

## LAMPIRAN

Tabel 8. Hasil pengukuran diameter tubulus seminiferi dan sel-sel spermatogenik pada kelompok kontrol (K).

No.	Objek Pengamatan	Ulangan ke-	Kelompok Mencit (n = 5)					
			K1	K2	K3	K4	K5	
1.	Diameter tubulus seminiferi ( $\mu\text{m}$ )	1	392	448	476	392	364	
		2	364	420	364	392	392	
		3	420	448	420	392	392	
		4	448	364	448	364	392	
		5	364	420	392	392	392	
		6	364	420	392	448	364	
		7	392	448	420	392	420	
		8	420	420	392	392	476	
		9	448	420	364	364	364	
		10	364	448	448	364	476	
	Jumlah			3976	4256	4116	3892	4032
	Rata-rata			397,6	425,6	411,6	389,2	404,2
	Rata-rata akhir			405,64				
	Standar Deviasi			34,52				
	2.	Jumlah spermatogonium (%)	1	20	24	27	22	28
2			21	26	26	19	28	
3			17	23	34	23	23	
4			22	30	26	26	27	
5			24	28	25	25	32	
6			23	20	29	23	25	
7			18	21	27	34	30	
8			21	23	21	15	25	
9			20	25	14	20	26	
10			19	18	22	26	33	
Jumlah			205	238	251	233	277	
Rata-rata			20,5	23,8	25,1	23,3	27,7	
Rata-rata akhir			24,08					
Standar Deviasi			4,55					
3.		Jumlah Spermatocyt (%)	1	38	31	23	38	37
	2		40	42	30	30	26	
	3		39	29	34	29	20	
	4		27	27	46	29	30	
	5		28	24	36	32	40	
	6		33	36	36	35	30	
	7		42	34	32	36	33	
	8		28	11	40	34	33	
	9		31	32	48	44	32	
	10		48	31	42	36	34	
	Jumlah			354	297	367	343	315
	Rata-rata			35,4	29,7	36,7	34,3	31,5
	Rata akhir			33,52				
	Standar Deviasi			6,96				

4.	Jumlah Spermatidium (%)	1	42	45	50	40	35
		2	39	32	44	51	46
		3	44	48	32	48	57
		4	51	43	28	45	43
		5	48	48	39	43	28
		6	44	44	35	42	45
		7	40	45	41	30	37
		8	51	66	39	51	42
		9	49	43	38	36	42
		10	33	51	36	38	33
		Jumlah		441	465	382	424
Rata-rata		44,1	46,5	38,2	42,4	40,8	
Rata-rata akhir		42,4					
Standar Deviasi		7,41					

Tabel 9. Hasil pengukuran diameter tubulus seminiferi dan sel-sel spermatogenik pada kelompok terpajan gelombang telepon seluler jenis GSM *monophonic* selama 30 hari (P1).

No.	Objek Pengamatan	Ulangan ke-	Kelompok Mencit (n = 5)					
			K1	K2	K3	K4	K5	
1.	Diameter tubulus seminiferi ( $\mu\text{m}$ )	1	336	392	336	364	392	
		2	364	364	308	364	392	
		3	392	308	392	392	364	
		4	364	364	364	336	308	
		5	420	336	364	336	364	
		6	364	308	392	336	336	
		7	336	308	336	336	336	
		8	364	308	364	392	308	
		9	392	364	364	392	336	
		10	364	364	336	420	308	
	Jumlah			3696	3416	3556	3668	3444
	Rata-rata			369,6	341,6	355,6	366,8	344,4
	Rata-rata akhir			355,6				
	Standar Deviasi			30,59				
2.	Jumlah spermatogonium (%)	1	26	24	25	20	22	
		2	23	18	28	20	20	
		3	24	26	22	19	23	
		4	20	30	21	22	24	
		5	21	29	20	25	24	
		6	20	24	23	26	20	
		7	19	14	25	24	22	
		8	24	18	24	27	24	
		9	21	27	26	17	18	
		10	22	26	24	21	20	
	Jumlah			220	236	238	221	217
	Rata-rata			22	23,6	23,8	22,1	21,7
	Rata-rata akhir			22,64				
	Standar Deviasi			3,26				
3.	Jumlah Spermatocyt (%)	1	40	37	35	50	47	
		2	57	57	32	43	58	
		3	45	45	47	48	49	
		4	43	33	44	50	50	
		5	49	29	54	47	49	
		6	51	44	45	39	48	
		7	54	53	35	44	43	
		8	48	43	48	49	48	
		9	55	25	47	57	53	
		10	56	32	47	49	46	
	Jumlah			498	398	434	476	491
	Rata-rata			49,8	39,8	43,4	47,6	49,1
	Rata akhir			45,94				
	Standar Deviasi			7,57				

4.	Jumlah Spermatidium (%)	1	34	39	40	30	31
		2	20	25	40	37	22
		3	31	29	31	33	28
		4	37	37	35	28	26
		5	30	42	26	31	27
		6	29	32	32	35	32
		7	27	33	40	32	35
		8	28	39	28	24	28
		9	24	48	27	26	29
		10	22	42	29	30	34
Jumlah			282	366	328	306	292
Rata-rata			28,2	36,6	32,8	30,6	29,2
Rata-rata akhir			31,48				
Standar Deviasi			5,86				

Tabel 10. Hasil pengukuran diameter tubulus seminiferi dan sel-sel spermatogenik pada kelompok terpajan gelombang telepon seluler jenis GSM *polyphonic* selama 30 hari (P2).

No.	Objek Pengamatan	Ulangan ke-	Kelompok Mencit (n = 5)					
			K1	K2	K3	K4	K5	
1.	Diameter tubulus seminiferi ( $\mu\text{m}$ )	1	308	336	336	336	364	
		2	392	364	392	364	392	
		3	336	364	364	336	364	
		4	364	392	308	308	392	
		5	364	420	336	364	308	
		6	308	448	280	364	364	
		7	308	364	308	336	364	
		8	364	364	336	308	364	
		9	308	336	336	308	364	
		10	336	308	308	364	308	
	Jumlah			3388	3696	3304	3388	3584
	Rata-rata			338,8	369,6	330,4	338,8	358,4
	Rata-rata akhir			347,2				
	Standar Deviasi			33,94				
2.	Jumlah spermatogonium (%)	1	16	20	14	17	22	
		2	20	25	20	21	16	
		3	14	24	22	10	20	
		4	24	26	31	20	17	
		5	23	16	16	25	26	
		6	19	25	35	22	17	
		7	17	23	23	22	23	
		8	15	24	28	14	19	
		9	24	22	24	21	24	
		10	22	20	14	23	21	
	Jumlah			194	225	227	195	205
	Rata-rata			19,4	22,5	22,7	19,5	20,5
	Rata-rata akhir			20,92				
	Standar Deviasi			4,64				
3.	Jumlah Spermatocyt (%)	1	53	51	56	51	46	
		2	49	40	48	41	48	
		3	55	47	55	51	51	
		4	59	48	45	54	58	
		5	50	55	48	49	44	
		6	53	47	38	52	52	
		7	52	48	41	42	50	
		8	49	48	46	46	54	
		9	49	48	44	52	46	
		10	50	50	50	42	44	
	Jumlah			519	482	471	480	493
	Rata-rata			51,9	48,2	47,1	48	49,3
	Rata akhir			48,9				
	Standar Deviasi			4,62				

4.	Jumlah Spermatidium (%)	1	31	29	30	32	32
		2	31	35	32	38	36
		3	36	29	24	39	29
		4	22	36	24	26	25
		5	30	29	36	36	30
		6	28	28	27	28	31
		7	31	29	36	36	27
		8	36	28	26	40	27
		9	27	30	32	27	30
		10	32	30	36	35	35
Jumlah			304	303	303	337	302
Rata-rata			30,4	30,3	30,3	33,7	30,2
Rata-rata akhir			30,98				
Standar Deviasi			4,23				

Tabel 11. Hasil pengukuran diameter tubulus seminiferi dan sel-sel spermatogenik pada kelompok terpajan gelombang telepon seluler jenis CDMA selama 30 hari (P3).

No.	Objek Pengamatan	Ulangan ke-	Kelompok Mencit (n = 5)					
			K1	K2	K3	K4	K5	
1.	Diameter tubulus seminiferi ( $\mu\text{m}$ )	1	364	336	308	308	336	
		2	364	308	336	364	308	
		3	392	308	336	364	308	
		4	420	336	308	336	392	
		5	392	364	364	308	392	
		6	392	308	364	336	308	
		7	364	364	336	336	308	
		8	336	336	280	336	336	
		9	364	336	308	280	336	
		10	420	364	336	308	308	
	Jumlah			3808	3360	3276	3276	3332
	Rata-rata			380,8	336	327,6	327,6	333,2
	Rata-rata akhir			341,04				
	Standar Deviasi			33,32				
2.	Jumlah spermatogonium (%)	1	18	20	19	23	21	
		2	17	17	25	31	26	
		3	21	26	20	16	20	
		4	23	17	22	25	19	
		5	16	19	18	21	21	
		6	14	23	21	20	23	
		7	24	24	21	22	20	
		8	26	21	23	21	21	
		9	20	15	25	24	22	
		10	22	20	20	20	21	
	Jumlah			201	202	214	223	214
	Rata-rata			20,1	20,2	21,4	22,3	21,4
	Rata-rata akhir			21,08				
	Standar Deviasi			3,18				
3.	Jumlah Spermatoct (%)	1	50	44	56	49	54	
		2	55	54	51	42	47	
		3	47	49	54	54	54	
		4	47	62	48	53	54	
		5	58	57	58	59	51	
		6	62	40	52	44	37	
		7	49	58	55	51	60	
		8	34	49	46	49	54	
		9	52	56	47	43	50	
		10	48	50	50	49	52	
	Jumlah			502	519	517	493	513
	Rata-rata			50,2	51,9	51,7	49,3	51,3
	Rata akhir			50,88				
	Standar Deviasi			5,89				

4.	Jumlah Spermatidium (%)	1	32	36	25	28	25
		2	28	29	24	27	27
		3	32	25	26	31	26
		4	30	21	30	22	27
		5	26	24	27	20	28
		6	24	37	27	36	40
		7	27	18	24	29	20
		8	40	30	31	30	25
		9	28	29	28	33	28
		10	30	30	30	31	27
		Jumlah			297	279	272
Rata-rata			29,7	27,9	27,2	28,7	27,3
Rata-rata akhir			28,16				
Standar Deviasi			4,61				



## HASIL ANALISIS STATISTIK

## ANOVA

Diameter\_tubulus\_seminiferi

	Sum of Squares	df	Mean Square	F	Sig (p)
Between Groups	129297.3	3	43099.093	39.272	0.0001
Within Groups	215098.2	196	1097.440		
Total	344395.5	199			

## Post Hoc Tests

## Multiple Comparisons

Dependent Variable: Diameter\_tubulus\_seminiferi

Tukey HSD

(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kontrol	Perlakuan 1	49.840*	6.626	.000	32.67	67.01
	Perlakuan 2	58.240*	6.626	.000	41.07	75.41
	Perlakuan 3	64.400*	6.626	.000	47.23	81.57
Perlakuan 1	Kontrol	-49.840*	6.626	.000	-67.01	-32.67
	Perlakuan 2	8.400	6.626	.585	-8.77	25.57
	Perlakuan 3	14.560	6.626	.127	-2.61	31.73
Perlakuan 2	Kontrol	-58.240*	6.626	.000	-75.41	-41.07
	Perlakuan 1	-8.400	6.626	.585	-25.57	8.77
	Perlakuan 3	6.160	6.626	.789	-11.01	23.33
Perlakuan 3	Kontrol	-64.400*	6.626	.000	-81.57	-47.23
	Perlakuan 1	-14.560	6.626	.127	-31.73	2.61
	Perlakuan 2	-6.160	6.626	.789	-23.33	11.01

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

## Homogeneous Subsets

Diameter\_tubulus\_seminiferi

Tukey HSD<sup>a</sup>

Perlakuan	N	Subset for alpha = .05	
		1	2
Perlakuan 3	50	341.04	
Perlakuan 2	50	347.20	
Perlakuan 1	50	355.60	
Kontrol	50		405.44
Sig.		.127	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 50.000.

## ANOVA

## Jumlah Spermatogonium

	Sum of Squares	df	Mean Square	F	Sig (p)
Between Groups	330.960	3	110.320	7.010	0.0001
Within Groups	3084.560	196	15.738		
Total	3415.520	199			

## Post Hoc Tests

## Multiple Comparisons

Dependent Variable: Jumlah\_Spermatogonium

Tukey HSD

(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kontrol	Perlakuan 1	1.440	.793	.269	-.62	3.50
	Perlakuan 2	3.160*	.793	.001	1.10	5.22
	Perlakuan 3	3.000*	.793	.001	.94	5.06
Perlakuan 1	Kontrol	-1.440	.793	.269	-3.50	.62
	Perlakuan 2	1.720	.793	.136	-.34	3.78
	Perlakuan 3	1.560	.793	.204	-.50	3.62
Perlakuan 2	Kontrol	-3.160*	.793	.001	-5.22	-1.10
	Perlakuan 1	-1.720	.793	.136	-3.78	.34
	Perlakuan 3	-.160	.793	.997	-2.22	1.90
Perlakuan 3	Kontrol	-3.000*	.793	.001	-5.06	-.94
	Perlakuan 1	-1.560	.793	.204	-3.62	.50
	Perlakuan 2	.160	.793	.997	-1.90	2.22

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

## Homogeneous Subsets

## Jumlah\_Spermatogonium

Tukey HSD<sup>a</sup>

Perlakuan	N	Subset for alpha = .05	
		1	2
Perlakuan 2	50	20.92	
Perlakuan 3	50	21.08	
Perlakuan 1	50	22.64	22.64
Kontrol	50		24.08
Sig.		.136	.269

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 50.000.

## ANOVA

Jumlah Spermatoct

	Sum of Squares	df	Mean Square	F	Sig (p)
Between Groups	9115.700	3	3038.567	75.054	0.0001
Within Groups	7935.080	196	40.485		
Total	17050.780	199			

## Post Hoc Tests

## Multiple Comparisons

Dependent Variable: Jumlah\_Spermatoct

Tukey HSD

(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kontrol	Perlakuan 1	-12.420*	1.273	.000	-15.72	-9.12
	Perlakuan 2	-15.380*	1.273	.000	-18.68	-12.08
	Perlakuan 3	-17.360*	1.273	.000	-20.66	-14.06
Perlakuan 1	Kontrol	12.420*	1.273	.000	9.12	15.72
	Perlakuan 2	-2.960	1.273	.096	-6.26	.34
	Perlakuan 3	-4.940*	1.273	.001	-8.24	-1.64
Perlakuan 2	Kontrol	15.380*	1.273	.000	12.08	18.68
	Perlakuan 1	2.960	1.273	.096	-.34	6.26
	Perlakuan 3	-1.980	1.273	.406	-5.28	1.32
Perlakuan 3	Kontrol	17.360*	1.273	.000	14.06	20.66
	Perlakuan 1	4.940*	1.273	.001	1.64	8.24
	Perlakuan 2	1.980	1.273	.406	-1.32	5.28

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

## Homogeneous Subsets

Jumlah\_Spermatoct

Tukey HSD<sup>a</sup>

Perlakuan	N	Subset for alpha = .05		
		1	2	3
Kontrol	50	33.52		
Perlakuan 1	50		45.94	
Perlakuan 2	50		48.90	48.90
Perlakuan 3	50			50.88
Sig.		1.000	.096	.406

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 50.000.

## ANOVA

## Jumlah\_Spermatidium

	Sum of Squares	df	Mean Square	F	Sig (p)
Between Groups	5895.815	3	1965.272	61.237	0.0001
Within Groups	6290.180	196	32.093		
Total	12185.995	199			

## Post Hoc Tests

## Multiple Comparisons

Dependent Variable: Jumlah\_Spermatidium

Tukey HSD

(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kontrol	Perlakuan 1	10.920*	1.133	.000	7.98	13.86
	Perlakuan 2	11.420*	1.133	.000	8.48	14.36
	Perlakuan 3	14.240*	1.133	.000	11.30	17.18
Perlakuan 1	Kontrol	-10.920*	1.133	.000	-13.86	-7.98
	Perlakuan 2	.500	1.133	.971	-2.44	3.44
	Perlakuan 3	3.320*	1.133	.020	.38	6.26
Perlakuan 2	Kontrol	-11.420*	1.133	.000	-14.36	-8.48
	Perlakuan 1	-.500	1.133	.971	-3.44	2.44
	Perlakuan 3	2.820	1.133	.065	-.12	5.76
Perlakuan 3	Kontrol	-14.240*	1.133	.000	-17.18	-11.30
	Perlakuan 1	-3.320*	1.133	.020	-6.26	-.38
	Perlakuan 2	-2.820	1.133	.065	-5.76	.12

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

## Homogeneous Subsets

## Jumlah\_Spermatidium

Tukey HSD<sup>a</sup>

Perlakuan	N	Subset for alpha = .05		
		1	2	3
Perlakuan 3	50	28.16		
Perlakuan 2	50	30.98	30.98	
Perlakuan 1	50		31.48	
Kontrol	50			42.40
Sig.		.065	.971	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 50.000.