

## **BAB VI**

### **SIMPULAN DAN SARAN**

#### **6.1 Simpulan**

Pada penelitian ini pemberian fluphenazine decanoate bertingkat pada 15 ekor tikus wistar jantan berusia 3 bulan dengan berat badan kurang lebih 200 gram selama 28 hari memberikan hasil :

1. Terdapat kerusakan hepar dan kenaikan kadar enzim katalase tikus wistar terpapar fluphenazine decanoate.
2. Kadar katalase tertinggi didapat pada kelompok perlakuan 2 mg dan kadar terendah terdapat pada kelompok tanpa perlakuan.
3. Rerata skor histopatologi hepar tertinggi didapat pada kelompok perlakuan 2 mg dan rerata terendah pada kelompok tanpa perlakuan.
4. Kerusakan histopatologi hepar terparah dengan rerata histopatologi 2,5 dan kadar katalase tertinggi dengan persentase 62,5% didapatkan pada kelompok perlakuan 2 mg.

Penggunaan obat fluphenazine decanoate dengan dosis 2 mg memberikan hasil peningkatan 10% kerusakan sel hepar dibanding dosis 1 mg.

## **6.2 Saran**

1. Mengetahui efek fluphenazine decanoate dengan membandingkan dua marker antioksidan enzimatik dengan rerata skor histopatologi hepar.
2. Perlunya dilakukan penelitian lain mengenai efek fluphenazine decanoate terhadap kadar katalase dengan menggunakan cara pengukuran kuantitatif menggunakan uji spektrofotometri.

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## Lampiran 1. Skoring Histopatologi Hepar

KELOMPOK	NO.SLIDE	LAPANGAN PANDANG															SKOR	X					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15							
K	1	10	9	0	1	8	9	0	1	11	8	0	1	8	10	1	1	12	7	0	1	158	1,58
	2	10	9	0	1	10	8	1	1	10	8	1	1	9	8	1	2	10	10	0	0	164	1,64
	3	14	5	0	1	12	7	0	1	11	9	0	0	11	8	0	1	12	8	0	0	146	1,46
	4	10	7	1	2	10	8	1	1	11	8	0	1	10	9	0	1	11	9	0	1	164	1,64
	5	8	11	0	1	10	9	0	1	11	8	0	1	12	7	0	1	12	8	0	0	155	1,55
1	1	9	6	2	3	7	10	0	3	7	9	2	2	10	9	0	1	12	7	0	1	179	1,79
	2	11	7	0	2	8	9	1	2	10	7	1	2	7	10	1	2	7	10	0	3	182	1,82
	3	6	11	0	3	7	10	2	1	8	10	0	2	9	9	0	2	8	10	1	1	183	1,83
	4	12	6	1	1	8	9	2	1	8	9	1	2	7	9	2	2	7	9	1	3	183	1,83
	5	9	9	0	2	8	8	1	3	7	8	2	3	6	10	0	4	7	8	0	5	200	2
2	1	6	4	5	5	7	7	0	6	3	10	0	7	4	4	6	6	4	6	4	6	251	2,51
	2	4	4	4	8	4	6	4	6	6	6	3	5	2	6	4	8	2	6	8	4	267	2,67
	3	5	5	5	5	4	6	2	8	4	10	2	4	8	6	2	4	5	6	4	5	241	2,41
	4	5	5	4	6	5	5	5	5	3	5	8	4	3	6	7	4	3	7	4	6	259	2,59
	5	5	6	6	3	7	6	4	3	4	13	0	3	4	6	6	4	5	5	5	5	232	2,32

## Lampiran 2. Surat Ijin Penelitian



KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI  
UNIVERSITAS DIPONEGORO  
FAKULTAS KEDOKTERAN  
BAGIAN PARASITOLOGI  
Jl. Prof. H. Soedarto, SH, Tembalong Semarang Kotak Pos 1269, Kode Pos 50135  
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Nomor : 31 /UN7.2014/01/Par/PG/2015

Lamp :

Perihal : Ijin Penelitian

Yth,

dr. Innawati Jusup, M.Kes, Sp.KJ

FK UNDIP

Di Semarang

Selubungan surat dari dr. Innawati Jusup, M.Kes, Sp.Kj tentang permohonan Ijin Penggunaan tempat dan pemeliharaan hewan coba di laboratorium hewan coba FK UNDIP (Bagian Parasitologi) dengan Peneliti sebagai berikut :

Nama : dr. Innawati Jusup, M.Kes, Sp.KJ  
Bagian : Bag. Biokimia  
Judul : Pengaruh Ekstrak Kulit Manggis (*Garcinia mangostana L*) Menurunkan Stres Oksidatif pada Tikus Wistar Terinjeksi **Flufenazin Dekanoat**

Dibantu 9 Mahasiswa :

Nama	NIM	Nama	NIM
Stefani Pramudita	2201011213096	Darryl Samuel	22010112130123
Gloria Seraphine	22010112130162	Miranti Anggun	22010112130164
<b>Jessica Yolanda H</b>	22010112130197	Ahda Amila	22010112130198
Pani Eirene	22010112130206	Prika Maulina	22010112130211
Irena Aryani	22010112140212		

Kami selaku kepala Laboratorium Parasitologi FK UNDIP memberikan ijin untuk melakukan penelitian tersebut diatas di laboratorium parasitologi FK UNDIP.

Atas perhatian dan kerjasamanya diucapkan terima kasih.

Semarang, 5 November 2015

Ketua

dr. Sudaryanto, M.Pd.Ked  
NIP. 1970004161997021001

Tembusan :

1. Pembantu Dekan 2
2. Ketua Komisi Etik FK UNDIP
3. Kepala Umum dan Pemasok Asat

### Lampiran 3. *Ethical Clearence*

	<p style="text-align: center;"><b>KOMISI ETIK PENELITIAN KESEHATAN (KEPK) FAKULTAS KEDOKTERAN UNIVERSITAS DIPONEGORO DAN RSUP dr KARIADI SEMARANG</b> Sekretariat : Kantor Dekanat FK Undip Lt.3 Jl. Dr. Soelomo 18, Semarang Telp/Fax. 024-8318350</p>	
<p><b>ETHICAL CLEARANCE</b> <b>No. 171/EC/FK-RSDK/2016</b></p>		
<p>Komisi Etik Penelitian Kesehatan Fakultas Kedokteran Universitas Diponegoro-RSUP, Dr. Kariadi Semarang, setelah membaca dan menelaah Usulan Penelitian dengan judul :</p>		
<p><b>HUBUNGAN KERUSAKAN HEPAR DENGAN KADAR ENZIM KATALASE TIKUS WISTAR TERPAPAR FLUPHENAZINE DECANOATE</b></p>		
<p><b>Peneliti Utama :</b> <i>Gloria Seraphine Ratna Utari</i></p> <p><b>Pembimbing :</b>                    -dr. Astika Widy Utomo, M.Sc   -dr. Innawati Jusuf, M.Kes, Sp.KJ</p> <p><b>Penelitian :</b> Dilaksanakan di Laboratorium Parasitologi RSUP, Dr. Kariadi Semarang</p>		
<p>Setuju untuk dilaksanakan, dengan memperhatikan prinsip-prinsip yang dinyatakan dalam Deklarasi Helsinki 1975, yang diamended di Seoul 2008 dan Pedoman Nasional Etik Penelitian Kesehatan (PNEPK) Departemen Kesehatan RI 2011</p>		
<p>Pada laporan akhir peneliti harus melampirkan cara pemeliharaan &amp; dekapitasi hewan coba dan melaporkan ke KEPK bahwa penelitian sudah selesai dilampiri Abstrak Penelitian.</p>		
<p>Semarang, 28 MAR 2016</p> <p>Komis Etik Penelitian Kesehatan Fakultas Kedokteran Undip-RS, Dr. Kariadi</p> <p><b>Ketua,</b></p>  <p><b>Prof. Dr. dr. Suprihati, M.Sc, Sp.THT-KL(K)</b> NIP. 19550621 197703 2 001</p>		

## Lampiran 4. Analisis Data

### Case Processing Summary

Kelompok		Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Skoring Histopatologi	kelompok kontrol	5	100,0%	0	,0%	5	100,0%
	kelompok P1	5	100,0%	0	,0%	5	100,0%
	kelompok P2	5	100,0%	0	,0%	5	100,0%

### Descriptives

Kelompok		Statistic	Std. Error	
Skoring Histopatologi	kelompok kontrol	Mean	157,4000	3,34066
		95% Confidence Interval for Mean	148,1248	
		Lower Bound		
		Upper Bound	166,6752	
		5% Trimmed Mean	157,6667	
		Median	158,0000	
		Variance	55,800	
		Std. Deviation	7,46994	
		Minimum	146,00	
	Maximum	164,00		
	Range	18,00		
	Interquartile Range	13,50		
	Skewness	-,920	,913	
	Kurtosis	,317	2,000	
	kelompok P1	Mean	185,4000	3,72290
		95% Confidence Interval for Mean	175,0636	
		Lower Bound		
		Upper Bound	195,7364	
		5% Trimmed Mean	184,9444	
Median		183,0000		
Variance		69,300		
Std. Deviation		8,32466		
Minimum		179,00		
Maximum		200,00		
Range	21,00			
Interquartile Range	11,00			
Skewness	2,010	,913		
Kurtosis	4,315	2,000		

kelompok P2	Mean		250,0000	6,22896
	95% Confidence Interval for Mean	Lower Bound	232,7056	
		Upper Bound	267,2944	
	5% Trimmed Mean		250,0556	
	Median		251,0000	
	Variance		194,000	
	Std. Deviation		13,92839	
	Minimum		232,00	
	Maximum		267,00	
	Range		35,00	
	Interquartile Range		26,50	
	Skewness		-,142	,913
	Kurtosis		-1,304	2,000

#### Tests of Normality

Kelompok	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Skoring Histopatologi kelompok kontrol	,212	5	,200(*)	,895	5	,384
kelompok P1	,413	5	,005	,727	5	,018
kelompok P2	,141	5	,200(*)	,982	5	,946

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

a. Lilliefors Significance Correction

#### Case Processing Summary

kelompok	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
kadar kelompok kontrol	5	100,0%	0	,0%	5	100,0%
kelompok P1	5	100,0%	0	,0%	5	100,0%
kelompok P2	5	100,0%	0	,0%	5	100,0%

#### Descriptives

kelompok	Statistic	Std. Error
kadar kelompok kontrol Mean	2,5500	,33912
95% Confidence Interval for Mean	Lower Bound	1,6085
	Upper Bound	3,4915

kelompok P1	5% Trimmed Mean		2,5556	
	Median		2,5000	
	Variance		,575	
	Std. Deviation		,75829	
	Minimum		1,50	
	Maximum		3,50	
	Range		2,00	
	Interquartile Range		1,38	
	Skewness		-,226	,913
	Kurtosis		-,139	2,000
	Mean		3,9500	,49624
	95% Confidence Interval for Mean	Lower Bound	2,5722	
		Upper Bound	5,3278	
	kelompok P2	5% Trimmed Mean		3,9444
Median			3,5000	
Variance			1,231	
Std. Deviation			1,10962	
Minimum			2,75	
Maximum			5,25	
Range			2,50	
Interquartile Range			2,13	
Skewness			,364	,913
Kurtosis			-2,701	2,000
Mean			10,3500	,61543
95% Confidence Interval for Mean		Lower Bound	8,6413	
		Upper Bound	12,0587	
kelompok P3		5% Trimmed Mean		10,2639
	Median		9,7500	
	Variance		1,894	
	Std. Deviation		1,37614	
	Minimum		9,50	
	Maximum		12,75	
	Range		3,25	
	Interquartile Range		2,00	
	Skewness		1,979	,913
	Kurtosis		3,973	2,000

### Tests of Normality

kelompok	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
kadar kelompok kontrol	,146	5	,200(*)	,992	5	,985
kelompok P1	,257	5	,200(*)	,882	5	,318
kelompok P2	,329	5	,082	,724	5	,017

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

a Lilliefors Significance Correction

## Mann-Whitney Test

### Ranks

	kelompok	N	Mean Rank	Sum of Ranks
histopatologi hepar	kelompok kontrol	5	3,00	15,00
	kelompok P1	5	8,00	40,00
	Total	10		

### Test Statistics(b)

	histopatologi hepar
Mann-Whitney U	,000
Wilcoxon W	15,000
Z	-2,627
Asymp. Sig. (2-tailed)	,009
Exact Sig. [2*(1-tailed Sig.)]	,008(a)

a Not corrected for ties.

b Grouping Variable: kelompok

### Ranks

	kelompok	N	Mean Rank	Sum of Ranks
histopatologi hepar	kelompok kontrol	5	3,00	15,00
	kelompok P2	5	8,00	40,00
	Total	10		

### Test Statistics(b)

	histopatologi hepar
Mann-Whitney U	,000
Wilcoxon W	15,000
Z	-2,619
Asymp. Sig. (2-tailed)	,009
Exact Sig. [2*(1-tailed Sig.)]	,008(a)

a Not corrected for ties.

b Grouping Variable: kelompok

### Ranks

	kelompok	N	Mean Rank	Sum of Ranks
histopatologi	kelompok P1	5	3,00	15,00
	kelompok P2	5	8,00	40,00



Total	10		
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**Test Statistics(b)**

	histopatologi
Mann-Whitney U	,000
Wilcoxon W	15,000
Z	-2,619
Asymp. Sig. (2-tailed)	,009
Exact Sig. [2*(1-tailed Sig.)]	,008(a)

a Not corrected for ties.

b Grouping Variable: kelompok

**Ranks**

kelompok		N	Mean Rank	Sum of Ranks
kadar katalase	kelompok kontrol	5	3,70	18,50
	kelompok P1	5	7,30	36,50
	Total	10		

**Test Statistics(b)**

	kadar katalase
Mann-Whitney U	3,500
Wilcoxon W	18,500
Z	-1,886
Asymp. Sig. (2-tailed)	,059
Exact Sig. [2*(1-tailed Sig.)]	,056(a)

a Not corrected for ties.

b Grouping Variable: kelompok

**Ranks**

kelompok		N	Mean Rank	Sum of Ranks
kadar katalase	kelompok kontrol	5	3,00	15,00
	kelompok P2	5	8,00	40,00
	Total	10		

**Test Statistics(b)**

	kadar katalase
Mann-Whitney U	,000
Wilcoxon W	15,000

Z	-2,619
Asymp. Sig. (2-tailed)	,009
Exact Sig. [2*(1-tailed Sig.)]	,008(a)

a Not corrected for ties.

b Grouping Variable: kelompok

#### Ranks

kelompok	N	Mean Rank	Sum of Ranks
kadar katalase kelompok P1	5	3,00	15,00
kelompok P2	5	8,00	40,00
Total	10		

#### Test Statistics(b)

	kadar katalase
Mann-Whitney U	,000
Wilcoxon W	15,000
Z	-2,619
Asymp. Sig. (2-tailed)	,009
Exact Sig. [2*(1-tailed Sig.)]	,008(a)

a Not corrected for ties.

b Grouping Variable: kelompok

## Wilcoxon-Test

#### Ranks

	N	Mean Rank	Sum of Ranks
katalase - histopatologi Negative Ranks	1(a)	1,00	1,00
Positive Ranks	4(b)	3,50	14,00
Ties	0(c)		
Total	5		

a katalase < histopatologi

b katalase > histopatologi

c katalase = histopatologi

#### Test Statistics(b)

	katalase - histopatologi
Z	-1,753(a)

Asymp. Sig. (2-tailed)	,080
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- a Based on negative ranks.  
b Wilcoxon Signed Ranks Test

#### Ranks

		N	Mean Rank	Sum of Ranks
katalase - histopatologi	Negative Ranks	0(a)	,00	,00
	Positive Ranks	5(b)	3,00	15,00
	Ties	0(c)		
	Total	5		

- a katalase < histopatologi  
b katalase > histopatologi  
c katalase = histopatologi

#### Test Statistics(b)

		katalase - histopatologi
Z		-2,023(a)
Asymp. Sig. (2-tailed)		,043

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

#### Ranks

		N	Mean Rank	Sum of Ranks
katalase - histopatologi	Negative Ranks	0(a)	,00	,00
	Positive Ranks	5(b)	3,00	15,00
	Ties	0(c)		
	Total	5		

- a katalase < histopatologi  
b katalase > histopatologi  
c katalase = histopatologi

#### Test Statistics(b)

		katalase - histopatologi
Z		-2,023(a)
Asymp. Sig. (2-tailed)		,043

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

## Lampiran 5. Dokumentasi Penelitian



**Tiga kelompok tikus wistar jantan**





### **Persiapan terminasi, terminasi, dan pengambilan sampel**



### **Alat dan bahan, uji katalase**



## Lampiran 6. Biodata mahasiswa

### Identitas

Nama : Gloria Seraphine Ratna Utari  
NIM : 22010112130162  
Tempat/tanggal lahir : Semarang, 21 Februari 1994  
Jenis Kelamin : Perempuan  
Nomor HP : 085641696113  
e-mail : gloriaseraphine@yahoo.co.id



### Riwayat Pendidikan Formal

1. SD : SD Don Bosco Semarang Lulus tahun: 2005
2. SMP : SMP Domenico Savio Semarang Lulus tahun: 2008
3. SMA : SMA Kolese Loyola Semarang Lulus tahun: 2011
4. FK UNDIP : Masuk tahun : 2012