

## Lampiran 1

### Data MAS Sample

Tabel 1. Data pengukuran MAS sample.

No	Nama	Waktu Lari 1200m	100% MAS		70% MAS
		(menit : detik)	m/s	km/jam	km/jam
1	Riski Ariski	4:33	4.39	15.8	11.06
2	Agisna Refo p	4:59	4.01	14.43	10.1
3	Luthpi Febriansyah	4:53	4.09	14.72	10.3
4	Fadel Ali	5:17	3.78	13.62	9.53
5	Adde Adhitia A	5:22	3.72	13.4	9.38
6	Mohamad Barizki	5:45	3.47	12.49	8.74
7	Bimo Ghiffari A	4:58	4.02	14.46	10.12
8	Hamzah Haz	4:50	4.13	14.87	10.41
9	Oki Catur Setiawan	4:57	4.03	14.5	10.15
10	Rico Agus S	5:32	3.61	13	9.1
11	Nandra Saputra	5:26	3.68	13.23	9.26
12	Ismanto Prabowo	5:20	3.74	13.46	9.42
13	Rizki Ikhsanul	5:27	3.66	13.18	9.23
14	Candra Saputra	5:04	3.95	14.21	9.95
15	Yuri Suryarismawan	5:31	3.63	13.05	9.14
16	Abdul Hakim G	5:03	3.96	14.25	9.98
17	Dffa Din	5:12	3.84	13.84	9.69
	Rata – rata	5:11	3.86	13.91	9.74

## Lampiran 2

Data Test Awal dan Test Akhir

### A. Test Awal dan Test Akhir Kadar Asam Laktat

Table 2. Data pengukuran Kadar Asam Laktat sebelum dan sesudah berlari 70% MAS selama 30 menit

No	Nama	Asam Laktat (Y1) mm/L	
		Awal	Akhir
1	Riski Ariski	3	9.8
2	Agisna Refo p	3.2	10.2
3	Luthpi Febriansyah	4	9.5
4	Fadel Ali	3.2	11.1
5	Adde Adhitia A	4.1	9.1
6	Mohamad Barizki	5.8	9.8
7	Bimo Ghiffari A	3.4	9.3
8	Hamzah Haz	2.9	8.8
9	Oki Catur Setiawan	3.3	9.3
10	Rico Agus S	3.5	10.7
11	Nandra Saputra	2.7	10.2
12	Ismanto Prabowo	3.1	9.7
13	Rizki Ikhsanul	4.6	11.6
14	Candra Saputra	3.3	9.9
15	Yuri Suryarismawan	3.8	9.3
16	Abdul Hakim G	3.2	9.8
17	Dffa Din	3.9	10.2
Rata - rata		3.59	9.9

B. Test Awal dan Test Akhir Pengukuran Denyut Nadi

Table 3. Data pengukuran Denyut Nadi sebelum dan sesudah berlari 70% MAS selama 30 menit

No	Nama	Denyut Nadi (Y2) Kali / menit	
		Awal	Akhir
1	Riski Ariski	77	195
2	Agisna Refo p	82	193
3	Luthpi Febriansyah	85	187
4	Fadel Ali	92	192
5	Adde Adhitia A	91	189
6	Mohamad Barizki	95	193
7	Bimo Ghiffari A	88	189
8	Hamzah Haz	79	189
9	Oki Catur Setiawan	81	190
10	Rico Agus S	85	188
11	Nandra Saputra	81	190
12	Ismanto Prabowo	92	189
13	Rizki Ikhsanul	95	193
14	Candra Saputra	83	191
15	Yuri Suryarismawan	98	182
16	Abdul Hakim G	89	192
17	Dffa Din	83	193
Rata - rata		87	190

### Lampiran 3

#### Tabel Perhitungan

##### A. Perhitungan Test Awal Asam Laktat

Tabel 4. Perhitungan Test Awal Asam Laktat

No	Y (Y <sub>1Awal</sub> )	Y – MY (Y <sub>1Awal</sub> – MY <sub>1Awal</sub> )	(Y – MY) <sup>2</sup> ((Y <sub>1Awal</sub> – MY <sub>1Awal</sub> ) <sup>2</sup> )
1	3.00	-0.59	0.35
2	3.20	-0.39	0.15
3	4.00	0.41	0.17
4	3.20	-0.39	0.15
5	4.10	0.51	0.26
6	5.80	2.21	4.89
7	3.40	-0.19	0.04
8	2.90	-0.69	0.47
9	3.30	-0.29	0.08
10	3.50	-0.09	0.01
11	2.70	-0.89	0.79
12	3.10	-0.49	0.24
13	4.60	1.01	1.02
14	3.30	-0.29	0.08
15	3.80	0.21	0.04
16	3.20	-0.39	0.15
17	3.90	0.31	0.10
Σ	61.00	0.00	9.00
Mean	3.59	0.00	0.53

## B. Perhitungan Test Akhir Asam Laktat

Tabel 5. Perhitungan Test Akhir Asam Laktat

No	Y ( $Y_{1Aakhir}$ )	Y - MY ( $Y_{1Aakhir} - MY_{1Aakhir}$ )	$(Y - MY)^2$ $((Y_{1Aakhir} - MY_{1Aakhir})^2)$
1	9.8	0	0.01
2	10.2	0	0.09
3	9.5	0	0.16
4	11.1	-1	1.44
5	9.1	1	0.64
6	9.8	0	0.01
7	9.3	1	0.36
8	8.8	1	1.21
9	9.3	1	0.36
10	10.7	-1	0.64
11	10.2	0	0.09
12	9.7	0	0.04
13	11.6	-2	2.89
14	9.9	0	0.00
15	9.3	1	0.36
16	9.8	0	0.01
17	10.2	0	0.09
$\Sigma$	168.3	0.00	8.40
Mean	9.9	0.00	0.49

## C. Perhitungan Test Awal Denyut Nadi

Tabel 6. Perhitungan Test Awal Denyut Nadi

No	Y (Y <sub>2Awal</sub> )	Y – MY (Y <sub>2Awal</sub> – M <sub>2Awal</sub> )	(Y – MY) <sup>2</sup> ((Y <sub>2Awal</sub> – MY <sub>2Awal</sub> ) <sup>2</sup> )
1	77	10	96.50
2	82	5	23.27
3	85	2	3.33
4	92	-5	26.80
5	91	-4	17.44
6	95	-8	66.85
7	88	-1	1.38
8	79	8	61.21
9	81	6	33.91
10	85	2	3.33
11	81	6	33.91
12	92	-5	26.80
13	95	-8	66.85
14	83	4	14.62
15	98	-11	124.91
16	89	-2	4.74
17	83	4	14.62
Σ	1476.00	0.00	620.47
Mean	86.82	0.00	36.50

## D. Perhitungan Test Akhir Denyut Nadi

Tabel 7. Perhitungan Test Akhir Denyut Nadi

No	Y (Y <sub>2Akhir</sub> )	Y – MY (Y <sub>2Akhir</sub> – MY <sub>2Akhir</sub> )	(Y – MY) <sup>2</sup> ((Y <sub>2Akhir</sub> – MY <sub>2Akhir</sub> ) <sup>2</sup> )
1	195	-5	22.15
2	193	-3	7.32
3	187	3	10.85
4	192	-2	2.91
5	189	1	1.67
6	193	-3	7.32
7	189	1	1.67
8	189	1	1.67
9	190	0	0.09
10	188	2	5.26
11	190	0	0.09
12	189	1	1.67
13	193	-3	7.32
14	191	-1	0.50
15	182	8	68.79
16	192	-2	2.91
17	193	-3	7.32
Σ	3235.00	0.00	149.53
Mean	190.29	0.00	8.80

#### Lampiran 4

Data Selisih Perubahan Test Awal dan Test Akhir Kadar Asam Laktat dan Denyut Nadi

##### A. Selisih Test awal dan Test Akhir Kadar Asam Laktat

Tabel 8. Selisih Test awal dan Test Akhir Kadar Asam Laktat

No	DY <sub>1</sub>	DY <sub>1</sub> – MDY <sub>1</sub>	(DY <sub>1</sub> - MDY <sub>1</sub> ) <sup>2</sup>
1	6.8	0	0.24
2	7.0	-1	0.47
3	5.5	1	0.66
4	7.9	-2	2.52
5	5.0	1	1.72
6	4.0	2	5.34
7	5.9	0	0.17
8	5.9	0	0.17
9	6.0	0	0.10
10	7.2	-1	0.79
11	7.5	-1	1.41
12	6.6	0	0.08
13	7.0	-1	0.47
14	6.6	0	0.08
15	5.5	1	0.66
16	6.6	0	0.08
17	6.3	0	0.00
Σ	107.30	0.00	14.98
Mean	6.31	0.00	0.88



## B. Perubahan Test awal dan Test Akhir Denyut Nadi

Tabel 9. Perubahan Test awal dan Test Akhir Denyut Nadi

No	DY <sub>2</sub>	DY <sub>2</sub> – MDY <sub>2</sub>	(DY <sub>2</sub> – MDY <sub>2</sub> ) <sup>2</sup>
1	118	-15	211.10
2	111	-8	56.69
3	102	1	2.16
4	100	3	12.04
5	98	5	29.93
6	98	5	29.93
7	101	2	6.10
8	110	-7	42.63
9	109	-6	30.57
10	103	0	0.22
11	109	-6	30.57
12	97	6	41.87
13	98	5	29.93
14	108	-5	20.52
15	84	19	379.10
16	103	0	0.22
17	110	-7	42.63
Σ	1759.00	0.00	966.24
Mean	103.47	0.00	56.84

## Lampiran 5

### Langkah – Langkah Perhitungan Distribusi Frekuensi

#### A. Variable Tes Awal Pengukuran Kadar Asam Laktat Sebelum Berlari 70% MAS Selama 30 Menit

$$\begin{aligned}
 1. \text{ Sample (n)} &= 17 \\
 2. \text{ Rentang (R)} &= \text{Data tertinggi} - \text{data terendah} \\
 &= 5.8 - 2.7 \\
 &= 3.1
 \end{aligned}$$

$$\begin{aligned}
 3. \text{ Banyak Kelas (K)} &= 1 + 3.3 \log n \\
 &= 1 + 3.3 \log(17) \\
 &= 1 + 3.3 (1.23) \\
 &= 1 + 4.06 \\
 &= 5.06 > 5 \text{ "dibulatkan"}
 \end{aligned}$$

$$\begin{aligned}
 4. \text{ Interval} &= \frac{R}{K} \\
 &= \frac{3.1}{5} = 0.62
 \end{aligned}$$

$$\begin{aligned}
 5. \text{ Standar Deviasi} &= \sqrt{\frac{\sum(Y_{1Awal} - MY_{1Awal})^2}{n}} \\
 &= \sqrt{\frac{9}{17}} = 0.73
 \end{aligned}$$

$$\begin{aligned}
 6. \text{ Standar Error} &= \frac{SY_{1Awal}}{\sqrt{n-1}} \\
 &= \frac{0.73}{\sqrt{17-1}} = 0.18
 \end{aligned}$$

B. Variable Tes Akhir Pengukuran Kadar Asam Laktat Setelah Berlari 70% MAS Selama 30 Menit

$$\begin{aligned}
 1. \text{ Sample (n)} &= 17 \\
 2. \text{ Rentang (R)} &= \text{Data tertinggi} - \text{data terendah} \\
 &= 11.6 - 8.8 \\
 &= 2.8
 \end{aligned}$$

$$\begin{aligned}
 3. \text{ Banyak Kelas (K)} &= 1 + 3.3 \log n \\
 &= 1 + 3.3 \log(17) \\
 &= 1 + 3.3 (1.23) \\
 &= 1 + 4.06 \\
 &= 5.06 > 5 \text{ "dibulatkan"}
 \end{aligned}$$

$$\begin{aligned}
 4. \text{ Interval} &= \frac{R}{K} \\
 &= \frac{2.8}{5} = 0.56
 \end{aligned}$$

$$\begin{aligned}
 5. \text{ Standar Deviasi} &= \sqrt{\frac{\sum(Y_{1Akhir} - MY_{1Akhir})^2}{n}} \\
 &= \sqrt{\frac{8.4}{17}}
 \end{aligned}$$

$$= 0.7$$

$$\begin{aligned}
 6. \text{ Standar Error} &= \frac{SY_{1Akhir}}{\sqrt{n-1}} \\
 &= \frac{0.7}{\sqrt{17-1}} = 0.17
 \end{aligned}$$

C. Variable Tes Awal Pengukuran Denyut Nadi Sebelum Berlari 70% MAS Selama 30 Menit

$$\begin{aligned}
 1. \text{ Sample (n)} &= 17 \\
 2. \text{ Rentang (R)} &= \text{Data tertinggi} - \text{data terendah} \\
 &= 98 - 77 \\
 &= 21
 \end{aligned}$$

$$\begin{aligned}
 3. \text{ Banyak Kelas (K)} &= 1 + 3.3 \log n \\
 &= 1 + 3.3 \log(17) \\
 &= 1 + 3.3 (1.23) \\
 &= 1 + 4.06 \\
 &= 5.06 > 5 \text{ "dibulatkan"}
 \end{aligned}$$

$$\begin{aligned}
 4. \text{ Interval} &= \frac{R}{K} \\
 &= \frac{21}{5} = 4.1
 \end{aligned}$$

$$\begin{aligned}
 5. \text{ Standar Deviasi} &= \sqrt{\frac{\sum(Y_{2Awal} - MY_{1Awal})^2}{n}} \\
 &= \sqrt{\frac{620.47}{17}} = 6.04
 \end{aligned}$$

$$\begin{aligned}
 6. \text{ Standar Error} &= \frac{SY_{2Awal}}{\sqrt{n-1}} \\
 &= \frac{6.04}{\sqrt{17-1}} = 1.51
 \end{aligned}$$

D. Variable Tes Akhir Pengukuran Denyut Nadi Setelah Berlari 70% MAS Selama 30 Menit

$$\begin{aligned}
 1. \text{ Sample (n)} &= 17 \\
 2. \text{ Rentang (R)} &= \text{Data tertinggi} - \text{data terendah} \\
 &= 195 - 182 \\
 &= 13
 \end{aligned}$$

$$\begin{aligned}
 3. \text{ Banyak Kelas (K)} &= 1 + 3.3 \log n \\
 &= 1 + 3.3 \log(17) \\
 &= 1 + 3.3 (1.23) \\
 &= 1 + 4.06 \\
 &= 5.06 > 5 \text{ "dibulatkan"}
 \end{aligned}$$

$$\begin{aligned}
 4. \text{ Interval} &= \frac{R}{K} \\
 &= \frac{13}{5} = 2.6
 \end{aligned}$$

$$\begin{aligned}
 5. \text{ Standar Deviasi} &= \sqrt{\frac{\sum(Y_{2Akhir} - MY_{1Akhir})^2}{n}} \\
 &= \sqrt{\frac{149.53}{17}} = 2.97
 \end{aligned}$$

$$\begin{aligned}
 6. \text{ Standar Error} &= \frac{SY_{2Akhir}}{\sqrt{n-1}} \\
 &= \frac{2.97}{\sqrt{17-1}} = 0.79
 \end{aligned}$$

## Lampiran 6

Langkah – Langkah Menguji Nilai t-tabel

A. Menguji Nilai t-tabel Kadar Asam Laktat

1. Menghitung Rata – Rata Nilai Selisih Test Akhir dan Test Awal Kadar Asam Laktat

$$\begin{aligned} MDY_1 &= \frac{\sum DY_1}{n} \\ &= \frac{107.3}{17} = 6.31 \end{aligned}$$

2. Menghitung Standar Deviasi Selisih Test Akhir dan Test Awal Kadar Asam Laktat

$$\begin{aligned} SDY_1 &= \sqrt{\frac{\sum (DY_1 - MDY_1)^2}{n}} \\ &= \sqrt{\frac{14.98}{17}} = 0.94 \end{aligned}$$

3. Menghitung Standar Error Selisih Test Akhir dan Test Awal Kadar Asam Laktat

$$\begin{aligned} SEMDY_1 &= \frac{SDY_1}{\sqrt{n - 1}} \\ &= \frac{0.94}{\sqrt{17 - 1}} = 0.24 \end{aligned}$$

4. Mencari t-hitung Kadar Asam Laktat

$$t_o = \left| \frac{MDY_1}{SEMDY_1} \right|$$
$$= \left| \frac{6.31}{0.24} \right| = 26.29$$

5. Mencari Nilai t – tabel

Nilai t – tabel dengan derajat kebebasan (dk)  $n - 1 = 17 - 1 = 16$

Pada taraf kepercayaan  $\alpha = 0.05$  adalah 2.12

6. Kriteria Pengujian

Jika t-hitung  $>$  t-tabel maka  $H_0$  ditolak

Jika t-hitung  $<$  t-tabel maka  $H_0$  diterima

7. Kesimpulan

Karena t-hitung (26.29)  $>$  t-tabel (2.12) maka  $H_0$  ditolak

Sehingga dapat disimpulkan bahwa berlari 70% MAS selama

30 menit terbukti mempengaruhi peningkatan Asam Laktat.

### A. Menguji Nilai t-tabel Denyut Nadi

1. Menghitung Rata – Rata Nilai Selisih Test Akhir dan Test Awal Denyut Nadi

$$\begin{aligned} MDY_2 &= \frac{\sum DY_2}{n} \\ &= \frac{1759}{17} = 103.47 \end{aligned}$$

2. Menghitung Standar Deviasi Selisih Test Akhir dan Test Awal Denyut Nadi

$$\begin{aligned} SDY_2 &= \sqrt{\frac{\sum (DY_2 - MDY_2)^2}{n}} \\ &= \sqrt{\frac{966.24}{17}} = 7.54 \end{aligned}$$

3. Menghitung Standar Error Selisih Test Akhir dan Test Awal Denyut Nadi

$$\begin{aligned} SEMDY_2 &= \frac{SDY_2}{\sqrt{n - 1}} \\ &= \frac{7.54}{\sqrt{17 - 1}} = 1.88 \end{aligned}$$



4. Mencari t-hitung Denyut Nadi

$$\begin{aligned}t_0 &= \left| \frac{MDY_2}{SEMDY_2} \right| \\ &= \left| \frac{103.47}{1.88} \right| = 55.04\end{aligned}$$

5. Mencari Nilai t – tabel

Nilai t – tabel dengan derajat kebebasan (dk)  $n - 1 = 17 - 1 = 16$

Pada taraf kepercayaan  $\alpha = 0.05$  adalah 2.12

6. Kriteria Pengujian

Jika t-hitung  $>$  t-tabel maka  $H_0$  ditolak

Jika t-hitung  $<$  t-tabel maka  $H_0$  diterima

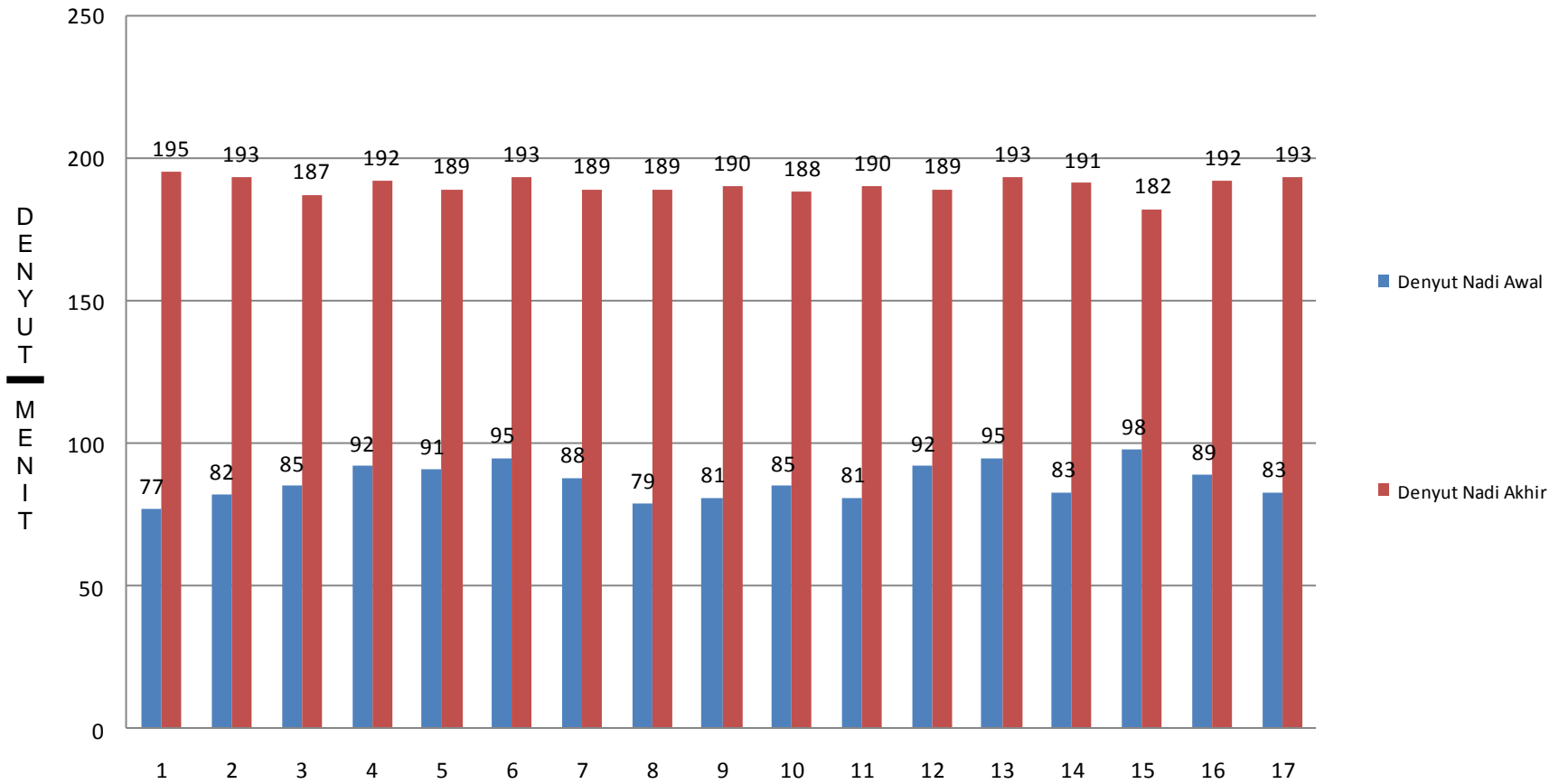
7. Kesimpulan

Karena t-hitung (55.04)  $>$  t-tabel (2.12) maka  $H_0$  ditolak

Sehingga dapat disimpulkan bahwa berlari 70% MAS selama 30 menit terbukti mempengaruhi peningkatan Denyut Nadi.

**Lampiran 7**

Data Kenaikan Denyut Nadi Dan Pencapaian Denyut Nadi Latihan



Gambar 1. Grafik Histogram Data Peningkatan Denyut Nadi

Tabel 10. Pencapaian Denyut Nadi Latihan Setelah Berlari 70% MAS Selama 30 Menit

No	Nama	Umur	Denyut Nadi Awal (kali/menit)	Denyut Nadi Akhir (kali/menit)	DN <sub>MAX</sub> (kali/menit)	Training Zone 72% - 87%	Pencapaian (%)	
1	Riski Ariski	20	77	195	200	144 - 174	98	
2	Agisna Refo p	19	82	193	201	145 - 175	96	
3	Luthpi Febriansyah	19	85	187	201	145 - 175	93	
4	Fadel Ali	18	92	192	202	145 - 176	95	
5	Adde Adhitia A	19	91	189	201	145 - 175	94	
6	Mohamad Barizki	19	95	193	201	145 - 175	96	
7	Bimo Ghiffari A	19	88	189	201	145 - 175	94	
8	Hamzah Haz	18	79	189	202	145 - 176	94	
9	Oki Catur Setiawan	20	81	190	200	144 - 174	95	
10	Rico Agus S	19	85	188	201	145 - 175	94	
11	Nandra Saputra	20	81	190	200	144 - 174	95	
12	Ismanto Prabowo	20	92	189	200	144 - 174	95	
13	Rizki Ikhsanul	19	95	193	201	145 - 175	96	
14	Candra Saputra	19	83	191	201	145 - 175	95	
15	Yuri Suryarismawan	20	98	182	200	144 - 174	91	
16	Abdul Hakim G	18	89	192	202	145 - 176	95	
17	Dffa Din	19	83	193	201	145 - 175	96	
							Min	91
							Max	98
							Mean	95

## Lampiran 8

Perhitungan Persentasi Kenaikan Asam Laktat Dan Denyut Nadi

A. Data Kenaikan Test Awal dan Test Akhir Kadar Asam Laktat

Tabel 11. Tabel Persentase Kenaikan Asam Laktat

No	Asam Laktat Awal ( $Y_{1Awal}$ )	Asam Laktat Akhir ( $Y_{1Akhir}$ )	$Y_{1Akhir} - Y_{1Awal}$ ( $D$ )	$D/Y_{1Awal}$ ( $X$ )	Persentase Kenaikan (%)
1	3.00	9.80	6.80	2.27	226.67
2	3.20	10.20	7.00	2.19	218.75
3	4.00	9.50	5.50	1.38	137.50
4	3.20	11.10	7.90	2.47	246.88
5	4.10	9.10	5.00	1.22	121.95
6	5.80	9.80	4.00	0.69	68.97
7	3.40	9.30	5.90	1.74	173.53
8	2.90	8.80	5.90	2.03	203.45
9	3.30	9.30	6.00	1.82	181.82
10	3.50	10.70	7.20	2.06	205.71
11	2.70	10.20	7.50	2.78	277.78
12	3.10	9.70	6.60	2.13	212.90
13	4.60	11.60	7.00	1.52	152.17
14	3.30	9.90	6.60	2.00	200.00
15	3.80	9.30	5.50	1.45	144.74
16	3.20	9.80	6.60	2.06	206.25
17	3.90	10.20	6.30	1.62	161.54
MIN					68.97
MAX					277.78
MEAN					184.74

## A. Data Kenaikan Test Awal dan Test Akhir Denyut Nadi

Tabel 11. Tabel Persentase Kenaikan Denyut Nadi

No	Denyut Nadi (Y2Awal)	Denyut Nadi (Y2Akhir)	Y2Akhir - Y2Awal (D)	D/Y2Awal (X)	Persentase Kenaikan (%)
1	77	195	118	1.53	153.25
2	82	193	111	1.35	135.37
3	85	187	102	1.20	120.00
4	92	192	100	1.09	108.70
5	91	189	98	1.08	107.69
6	95	193	98	1.03	103.16
7	88	189	101	1.15	114.77
8	79	189	110	1.39	139.24
9	81	190	109	1.35	134.57
10	85	188	103	1.21	121.18
11	81	190	109	1.35	134.57
12	92	189	97	1.05	105.43
13	95	193	98	1.03	103.16
14	83	191	108	1.30	130.12
15	98	182	84	0.86	85.71
16	89	192	103	1.16	115.73
17	83	193	110	1.33	132.53
MIN					85.71
MAX					153.25
MEAN					120.30

## Lampiran 9

### Data Nilai Perhitungan Korelasi

Tabel 12. Tabel Bantu Perhitungan Korelasi

No	$X^2$	$Y_1^2$	$Y_2^2$	$XY_1$	$XY_2$	$Y_1Y_2$
1	122.32	96.04	38025	108.39	2156.70	1911
2	102.01	104.04	37249	103.02	1949.30	1969
3	106.09	90.25	34969	97.85	1926.10	1777
4	90.82	123.21	36864	105.78	1829.76	2131
5	87.98	82.81	35721	85.36	1772.82	1720
6	76.39	96.04	37249	85.65	1686.82	1891
7	102.41	86.49	35721	94.12	1912.68	1758
8	108.37	77.44	35721	91.61	1967.49	1663
9	103.02	86.49	36100	94.40	1928.50	1767
10	82.81	114.49	35344	97.37	1710.80	2012
11	85.75	104.04	36100	94.45	1759.40	1938
12	88.74	94.09	35721	91.37	1780.38	1833
13	85.19	134.56	37249	107.07	1781.39	2239
14	99.00	98.01	36481	98.51	1900.45	1891
15	83.54	86.49	33124	85.00	1663.48	1693
16	99.60	96.04	36864	97.80	1916.16	1882
17	93.90	104.04	37249	98.84	1870.17	1969
$\Sigma$	1617.95	1674.57	615751	1636.58	31512.40	32041.90

x = 70% MAS selama 30 menit

$Y_1$  = Asam Laktat

$Y_2$  = Denyut Nadi

## Lampiran 10

Perhitungan Koefisien Korelasi

a. Mencari Koefisien Korelasi  $r_{Y_1Y_2}$

$$\begin{aligned} r_{Y_1Y_2} &= \frac{n \cdot (\Sigma Y_1 Y_2) - (\Sigma Y_1) \cdot (\Sigma Y_2)}{\sqrt{\{n \cdot \Sigma Y_1^2 - (\Sigma Y_1)^2\} \cdot \{n \cdot \Sigma Y_2^2 - (\Sigma Y_2)^2\}}} \\ &= \frac{17 \cdot 32041.9 - 168.3 \cdot 3235}{\sqrt{\{17 \cdot 1674 - (168.3)^2\} \cdot \{17 \cdot 61575 - (3235)^2\}}} \\ &= \frac{261.8}{602.49} = 0.43 \end{aligned}$$

b. Mencari Koefisien Korelasi  $r_{XY_1}$

$$\begin{aligned} r_{XY_1} &= \frac{n \cdot (\Sigma XY_1) - (\Sigma X) \cdot (\Sigma Y_1)}{\sqrt{\{n \cdot \Sigma X^2 - (\Sigma X)^2\} \cdot \{n \cdot \Sigma Y_1^2 - (\Sigma Y_1)^2\}}} \\ &= \frac{17 \cdot 1636.58 - 165.56 \cdot 168.3}{\sqrt{\{17 \cdot 1617.95 - (165.56)^2\} \cdot \{17 \cdot 1674.55 - (168.3)^2\}}} \\ &= \frac{-41.84}{116.46} = -0.36 \end{aligned}$$

c. Mencari Koefisien Korelasi

$$\begin{aligned} r_{XY_2} &= \frac{n \cdot (\Sigma XY_2) - (\Sigma X) \cdot (\Sigma Y_2)}{\sqrt{\{n \cdot \Sigma X^2 - (\Sigma X)^2\} \cdot \{n \cdot \Sigma Y_2^2 - (\Sigma Y_2)^2\}}} \\ &= \frac{17 \cdot 31512.4 - 165.56 \cdot 3235}{\sqrt{\{17 \cdot 1617.95 - (165.56)^2\} \cdot \{17 \cdot 615751 - (3235)^2\}}} \\ &= \frac{124.2}{491.38} = 0.25 \end{aligned}$$

d. Mencari Koefisien Korelasi Bila X Tetap

$$\begin{aligned}
 r_{X(Y_1Y_2)} &= \frac{r_{Y_1Y_2} - r_{XY_1} \cdot r_{XY_2}}{\sqrt{(1 - r_{XY_1}^2) \cdot (1 - r_{XY_2}^2)}} \\
 &= \frac{17 \cdot 0.43 - (-0.36) \cdot 0.25}{\sqrt{(1 - (-0.36)^2) \cdot (1 - (0.25)^2)}} \\
 &= \frac{0.52}{0.9} = 0.58
 \end{aligned}$$

e. Uji Signifikansi dengan Uji t

$$\begin{aligned}
 t_o &= \frac{r_{X(Y_1Y_2)} \sqrt{n - 3}}{\sqrt{1 - r_{X(Y_1Y_2)}^2}} \\
 &= \frac{0.58 \cdot \sqrt{17 - 3}}{\sqrt{1 - (0.58)^2}} \\
 &= \frac{2.15}{0.82} = 2.63
 \end{aligned}$$



## Lampiran 11

## Tabel Uji t

Titik Persentase Distribusi t (df = 1 – 40)

Pr	0.25	0.10	0.05	0.025	0.01	0.005	0.001
df	0.50	0.20	0.10	0.050	0.02	0.010	0.002
1	1.00000	3.07768	6.31375	12.70620	31.82052	63.65674	318.30884
2	0.81650	1.88562	2.91999	4.30265	6.96456	9.92484	22.32712
3	0.76489	1.63774	2.35336	3.18245	4.54070	5.84091	10.21453
4	0.74070	1.53321	2.13185	2.77645	3.74695	4.60409	7.17318
5	0.72669	1.47588	2.01505	2.57058	3.36493	4.03214	5.89343
6	0.71756	1.43976	1.94318	2.44691	3.14267	3.70743	5.20763
7	0.71114	1.41492	1.89458	2.36462	2.99795	3.49948	4.78529
8	0.70639	1.39682	1.85955	2.30600	2.89646	3.35539	4.50079
9	0.70272	1.38303	1.83311	2.26216	2.82144	3.24984	4.29681
10	0.69981	1.37218	1.81246	2.22814	2.76377	3.16927	4.14370
11	0.69745	1.36343	1.79588	2.20099	2.71808	3.10581	4.02470
12	0.69548	1.35622	1.78229	2.17881	2.68100	3.05454	3.92963
13	0.69383	1.35017	1.77093	2.16037	2.65031	3.01228	3.85198
14	0.69242	1.34503	1.76131	2.14479	2.62449	2.97684	3.78739
15	0.69120	1.34061	1.75305	2.13145	2.60248	2.94671	3.73283
16	0.69013	1.33676	1.74588	2.11991	2.58349	2.92078	3.68615
17	0.68920	1.33338	1.73961	2.10982	2.56693	2.89823	3.64577
18	0.68836	1.33039	1.73406	2.10092	2.55238	2.87844	3.61048
19	0.68762	1.32773	1.72913	2.09302	2.53948	2.86093	3.57940
20	0.68695	1.32534	1.72472	2.08596	2.52798	2.84534	3.55181
21	0.68635	1.32319	1.72074	2.07961	2.51765	2.83136	3.52715
22	0.68581	1.32124	1.71714	2.07387	2.50832	2.81876	3.50499
23	0.68531	1.31946	1.71387	2.06866	2.49987	2.80734	3.48496
24	0.68485	1.31784	1.71088	2.06390	2.49216	2.79694	3.46678
25	0.68443	1.31635	1.70814	2.05954	2.48511	2.78744	3.45019
26	0.68404	1.31497	1.70562	2.05553	2.47863	2.77871	3.43500
27	0.68368	1.31370	1.70329	2.05183	2.47266	2.77068	3.42103
28	0.68335	1.31253	1.70113	2.04841	2.46714	2.76326	3.40816
29	0.68304	1.31143	1.69913	2.04523	2.46202	2.75639	3.39624
30	0.68276	1.31042	1.69726	2.04227	2.45726	2.75000	3.38518
31	0.68249	1.30946	1.69552	2.03951	2.45282	2.74404	3.37490
32	0.68223	1.30857	1.69389	2.03693	2.44868	2.73848	3.36531
33	0.68200	1.30774	1.69236	2.03452	2.44479	2.73328	3.35634
34	0.68177	1.30695	1.69092	2.03224	2.44115	2.72839	3.34793
35	0.68156	1.30621	1.68957	2.03011	2.43772	2.72381	3.34005
36	0.68137	1.30551	1.68830	2.02809	2.43449	2.71948	3.33262
37	0.68118	1.30485	1.68709	2.02619	2.43145	2.71541	3.32563
38	0.68100	1.30423	1.68595	2.02439	2.42857	2.71156	3.31903
39	0.68083	1.30364	1.68488	2.02269	2.42584	2.70791	3.31279
40	0.68067	1.30308	1.68385	2.02108	2.42326	2.70446	3.30688

## Lampiran 12

### Foto Penelitian



Gambar 1. Sample Melakukan Pemanasan Sebelum Pengukuran 100% MAS



Gambar 2. Sample Melakukan Pemanasan Sebelum Pengukuran 100% MAS



Gambar 3. Sample Berlari 1200m



Gambar 4. Sample Menggunakan Polar



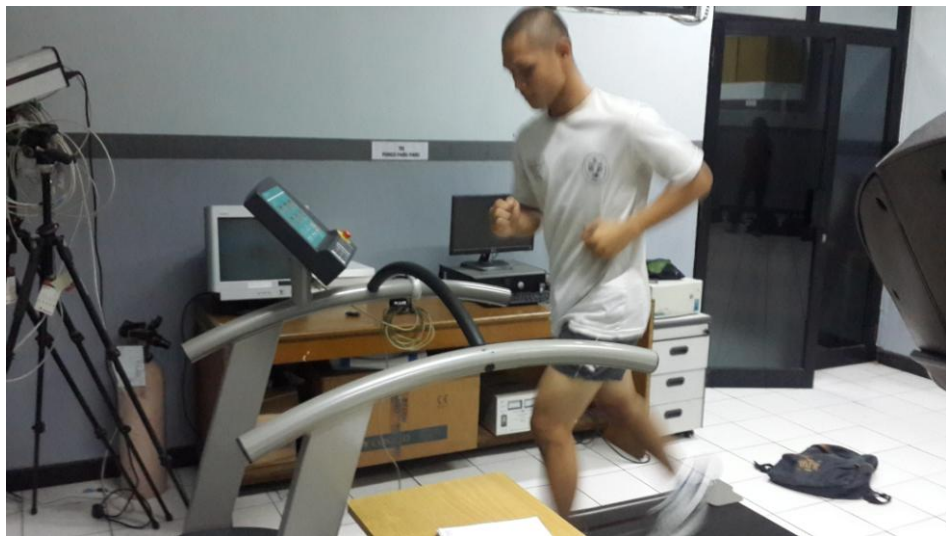
Gambar 5. Sample Menggunakan Polar



Gambar 6. Sample Diambil Darahnya Untuk Mengukur Kadar Asam Laktat



Gambar 7. Kadar Asam Laktat



Gambar 8. Sample Berlari 70% MAS Diatas Treadmill