoot Angel Kiri	,202	30	,003	,885	30	,004
Post 3 test Rearfoot Angel Kiri	,240	30	,000	,835	30	,000
Post 4 test Rearfoot Angel Kiri	,193	30	,006	,845	30	,000
Post 5 test Rearfoot Angel Kiri	,209	30	,002	,879	30	,003





Post 6 test Rearfoot Angel Kiri	,262	30	,000	,870	30	,002
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a. Lilliefors Significance Correction

## Friedman Test

Ranks		Mean Rank
Pre test Rearfoot Angel Kiri		2,17
Post 1 test Rearfoot Angel Kiri		2,17
Post 2 test Rearfoot Angel Kiri		2,55
Post 3test Rearfoot Angel Kiri		3,90
Post 4 test Rearfoot Angel Kiri		4,77
Post 5 test Rearfoot Angel Kiri		5,68
Post 6 test Rearfoot Angel Kiri		6,77

Test Statistics <sup>a</sup>	
N	30
Chi-Square	155,259
df	6
Asymp. Sig.	,000

a. Friedman Test

Test Statistics <sup>a</sup>						
	Post 1 test Rearfoot Angel Kiri - Pre test Rearfoot Angel Kiri	Post 2 test Rearfoot Angel Kiri - Post 1 test Rearfoot Angel Kiri	Post 3test Rearfoot Angel Kiri - Post 2 test Rearfoot Angel Kiri	Post 4 test Rearfoot Angel Kiri - Post 3test Rearfoot Angel Kiri	Post 5 test Rearfoot Angel Kiri - Post 4 test Rearfoot Angel Kiri	Post 6 test Rearfoot Angel Kiri - Post 5 test Rearfoot Angel Kiri
Z	,000 <sup>b</sup>	-2,333 <sup>c</sup>	-4,001 <sup>c</sup>	-3,234 <sup>c</sup>	-3,630 <sup>c</sup>	-4,278 <sup>c</sup>
Asymp. Sig. (2-tailed)	1,000	,020	,000	,001	,000	,000

a. Wilcoxon Signed Ranks Test

b. The sum of negative ranks equals the sum of positive ranks.

c. Based on negative ranks.



### 3. Malleolus Kanan Lateral

#### Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre Test Malleolus Height Kanan Lateral	,161	30	,047	,927	30	,042
Post 1 Test Malleolus Height Kanan Lateral	,161	30	,047	,927	30	,042
Post 2 Test Malleolus Height Kanan Lateral	,143	30	,119	,929	30	,045
Post 3 Test Malleolus Height Kanan Lateral	,117	30	,200 <sup>*</sup>	,958	30	,273
Post 4 Test Malleolus Height Kanan Lateral	,140	30	,136	,949	30	,155
Post 5 Test Malleolus Height Kanan Lateral	,140	30	,137	,945	30	,123
Post 6 Test Malleolus Height Kanan Lateral	,119	30	,200 <sup>*</sup>	,958	30	,273

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

### Friedman Test

#### Ranks

	Mean Rank
Pre Test Malleolus Height Kanan Lateral	2,02
Post 1 Test Malleolus Height Kanan Lateral	2,02
Post 2 Test Malleolus Height Kanan Lateral	3,03
Post 3 Test Malleolus Height Kanan Lateral	4,07
Post 4 Test Malleolus Height Kanan Lateral	4,75
Post 5 Test Malleolus Height Kanan Lateral	5,75



Post 6 Test Malleolus Height Kanan Lateral	6,37
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**Test Statistics<sup>a</sup>**

N	30
Chi-Square	145,988
df	6
Asymp. Sig.	,000

a. Friedman Test

**Test Statistics<sup>a</sup>**

	Post 1 Test Malleolus Height Kanan Lateral - Pre Test Malleolus Height Kanan Lateral	Post 2 Test Malleolus Height Kanan Lateral - Post 1 Test Malleolus Height Kanan Lateral	Post 3 Test Malleolus Height Kanan Lateral - Post 2 Test Malleolus Height Kanan Lateral	Post 4 Test Malleolus Height Kanan Lateral - Post 3 Test Malleolus Height Kanan Lateral	Post 5 Test Malleolus Height Kanan Lateral - Post 4 Test Malleolus Height Kanan Lateral	Post 6 Test Malleolus Height Kanan Lateral - Post 5 Test Malleolus Height Kanan Lateral
Z	,000 <sup>b</sup>	-3,397 <sup>c</sup>	-2,992 <sup>c</sup>	-2,810 <sup>c</sup>	-3,391 <sup>c</sup>	-2,972 <sup>c</sup>
Asymp. Sig. (2-tailed)	1,000	,001	,003	,005	,001	,003

a. Wilcoxon Signed Ranks Test

b. The sum of negative ranks equals the sum of positive ranks.

c. Based on negative ranks.

**4. Malleolus Kanan Medial**

**Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre Test Malleolus Height Kanan Medial	,134	30	,181	,959	30	,294
Post 1 Test Malleolus Height Kanan Medial	,134	30	,181	,959	30	,294
Post 1 Test Malleolus Height Kanan Medial	,128	30	,200 <sup>*</sup>	,960	30	,317



Post 3 Test Malleolus Height Kanan Medial	,121	30	,200*	,952	30	,196
Post 4 Test Malleolus Height Kanan Medial	,142	30	,128	,950	30	,164
Post 5 Test Malleolus Height Kanan Medial	,149	30	,089	,960	30	,314
Post 6 Test Malleolus Height Kanan Medial	,138	30	,152	,947	30	,142

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

## Repetead Anova Test

### Tests of Within-Subjects Effects

Measure: MHKananMedial

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
MalleolusHeightKanan Medial	Sphericity Assumed	2,175	6	,363	40,532	,000
	Greenhouse-Geisser	2,175	1,949	1,116	40,532	,000
	Huynh-Feldt	2,175	2,088	1,042	40,532	,000
	Lower-bound	2,175	1,000	2,175	40,532	,000
Error(MalleolusHeightKananMedial)	Sphericity Assumed	1,556	174	,009		
	Greenhouse-Geisser	1,556	56,532	,028		
	Huynh-Feldt	1,556	60,552	,026		
	Lower-bound	1,556	29,000	,054		

### Pairwise Comparisons

Measure: MHKananMedial

(I)	(J)	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
1	2	,000	,000	.	,000	,000
	3	-,017	,008	,057	-,034	,001
	4	-,053*	,022	,021	-,098	-,009
	5	-,147*	,027	,000	-,202	-,091



	6		-,200*	,030	,000	-,261	-,139
	7		-,277*	,034	,000	-,346	-,207
2	1		,000	,000	.	,000	,000
	3		-,017	,008	,057	-,034	,001
	4		-,053*	,022	,021	-,098	-,009
	5		-,147*	,027	,000	-,202	-,091
	6		-,200*	,030	,000	-,261	-,139
	7		-,277*	,034	,000	-,346	-,207
3	1		,017	,008	,057	-,001	,034
	2		,017	,008	,057	-,001	,034
	4		-,037	,021	,094	-,080	,007
	5		-,130*	,026	,000	-,184	-,076
	6		-,183*	,030	,000	-,245	-,121
	7		-,260*	,033	,000	-,328	-,192
4	1		,053*	,022	,021	,009	,098
	2		,053*	,022	,021	,009	,098
	3		,037	,021	,094	-,007	,080
	5		-,093*	,022	,000	-,138	-,048
	6		-,147*	,022	,000	-,191	-,102
	7		-,223*	,027	,000	-,279	-,167
5	1		,147*	,027	,000	,091	,202
	2		,147*	,027	,000	,091	,202
	3		,130*	,026	,000	,076	,184
	4		,093*	,022	,000	,048	,138
	6		-,053*	,016	,002	-,085	-,021
	7		-,130*	,022	,000	-,175	-,085
6	1		,200*	,030	,000	,139	,261
	2		,200*	,030	,000	,139	,261
	3		,183*	,030	,000	,121	,245
	4		,147*	,022	,000	,102	,191
	5		,053*	,016	,002	,021	,085
	7		-,077*	,015	,000	-,107	-,046
7	1		,277*	,034	,000	,207	,346
	2		,277*	,034	,000	,207	,346
	3		,260*	,033	,000	,192	,328
	4		,223*	,027	,000	,167	,279
	5		,130*	,022	,000	,085	,175
	6		,077*	,015	,000	,046	,107

Estimated marginal means



\*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

### 5. Malleolus Kiri Lateral

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre Test Malleolus Height Kiri Lateral	,135	30	,171	,929	30	,046
Post 1 Test Malleolus Height Kiri Lateral	,135	30	,171	,929	30	,046
Post 2 Test Malleolus Height Kiri Lateral	,166	30	,035	,941	30	,096
Post 3 Test Malleolus Height Kiri Lateral	,153	30	,072	,947	30	,140
Post 4 Test Malleolus Height Kiri Lateral	,146	30	,104	,960	30	,313
Post 5 Test Malleolus Height Kiri Lateral	,133	30	,184	,948	30	,146
Post 6 Test Malleolus Height Kiri Lateral	,142	30	,124	,948	30	,147

a. Lilliefors Significance Correction

### Friedman Test

Ranks	
	Mean Rank
Pre Test Malleolus Height Kiri Lateral	2,22
Post 1 Test Malleolus Height Kiri Lateral	2,28
Post 2 Test Malleolus Height Kiri Lateral	2,85
Post 3 Test Malleolus Height Kiri Lateral	3,72
Post 4 Test Malleolus Height Kiri Lateral	4,59
Post 5 Test Malleolus Height Kiri Lateral	5,02
Post 6 Test Malleolus Height Kiri Lateral	5,60





Post 6 Test Malleolus Height Kiri Lateral	6,32
--	------

**Test Statistics<sup>a</sup>**

N	30
Chi-Square	140,678
df	6
Asymp. Sig.	,000

a. Friedman Test

**Test Statistics<sup>a</sup>**

	Post 1 Test Malleolus Height Kiri Lateral - Pre Test	Post 2 Test Malleolus Height Kiri Lateral - Post 1 Test Malleolus Height Kiri Lateral	Post 3 Test Malleolus Height Kiri Lateral - Post 2 Test Malleolus Height Kiri Lateral	Post 4 Test Malleolus Height Kiri Lateral - Post 3 Test Malleolus Height Kiri Lateral	Post 5 Test Malleolus Height Kiri Lateral - Post 3 Test Malleolus Height Kiri Lateral	Post 6 Test Malleolus Height Kiri Lateral - Post 5 Test Malleolus Height Kiri Lateral
Z	,000 <sup>b</sup>	-2,414 <sup>c</sup>	-2,972 <sup>c</sup>	-3,660 <sup>c</sup>	-4,008 <sup>c</sup>	-3,115 <sup>c</sup>
Asymp. Sig. (2- tailed)	1,000	,016	,003	,000	,000	,002

a. Wilcoxon Signed Ranks Test

b. The sum of negative ranks equals the sum of positive ranks.

c. Based on negative ranks.

**6. Malleolus Kiri Medial****Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre Test Malleolus Height Kiri Medial	,137	30	,159	,927	30	,041
Post 1 Test Malleolus Height Kiri Medial	,137	30	,159	,927	30	,041
Post 2 Test Malleolus Height Kiri Medial	,131	30	,197	,928	30	,043
Post 3 Test Malleolus Height Kiri Medial	,139	30	,145	,925	30	,035
Post 4 Test Malleolus Height Malleolus Height	,122	30	,200 <sup>*</sup>	,910	30	,015
Malleolus Height	,150	30	,084	,921	30	,028
Malleolus Height	,186	30	,010	,877	30	,002



\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

### Friedman Test

Ranks	
	Mean Rank
Pre Test Malleolus Height Kiri Medial	2,53
Post 1 Test Malleolus Height Kiri Medial	2,53
Post 2 Test Malleolus Height Kiri Medial	2,88
Post 3 Test Malleolus Height Kiri Medial	3,50
Post 4 Test Malleolus Height Kiri Medial	4,53
Post 5 Test Malleolus Height Kiri Medial	5,52
Post 6 Test Malleolus Height Kiri Medial	6,50

Test Statistics <sup>a</sup>	
N	30
Chi-Square	134,051
df	6
Asymp. Sig.	,000

a. Friedman Test

Test Statistics <sup>a</sup>							
	Post 1 Test Malleolus Height Kiri Medial - Pre Test Malleolus Height Kiri Medial	Post 2 Test Malleolus Height Kiri Medial - Pre Test Malleolus Height Kiri Medial	Post 3 Test Malleolus Height Kiri Medial - Pre Test Malleolus Height Kiri Medial	Post 4 Test Malleolus Height Kiri Medial - Pre Test Malleolus Height Kiri Medial	Post 5 Test Malleolus Height Kiri Medial - Pre Test Malleolus Height Kiri Medial	Post 6 Test Malleolus Height Kiri Medial - Pre Test Malleolus Height Kiri Medial	
	,000 <sup>b</sup>	-2,121 <sup>c</sup>	-3,020 <sup>c</sup>	-4,029 <sup>c</sup>	-4,440 <sup>c</sup>	-4,563 <sup>c</sup>	



Asymp. Sig. (2-tailed)	1,000	,034	,003	,000	,000	,000
------------------------	-------	------	------	------	------	------

- a. Wilcoxon Signed Ranks Test
- b. The sum of negative ranks equals the sum of positive ranks.
- c. Based on negative ranks.

### 7. Agility

#### Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Pre test Agility	,196	30	,005	,924	30	,035
Post Test 1 Agility	,153	30	,070	,946	30	,129
Post Test 2 Agility	,091	30	,200*	,979	30	,803
Post Test 3 Agility	,122	30	,200*	,976	30	,710
Post Test 4 Agility	,117	30	,200*	,947	30	,143
Post Test 5 Agility	,101	30	,200*	,977	30	,734
Post Test 6 Agility	,079	30	,200*	,977	30	,750

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

### Repetead Anova

#### Tests of Within-Subjects Effects

Measure: MEASURE\_1

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power <sup>a</sup>	
Agility	Sphericity Assumed	465,856	6	77,643	59,392	,000	,672	356,355	1,000
	Greenhouse-Geisser	465,856	2,794	166,737	59,392	,000	,672	165,940	1,000
	Huynh-Feldt	465,856	3,122	149,211	59,392	,000	,672	185,432	1,000
	Lower-bound	465,856	1,000	465,856	59,392	,000	,672	59,392	1,000
Error(Agility)	Sphericity Assumed	227,467	174	1,307					
	Greenhouse-Geisser	227,467	81,025	2,807					
	Huynh-Feldt	227,467	90,542	2,512					
	Lower-bound	227,467	29,000	7,844					

using alpha = ,05



## Pairwise Comparisons

Measure: MEASURE\_1

(I) Agility	(J) Agility	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
1	2	2,288*	,396	,000	1,479	3,097
	3	2,675*	,411	,000	1,835	3,515
	4	3,454*	,366	,000	2,704	4,203
	5	3,878*	,379	,000	3,103	4,653
	6	4,224*	,411	,000	3,385	5,064
	7	4,860*	,432	,000	3,977	5,744
2	1	-2,288*	,396	,000	-3,097	-1,479
	3	,387	,267	,158	-,159	,933
	4	1,166*	,264	,000	,626	1,705
	5	1,590*	,301	,000	,974	2,206
	6	1,936*	,327	,000	1,268	2,605
	7	2,572*	,396	,000	1,762	3,382
3	1	-2,675*	,411	,000	-3,515	-1,835
	2	-,387	,267	,158	-,933	,159
	4	,779*	,205	,001	,359	1,199
	5	1,203*	,242	,000	,708	1,698
	6	1,549*	,248	,000	1,043	2,056
	7	2,185*	,277	,000	1,618	2,752
4	1	-3,454*	,366	,000	-4,203	-2,704
	2	-1,166*	,264	,000	-1,705	-,626
	3	-,779*	,205	,001	-1,199	-,359
	5	,424*	,108	,000	,203	,646
	6	,771*	,154	,000	,455	1,086
	7	1,407*	,200	,000	,998	1,815
5	1	-3,878*	,379	,000	-4,653	-3,103
	2	-1,590*	,301	,000	-2,206	-,974
	3	-1,203*	,242	,000	-1,698	-,708
	4	-,424*	,108	,000	-,646	-,203
	6	,346*	,135	,016	,070	,622
	7	,982*	,181	,000	,612	1,352
6	1	-4,224*	,411	,000	-5,064	-3,385
	2	-1,936*	,327	,000	-2,605	-1,268
	3	-1,549*	,248	,000	-2,056	-1,043
	4	-,771*	,154	,000	-1,086	-,455
	5	-,346*	,135	,016	-,622	-,070
	7	,636*	,106	,000	,420	,852
7	1	-4,860*	,432	,000	-5,744	-3,977
	2	-2,572*	,396	,000	-3,382	-1,762
	3	-2,185*	,277	,000	-2,752	-1,618
	4	-1,407*	,200	,000	-1,815	-,998
	5	-,982*	,181	,000	-1,352	-,612
	6	-,636*	,106	,000	-,852	-,420

Based on estimated marginal means

\*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).



### D. Hubungan Foot Alignment, Malleolus Height Dengan Tingkat Agility

#### Correlations

		Correlations			
		Post test 6 Rearfoot Angel Kanan	Post 6 Test Malleolus Height Kanan Lateral	Post 6 Test Malleolus Height Kanan Medial	Post Test 6 Agility
Post test 6 Rearfoot Angel Kanan	Pearson Correlation	1	-,097	,000	-,021
	Sig. (2-tailed)		,609	1,000	,914
	N	30	30	30	30
Post 6 Test Malleolus Height Kanan Lateral	Pearson Correlation	-,097	1	,727**	-,282
	Sig. (2-tailed)	,609		,000	,131
	N	30	30	30	30
Post 6 Test Malleolus Height Kanan Medial	Pearson Correlation	,000	,727**	1	-,383*
	Sig. (2-tailed)	1,000	,000		,037
	N	30	30	30	30
Post Test 6 Agility	Pearson Correlation	-,021	-,282	-,383*	1
	Sig. (2-tailed)	,914	,131	,037	
	N	30	30	30	30

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

#### Correlations

		Correlations			
		Post 6 test Rearfoot Angel Kiri	Post 6 Test Malleolus Height Kiri Lateral	Post 6 Test Malleolus Height Kiri Medial	Post Test 6 Agility
Post 6 test Rearfoot Angel Kiri	Pearson Correlation	1	,014	,129	-,192
	Sig. (2-tailed)		,940	,496	,311
	N	30	30	30	30
Post 6 Test Malleolus Height Kiri Lateral	Pearson Correlation	,014	1	,867**	-,331
	Sig. (2-tailed)	,940		,000	,074
	N	30	30	30	30
Post 6 Test Malleolus Height Kiri Medial	Pearson Correlation	,129	,867**	1	-,413*
	Sig. (2-tailed)	,496	,000		,023
	N	30	30	30	30
Post Test 6 Agility	Pearson Correlation	-,192	-,331	-,413*	1
	Sig. (2-tailed)	,311	,074	,023	
	N	30	30	30	30

is significant at the 0.01 level (2-tailed).


is significant at the 0.05 level (2-tailed).



## Lampiran 5

## SURAT KETERANGAN IZIN PENELITIAN

## a. PB Fila Watch Makassar


**KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI**  
**UNIVERSITAS HASANUDDIN**  
**FAKULTAS KEPERAWATAN**  
 JL.PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM. 10 MAKASSAR 90245  
 TELP : 0411-5780104 FAX. 0411 – 586297

---

Makassar, 13 Februari 2019

No : 909/UN4.18.8/PL.00.01/2019  
 Lamp :-  
 Hal : *Permohonan izin Melakukan Penelitian*

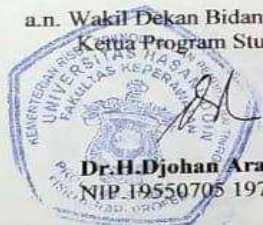
Kepada  
 Yth :PB Fila watch  
 di – Makassar

Dengan hormat, Dalam rangka penyelesaian tugas akhir (skripsi) mahasiswa program studi Fisioterapi Fakultas Keperawatan Universitas Hasamuddin, maka dengan ini dimohon bantuan Bapak/Ibu dapat mengizinkan Mahasiswa kami dalam melakukan Penelitian seperti tersebut dibawah ini:

Nama : Hermilasari  
 NIM : C13115010  
 Judul Penelitian : *“Pengaruh Eccentric Strengthening Exercise Terhadap Foot Alignment, Malleolus Height, dan Tingkat Agility Pada Pemain Bulu Tangkis Junior di Kota Makassar”*  
 Lokasi Penelitian :PB Fila Watch

Demikian penyampaian kami, atas perhatian dan kerja sama yang baik diucapkan terima kasih.

a.n. Wakil Dekan Bidang Akademik  
 Ketua Program Studi Fisioterapi

  
**Dr.H.Djohan Aras, S.Ft, Physio, M.Kes**  
 NIP.19550705 197603 1 005

Tembusan Kepada Yth.:  
 Dekan Fakultas Keperawatan Unhas  
 Dekan Bidang Akademik Fak. Keperawatan Unhas





## b. PB Avanti Makassar



KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI  
 UNIVERSITAS HASANUDDIN  
 FAKULTAS KEPERAWATAN  
 JL. PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM. 10 MAKASSAR 90245  
 TELP : 0411-5780104 FAX. 0411 - 586297

Makassar, 13 Februari 2019

No : 909/UN4.18.8/PL.00.01/2019  
 Lamp : -  
 Hal : *Permohonan izin Melakukan Penelitian*

Kepada  
 Yth : PB Avanti  
 di - Makassar

Dengan hormat, Dalam rangka penyelesaian tugas akhir (skripsi) mahasiswa program studi Fisioterapi Fakultas Keperawatan Universitas Hasanuddin, maka dengan ini dimohon bantuan Bapak/Ibu dapat mengizinkan Mahasiswa kami dalam melakukan Penelitian seperti tersebut dibawah ini:

Nama : Hermilasari  
 NIM : C13115010  
 Judul Penelitian : *"Pengaruh Eccentric Strengthening Exercise Terhadap Foot Alignment, Malleolus Height, dan Tingkat Agility Pada Pemain Bulu Tangkis Junior di Kota Makassar"*  
 Lokasi Penelitian : PB Avanti

Demikian penyampaian kami, atas perhatian dan kerja sama yang baik diucapkan terima kasih.

a.n. Wakil Dekan Bidang Akademik  
 Ketua Program Studi Fisioterapi



Dr. H. Djohan Aras, S.Ft, Physio, M.Kes  
 NIP.19550705 197603 1 005

Tembusan Kepada Yth.:

Fakultas Keperawatan Unhas  
 Dekan Bidang Akademik Fak. Keperawatan Unhas



## Lampiran 7

## SURAT KETERANGAN TELAH MELAKUKAN PENELITIAN



**PB. FILA WATCH MAKASSAR**

SEKRETARIAT : FILA SPORT, Jl. P. Diponegoro Lrg. 227 A/9 / GOR ANUNGRAH, Jl. Sultan Uq. Raju No. 18-22  
CONTACT PERSON : Theo (Hok) 081355671384, Pin BB : D050E926

SUL-SEL



**SURAT KETERANGAN PENELITIAN**

Yang bertandatangan dibawah ini pelatih PB Fila Watch Makassar menerangkan bahwa:

Nama : Hermilasari

NIM : C13115010

Fakultas/Jurusan : Keperawatan/Fisioterapi

Instansi : Universitas Hasanuddin

Yang tersebut diatas telah melakukan penelitian guna penyusunan skripsi mulai tanggal 25 Februari s/d 13 Maret 2019. Dengan judul: **Pengaruh *Eccentric Strengthening Exercise* terhadap Perubahan *Foot Alignment*, *Malleolus Height*, dan Tingkat *Agility* pada Pemain Bulu Tangkis Junior di Kota Makassar.**

Demikian surat keterangan ini kami buat untuk digunakan seperlunya.

Makassar, 23 April 2019  
Pelatih PB Fila Watch



**Theodurus Yohanes**







# PERSATUAN BULUTANGKIS AVANTI ( PB. AVANTI )

Sekretariat GOR Solmet Jl Veteran Utara No. 273  
HP. 0851 0309 0504 - 0857 5719 9952 - 082112559855 MAKASSAR

## SURAT KETERANGAN PENELITIAN

Yang bertandatangan dibawah ini pelatih PB Avanti Makassar menerangkan bahwa:

Nama : Hermilasari

NIM : C13115010

Fakultas/Jurusan : Keperawatan/Fisioterapi

Instansi : Universitas Hasanuddin

Yang tersebut diatas telah melakukan penelitian guna penyusunan skripsi mulai tanggal 25 Februari s/d 13 Maret 2019. Dengan judul: **Pengaruh *Eccentric Strengthening Exercise* terhadap Perubahan *Foot Alignment*, *Malleolus Height*, dan Tingkat *Agility* pada Pemain Bulu Tangkis Junior di Kota Makassar.**

Demikian surat keterangan ini kami buat untuk digunakan seperlunya.

Makassar, 23 April 2019  
Pelatih PB Avanti



Joe Shun



Lampiran 7

Dokumentasi



*Rearfoot Angle*



Optimization Software:  
[www.balesio.com](http://www.balesio.com)

*Malleolus Height*



*Heel Drops Exercise*

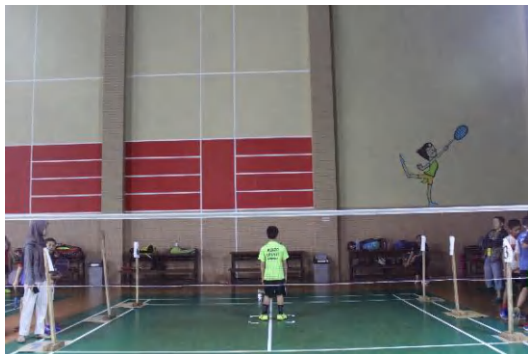


*Toe Spread Out*





*Sliding Leg Curl*



*Agility Test*



Optimization Software:  
[www.balesio.com](http://www.balesio.com)

**Lampiran 8. Riwayat Hidup Meneliti****RIWAYAT HIDUP PENELITI**

Nama : Hermilasari  
 Tempat/Tanggal Lahir : Sikapa, 13 Juni 1997  
 Jenis Kelamin : Perempuan  
 Agama : Islam  
 Email : Sari.hermila@yahoo.co.id  
 Alamat Asal : Sikapa, Kec. Tanete Riaja, Kab. Barru  
 Alamat Sekarang : Jl.Sahabat V Pondok Gia Lestari  
 Nama Ayah : Amiluddin, S.Pd  
 Nama Ibu : Tahira., S.Pd

**Riwayat Pendidikan :**

1. (2003-2009) SDN Inpres Paria
2. (2009-2012) SMP Negeri 2 Tanete Riaja
3. (2012-2015) SMAN 1 Tanete Rilau
4. (2015-2018) Program Studi S1 Fisioterapi Fakultas Keperawatan Universitas Hasanuddin

**Riwayat Organisasi :**

1. (2017-2018) Sekretaris Divisi Pengembangan Pendidikan dan Keilmuan Himpunan Mahasiswa Fisioterapi Fakultas Keperawatan Universitas Hasanuddin (Himafisio F.Kep-UH).
2. (2017-2018) Anggota Departemen Pendidikan, Penelitian dan Penalaran Ilmiah *Physiotherapy Scientific Forum* Himpunan Mahasiswa Fisioterapi
3. (2017-2018) Wakil Bendahara Gabungan Pelajar Mahasiswa Barru
4. (2018-2019) Wakil Bendahara Gabungan Pelajar Mahasiswa Barru
5. (2018-2019) Koordinator Departemen Pendidikan, Penelitian dan Penalaran

*Physiotherapy Scientific Forum* Himpunan Mahasiswa Fisioterapi  
 Anggota Departemen Eksternal Ikatan Mahasiswa Fisioterapi  
 (IMFI) Wilayah V

