BAB V
KESIMPULAN DAN SARAN

A. Kesimpulan

Berdasarkan hasil penelitian yang telah dilakukan dapat dibuat kesimpulan bahwa :

Pertama, formula yang mempunyai mutu fisik paling baik adalah emulgel ekstrak etanol daun belimbing wuluh (*Averrhoa bilimbi* L.) dengan konsentrasi 12,5%.

Kedua, sediaan emulgel ekstrak etanol daun belimbing wuluh (*Averrhoa bilimbi* L.) dengan konsentrasi 7,5%, 10% dan 12,5% memiliki aktivitas penyembuhan luka pada kondisi hiperglikemia.

Ketiga, emulgel ekstrak etanol daun belimbing wuluh (*Averrhoa bilimbi* L.) dengan konsentrasi 10% efektif dalam menyembuhkan luka pada kondisi hiperglikemia.

B. Saran

Pertama, perlu dilakukan penelitian lebih lanjut mengenai penggunaan *gelling agent* yang berbeda uji fisik emulgel untuk dibandingkan aktivitas penyembuhan luka pada kondisi hiperglikemia.

Kedua, perlu dilakukan penelitian lebih lanjut ke tingkat histologi kulit untuk mengetahui efektivitas penyembuhan luka.

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L A M P I R A N

Lampiran 1. Surat determinasi daun belimbing wuluh

KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI
UNIVERSITAS SEBELAS MARET
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM
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Nomor : 191/UN27.9.6.4/Lab/2019
H a l : Hasil Determinasi Tumbuhan
Lampiran : -

Nama Pemesan : Diah Purwitasari
NIM : 22164891A
Alamat : Program Studi S1 Farmasi Fakultas Farmasi Universitas Setia Budi Surakarta

HASIL DETERMINASI TUMBUHAN

Nama Sampel : *Averrhoa bilimbi* L.
Familia : Oxalidaceae

Hasil Determinasi menurut C.A. Backer & R.C. Bakhuizen van den Brink, Jr. (1963) :
1b-2b-3b-4b-12b-13b-14b-17b-18b-19b-20b-21b-22b-23b-24b-25b-26b-27a-28b-29b-30b-31a-32a-33a-34a-35a-36d-37b-38b-39b-41b-42b-44b-45b-46e-50b-51b-53b-54b-56b-57b-58b-59d-72b-73b-74a-75b-76a-77a-78b-103c-104b-106b-107a-108b-109a-110a-111b-112a-113a _____ **53. Oxalidaceae**
1a _____ **3. *Averrhoa***
1b _____ ***Averrhoa bilimbi* L.**

Deskripsi Tumbuhan :
Habitus : pohon, menahun, tumbuh tegak, tinggi 5-15 m. Akar : tunggang, bercabang, putih kotor atau putih kekuningan. Batang : bentuk bulat, berkayu, permukaan batang kasar berbenjol-benjol; percabangan sedikit, arahnya condong ke atas, cabang muda berambut halus seperti beludru, warnanya coklat muda. Daun : tersusun spiral, meninggalkan bekas daun berbentuk jantung atau ginjal pada batang atau cabang, daun majemuk menyirip ganjil dengan 21-45 pasang anak daun; anak daun bertangkai pendek, bentuk bulat telur sampai jorong atau memanjang, panjang 2-10 cm, lebar 1.5-3 cm, ujung runcing, pangkal membundar, tepi rata, permukaan atas hijau tua, permukaan bawah hijau muda dan berbulu halus. Bunga : bunga majemuk berupa malai menggantung, berkelompok, keluar dari batang atau percabangan yang besar, panjang perbungaan 5-20 cm, bunga kecil-kecil berbentuk bintang; kelopak bunga 5-7 mm, hijau; daun mahkota bunga bentuk lanset atau spatel, hampir bergandengan atau tidak, panjang 13-20 mm, ungu gelap sampai ungu kemerahan tapi lebih pucat pada bagian pangkalnya; benangsari 10, semuanya fertil, yang berhadapan dengan daun mahkota bunga akan menjadi staminodia (steril), panjang 3-4 cm; putik dengan tangkai putik yang sama panjangnya (*homostylus*). Buah : buah buni, bentuknya bulat lonjong bersegi, panjang 4-6.5 cm, beruang 5, tiap ruangan berisi 2-3 biji, warnanya hijau kekuningan, bila masak berair banyak, rasanya asam. Biji : bentuknya bulat telur, gepeng, panjang 6-7 mm.

Surakarta, 18 November 2019

Penanggungjawab
Determinasi Tumbuhan

Suratman, S.Si., M.Si.
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Lampiran 2. Surat *Ethical clearance*

HEALTH RESEARCH ETHICS COMITTE
KOMISI ETIK PENELITIAN KESEHATAN

Dr. Moewardi General Hospital
RSUD Dr. Moewardi

ETHICAL CLEARANCE
KELAIKAN ETIK

Nomor : 123 / I / HREC / 2020

The Health Research Ethics Committee Dr. Moewardi
Komisi Etik Penelitian Kesehatan RSUD Dr. Moewardi

after reviewing the proposal design, herewith to certify
setelah menilai rancangan penelitian yang diusulkan, dengan ini menyatakan

That the research proposal with topic :
Bahwa usulan penelitian dengan judul

FORMULASI EMULGEL EKSTRAK ETANOL DAUN BELIMBING WULUH (Averrhoa bilimbi L.) SEBAGAI PENYEMBUH LUKA DIABETES MELITUS YANG DIINDUKSI ALOKSAN PADA PUNGGUNG KELINCI New Zealand

Principal investigator : DIAH PURWITASARI
Peneliti Utama 22164891A

Location of research : Lab. Fitokimia, Lab.Formulasi dan Lab Farmakologi
Lokasi Tempat Penelitian : Fakultas Farmasi Universitas Setia Budi Surakarta

Is ethically approved
Dinyatakan layak etik

Issued on : 31 Januari 2020

Chairman
Ketua

Dr. Wahyu Dwi Atmoko., Sp.F
19770224 201001 1 004

Lampiran 3. Surat keterangan hewan uji

"ABIMANYU FARM"

√ Mencit putih jantan √ Tikus Wistar √ Swis Webster √ Cacing
√ Mencit Balb/C √ Kelinci New Zaeland

Ngampon RT 04 / RW 04. Mojosongo Kec. Jebres Surakarta. Phone 085 629 994 33 / Lab USB Ska

Yang bertanda tangan di bawah ini:
Nama : Sigit Pramono

Selaku pengelola Abimanyu Farm, menerangkan bahwa hewan uji yang digunakan untuk penelitian, oleh:

Nama	: Diah Purwitasari
Nim	: 22164891A
Institusi	: Universitas Setia Budi Surakarta

Merupakan hewan uji dengan spesifikasi sebagai berikut:

Jenis hewan	: Kelinci New Zealand
Umur	: 2-3 bulan
Jumlah	: 5 ekor
Jenis kelamin	: Jantan
Keterangan	: Sehat
Asal-usul	: Unit Pengembangan Hewan Percobaan Boyolali

Yang pengembangan dan pengelolaannya disesuaikan standar baku penelitian. Demikian surat keterangan ini dibuat untuk digunakan sebagaimana mestinya.

Surakarta, 25 Juni 2020
Hormat kami

Sigit Pramono
"ABIMANYU FARM"

Lampiran 4. Pembuatan ekstrak daun belimbing wuluh

Daun belimbing wuluh

Serbuk halus

Vacum rotary evaporator

Ekstrak daun belimbing wuluh

Lampiran 5. Perhitungan rendmen bobot kering terhadap bobot awal

Bobot basah (g)	Bobot kering (g)	Rendemen (%b/b)
10000	2700	27%

Rendemen (%) = $\frac{bobot\ kering}{bobot\ basah}$ X 100%

Rendemen (%) = $\frac{2700}{10000}$ X 100%

Rendemen (%) = 27%

Lampiran 6. Hasil pembuatan ekstrak etanol daun belimbing wuluh

Bobot serbuk (g)	Bobot ekstrak (g)	Rendemen (%)
500	110,744	22,14

Rendemen (%) = $\frac{bobot\ kering}{bobot\ basah}$ X 100%

Rendemen (%) = $\frac{110{,}744}{500}$ X 100%

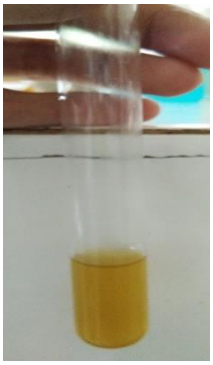
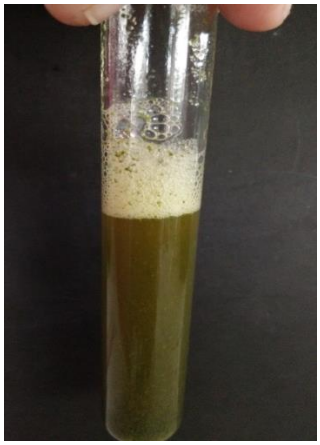
Rendemen (%) = 22,14%

Lampiran 7. Identifikasi susut pengeringan serbuk daun belimbing wuluh

Penetapan Susut Pengeringan Serbuk

Penetapan Susut Pengeringan Ekstrak

Lampiran 8. Hasil identifikasi kandungan kimia ekstrak daun belimbing wuluh

Kandungan senyawa	Hasil	
	Serbuk	Ekstrak
Flavonoid		
Saponin		

Tanin		

Lampiran 9. Identifikasi bebas etanol ekstrak daun belimbing wuluh

Lampiran 10. Perhitungan formula emulgel

Formula I (Konsentrasi 7,5%)

Ekstrak daun belimbing wuluh = $\frac{7{,}5\ gram}{100\ gram}$ x 100 gram = 7,5 gram

HPMC = $\frac{2{,}5\ gram}{100\ gram}$ x 100 gram = 2,5 gram

Parafin cair = $\frac{5\ gram}{100\ gram}$ x 100 gram = 5 gram

Span 80 = $\frac{0{,}42\ gram}{100\ gram}$ x 100 gram = 0,42 gram

Tween 80 = $\frac{1{,}08\ gram}{100\ gram}$ x 100 gram = 1,08 gram

Propilenglikol = $\frac{10\ gram}{100\ gram}$ x 100 gram = 10 gram

Metil paraben = $\frac{0{,}03\ gram}{100\ gram}$ x 100 gram = 0,03 gram

Propil paraben = $\frac{0{,}01\ gram}{100\ gram}$ x 100 gram = 0,01gram

Aquades ad = 100 – 26,54 = 73,46 gram

Formula II (Konsentrasi 10%)

Ekstrak daun belimbing wuluh = $\frac{10\ gram}{100\ gram}$ x 100 gram = 10 gram

HPMC = $\frac{2{,}5\ gram}{100\ gram}$ x 100 gram = 2,5 gram

Parafin cair = $\frac{5\ gram}{100\ gram}$ x 100 gram = 5 gram

Span 80 = $\frac{0{,}42\ gram}{100\ gram}$ x 100 gram = 0,42 gram

Tween 80 = $\frac{1{,}08\ gram}{100\ gram}$ x 100 gram = 1,08 gram

Propilenglikol $= \frac{10\ gram}{100\ gram}$ x 100 gram $= 10$ gram

Metil paraben $= \frac{0{,}03\ gram}{100\ gram}$ x 100 gram $= 0{,}03$ gram

Propil paraben $= \frac{0{,}01\ gram}{100\ gram}$ x 100 gram $= 0{,}01$gram

Aquades ad = 100 – 29,04 = 70,96 gram

Formula III (Konsentrasi 12,5%)

Ekstrak daun belimbing wuluh $= \frac{7{,}5\ gram}{100\ gram}$ x 100 gram $= 7{,}5$ gram

HPMC $= \frac{2{,}5\ gram}{100\ gram}$ x 100 gram $= 2{,}5$ gram

Parafin cair $= \frac{5\ gram}{100\ gram}$ x 100 gram $= 5$ gram

Span 80 $= \frac{0{,}42\ gram}{100\ gram}$ x 100 gram $= 0{,}42$ gram

Tween 80 $= \frac{1{,}08\ gram}{100\ gram}$ x 100 gram $= 1{,}08$ gram

Propilenglikol $= \frac{10\ gram}{100\ gram}$ x 100 gram $= 10$ gram

Metil paraben $= \frac{0{,}03\ gram}{100\ gram}$ x 100 gram $= 0{,}03$ gram

Propil paraben $= \frac{0{,}01\ gram}{100\ gram}$ x 100 gram $= 0{,}01$gram

Aquades ad = 100 – 31,54 = 68,46 gram

Formula IV (Kontrol negatif)

HPMC $= \frac{2{,}5\ gram}{100\ gram}$ x 100 gram $= 2{,}5$ gram

Parafin cair $= \frac{5\ gram}{100\ gram}$ x 100 gram $= 5$ gram

Span 80 $= \frac{0{,}42\ gram}{100\ gram}$ x 100 gram $= 0{,}42$ gram

Tween 80 $= \frac{1{,}08\ gram}{100\ gram}$ x 100 gram $= 1{,}08$ gram

Propilenglikol $= \frac{10\ gram}{100\ gram}$ x 100 gram $= 10$ gram

Metil paraben $= \frac{0{,}03\ gram}{100\ gram}$ x 100 gram $= 0{,}03$ gram

Propil paraben $= \frac{0{,}01\ gram}{100\ gram}$ x 100 gram $= 0{,}01$gram

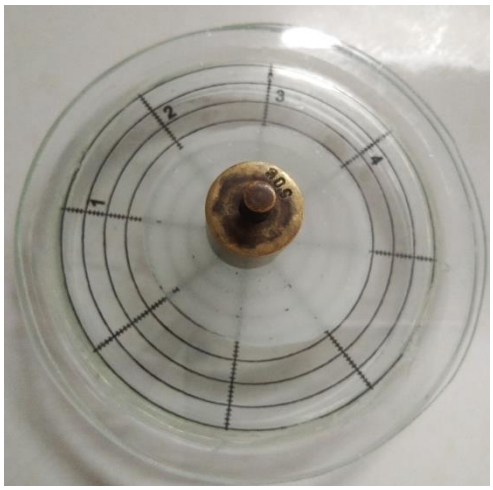
Aquades ad = 100 – 19,04 = 80,96 gram

Lampiran 11. Gambar sediaan emulgel ekstrak daun belimbing wuluh dan alat uji

Sediaan emulgel ekstrak daun belimbing wuluh

Alat uji viskositas

Alat uji pH



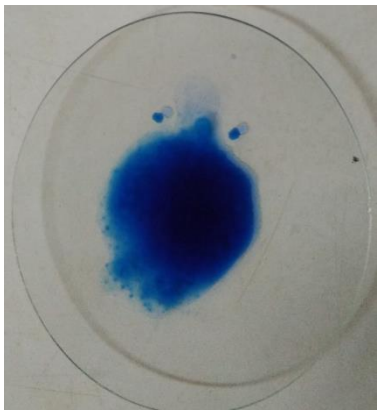
Alat uji daya sebar

Alat uji daya lekat

Uji homogenitas

Alat konduktibilitas elektrik

Metode pengenceran



Metode pewarnaan

Lampiran 12. Hasil uji pH emulgel ekstrak daun belimbing wuluh

Waktu Pengujian	Formula	Uji pH		
		Replikasi I	Replikasi II	Replikasi III
Hari ke-1	I	6,16	6,11	6,2
	II	6,09	6,03	6,08
	III	6,02	5,89	6
	IV	6,57	6,66	6,6
Hari ke-7	I	6,03	6,02	6,1
	II	5,52	5,6	5,58
	III	5,55	5,5	5,45
	IV	6,46	6,48	6,5
Hari ke-14	I	5,42	5,44	5,52
	II	5,44	5,5	5,49
	III	5,42	5,34	5,32
	IV	5,87	5,82	5,89
Hari ke-21	I	5,36	5,47	5,38
	II	5,35	5,38	5,45
	III	5,33	5,28	5,25
	IV	5,77	5,78	5,68

Lampiran 13. Hasil uji statistik pH emulgel ekstrak daun belimbing wuluh

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
pH	48	5,7773	,40263	5,28	6,66

One-Sample Kolmogorov-Smirnov Test

		pH
N		48
Normal Parameters[a,b]	Mean	5,7773
	Std. Deviation	,40263
Most Extreme Differences	Absolute	,152
	Positive	,152
	Negative	-,108
Kolmogorov-Smirnov Z		1,053
Asymp. Sig. (2-tailed)		,218

Levene's Test of Equality of Error Variances[a]

Dependent Variable: pH

F	df1	df2	Sig.
1,797	15	32	,080

Tests of Between-Subjects Effects

Dependent Variable: pH

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7,522[a]	15	,501	164,183	,000
Intercept	1602,101	1	1602,101	524562,320	,000
Hari	4,158	3	1,386	453,836	,000
Formula	2,850	3	,950	310,998	,000
Hari * Formula	,514	9	,057	18,693	,000
Error	,098	32	,003		
Total	1609,720	48			
Corrected Total	7,619	47			

a. R Squared = ,987 (Adjusted R Squared = ,981)

Post Hoc Tests

pH

Tukey HSD[a,b]

Formula	N	Subset			
		1	2	3	4
Konsentrasi 12,5%	12	5,5367			
Konsentrasi 10%	12		5,6267		
Konsentrasi 7,5%	12			5,7725	
Kontrol negatif	12				6,1733
Sig.		1,000	1,000	1,000	1,000

pH

Tukey HSD[a,b]

Hari	N	Subset			
		1	2	3	4
Hari ke-21	12	5,4625			
Hari ke-14	12		5,5467		
Hari ke-7	12			5,8992	
Hari ke-1	12				6,2008
Sig.		1,000	1,000	1,000	1,000

Lampiran 14. Hasil uji viskositas emulgel ekstrak daun belimbing wuluh

Waktu Pengujian	Formula	Uji Viskositas		
		Replikasi I	Replikasi II	Replikasi III
Hari ke-1	I	260	270	250
	II	260	280	270
	III	340	350	350
	IV	250	240	240
Hari ke-7	I	290	280	300
	II	300	300	310
	III	350	350	370
	IV	290	290	300
Hari ke-14	I	300	320	320
	II	310	330	340
	III	350	370	370
	IV	300	300	310
Hari ke-21	I	320	340	340
	II	360	360	370
	III	450	460	450
	IV	310	310	320

Lampiran 15. Hasil statistik uji viskositas emulgel ekstrak daun belimbing wuluh

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Viskositas	48	320,8333	49,84373	240,00	460,00

One-Sample Kolmogorov-Smirnov Test

		Viskositas
N		48
Normal Parameters[a,b]	Mean	320,8333
	Std. Deviation	49,84373
Most Extreme Differences	Absolute	,111
	Positive	,111
	Negative	-,067
Kolmogorov-Smirnov Z		,768
Asymp. Sig. (2-tailed)		,597

Levene's Test of Equality of Error Variances[a]

Dependent Variable: Viskositas

F	df1	df2	Sig.
1,050	15	32	,435

Tests of Between-Subjects Effects

Dependent Variable: Viskositas

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	114100,000[a]	15	7606,667	91,280	,000
Intercept	4940833,333	1	4940833,333	59290,000	,000
Hari	45916,667	3	15305,556	183,667	,000
Formula	60616,667	3	20205,556	242,467	,000
Hari * Formula	7566,667	9	840,741	10,089	,000
Error	2666,667	32	83,333		
Total	5057600,000	48			
Corrected Total	116766,667	47			

a. R Squared = ,977 (Adjusted R Squared = ,966)

Post Hoc Tests

Viskositas

Tukey HSD[a,b]

Formula	N	Subset			
		1	2	3	4
Kontrol Negatif	12	288,3333			
Konsentrasi 7,5%	12		299,1667		
Konsentrasi 10%	12			315,8333	
Konsentrasi 12,5%	12				380,0000
Sig.		1,000	1,000	1,000	1,000

Viskositas

Tukey HSD[a,b]

Hari	N	Subset			
		1	2	3	4
Hari ke-1	12	280,0000			
Hari ke-7	12		310,8333		
Hari ke-14	12			326,6667	
Hari ke-21	12				365,8333
Sig.		1,000	1,000	1,000	1,000

Lampiran 16. Hasil uji daya sebar emulgel eksrak daun belimbing wuluh

Waktu Pengujian	Formula	Beban	Daya Sebar			Rata-rata	SD
			Replikasi I	Replikasi II	Replikasi III		
Hari ke-1	I	0	4,23	4,27	4,23	4,24	0,023
		50	5,03	5,17	5,13	5,11	0,072
		100	5,67	5,67	5,57	5,64	0,058
		150	6,27	6,37	6,27	6,30	0,058
		200	6,45	6,57	6,57	6,53	0,069
	II	0	2,93	2,9	2,94	2,92	0,021
		50	3,53	3,57	3,57	3,56	0,023
		100	4,03	4,13	4,1	4,09	0,051
		150	4,47	4,43	4,47	4,46	0,023
		200	4,87	4,97	5,03	4,96	0,081
	III	0	2,8	2,77	2,73	2,77	0,035
		50	3,33	3,27	3,27	3,29	0,035
		100	3,7	3,63	3,6	3,64	0,051
		150	4	3,97	4,03	4,00	0,030
		200	4,5	4,53	4,47	4,50	0,030
	IV	0	4,87	4,78	4,83	4,83	0,045
		50	5,37	5,39	5,33	5,36	0,031
		100	5,87	5,77	5,83	5,82	0,050
		150	6,4	6,47	6,3	6,39	0,085
		200	6,6	6,63	6,73	6,65	0,068
Hari ke-7	I	0	4,13	4,1	4,1	4,11	0,017
		50	4,93	4,87	4,93	4,91	0,035
		100	5,47	5,43	5,47	5,46	0,023
		150	6,17	6,07	6,13	6,12	0,050
		200	6,37	6,33	6,27	6,32	0,050
	II	0	2,73	2,63	2,67	2,68	0,050
		50	3,3	3,2	3,27	3,26	0,051
		100	3,77	3,73	3,67	3,72	0,050
		150	4,3	4,23	4,2	4,24	0,051
		200	4,47	4,37	4,37	4,40	0,058
	III	0	2,63	2,7	2,63	2,65	0,040
		50	3,07	3,1	3,13	3,10	0,030
		100	3,63	3,57	3,57	3,59	0,035
		150	3,93	3,9	3,93	3,92	0,017
		200	4,53	4,5	4,53	4,52	0,017

	IV	0	4,07	4,2	4,17	4,15	0,068
		50	4,63	4,74	4,67	4,68	0,056
		100	5,07	5,13	5,13	5,11	0,035
		150	5,3	5,33	5,33	5,32	0,017
		200	5,57	5,67	5,6	5,61	0,051
Harike-14	I	0	3,9	3,87	3,93	3,90	0,030
		50	4,63	4,67	4,63	4,64	0,023
		100	5,23	5,27	5,2	5,23	0,035
		150	5,57	5,53	5,53	5,54	0,023
		200	6,07	6	6,03	6,03	0,035
	II	0	2,67	2,57	2,6	2,61	0,051
		50	3,1	3,07	3,03	3,07	0,035
		100	3,53	3,53	3,5	3,52	0,017
		150	4,13	4,1	4,03	4,09	0,051
		200	4,1	4,24	4,15	4,16	0,071
	III	0	2,67	2,63	2,6	2,63	0,035
		50	3,17	3,13	3,17	3,16	0,023
		100	3,6	3,5	3,5	3,53	0,058
		150	3,93	3,83	3,87	3,88	0,050
		200	4,33	4,4	4,37	4,37	0,035
	IV	0	3,87	3,87	3,77	3,84	0,058
		50	4,5	4,53	4,43	4,49	0,051
		100	4,97	4,93	5,03	4,98	0,050
		150	5,23	5,27	5,13	5,21	0,072
		200	5,53	5,53	5,44	5,50	0,052
Hari ke-21	I	0	3,37	3,48	3,41	3,42	0,056
		50	4,33	4,37	4,27	4,32	0,050
		100	5,03	5,13	5	5,05	0,068
		150	5,33	5,33	5,37	5,34	0,023
		200	5,73	5,63	5,67	5,68	0,050
	II	0	2,5	2,47	2,56	2,51	0,046
		50	2,97	2,9	2,93	2,93	0,035
		100	3,27	3,33	3,33	3,31	0,035
		150	4,03	3,97	3,97	3,99	0,035
		200	4,2	4,13	4,23	4,19	0,051
	III	0	2,63	2,57	2,57	2,59	0,035
		50	3,13	3,07	3,07	3,09	0,035
		100	3,5	3,47	3,43	3,47	0,035
		150	3,83	3,75	3,69	3,76	0,070
		200	4,03	4,1	4,07	4,07	0,035

IV	0	3,63	3,77	3,77	3,72	0,081
	50	4,33	4,27	4,23	4,28	0,050
	100	4,97	4,91	4,83	4,90	0,070
	150	4,93	5,07	5,03	5,01	0,072
	200	5,37	5,33	5,43	5,38	0,050

Lampiran 17. Hasil uji statistik daya sebar emulgel ekstrak daun belimbing wuluh

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
DayaSebar	240	4,3541	1,06500	2,47	6,73

One-Sample Kolmogorov-Smirnov Test

		DayaSebar
N		240
Normal Parameters[a,b]	Mean	4,3541
	Std. Deviation	1,06500
Most Extreme Differences	Absolute	,052
	Positive	,052
	Negative	-,041
Kolmogorov-Smirnov Z		,810
Asymp. Sig. (2-tailed)		,528

Levene's Test of Equality of Error Variances[a]

Dependent Variable: DayaSebar

F	df1	df2	Sig.
1,069	79	160	,356

Post Hoc Tests

DayaSebar

Tukey HSD[a,b]

Formula	N	Subset			
		1	2	3	4
Konsentrasi 12,5%	60	3,5260			
Konsentrasi 10%	60		3,6332		
Kontrol Negatif	60			5,0613	
Konsentrasi 7,5%	60				5,1958
Sig.		1,000	1,000	1,000	1,000

DayaSebar

Tukey HSD[a,b]

Hari	N	Subset			
		1	2	3	4
Hari ke-21	60	4,0503			
Hari ke-14	60		4,2190		
Hari ke-7	60			4,3940	
Hari ke-1	60				4,7530
Sig.		1,000	1,000	1,000	1,000

Lampiran 18. Hasil uji daya lekat emulgel ekstrak daun belimbing wuluh

Waktu Pengujian	Formula	Daya Lekat		
		Replikasi I	Replikasi II	Replikasi III
Hari ke-1	I	5,02	5,06	5,13
	II	7,36	7,4	7,38
	III	8,55	8,5	8,45
	IV	4,57	4,68	4,67
Hari ke-7	I	6,1	6,15	6,13
	II	7,83	7,8	7,81
	III	8,7	8,75	8,77
	IV	4,63	4,67	4,64
Hari ke-14	I	6,42	6,5	6,48
	II	8,14	8,2	8,17
	III	8,92	8,9	8,95
	IV	4,69	4,65	4,61
Hari ke-21	I	6,51	6,57	6,55
	II	8,19	8,21	8,25
	III	8,96	9	9,05
	IV	4,73	4,78	4,8

Lampiran 19. Hasil uji statistik daya lekat emulgel ekstrak daun belimbing wuluh

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Dayalekat	48	6,8538	1,65481	4,57	9,05

One-Sample Kolmogorov-Smirnov Test

		Dayalekat
N		48
Normal Parameters[a,b]	Mean	6,8538
	Std. Deviation	1,65481
Most Extreme Differences	Absolute	,164
	Positive	,164
	Negative	-,157
Kolmogorov-Smirnov Z		1,134
Asymp. Sig. (2-tailed)		,153

Levene's Test of Equality of Error Variances[a]

Dependent Variable: Dayalekat

F	df1	df2	Sig.
,887	15	32	,584

Tests of Between-Subjects Effects

Dependent Variable: Dayalekat

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	128,660[a]	15	8,577	6135,816	,000
Intercept	2254,747	1	2254,747	1612933,538	,000
Hari	3,916	3	1,305	933,733	,000
Formula	122,673	3	40,891	29251,392	,000
Hari * Formula	2,072	9	,230	164,652	,000
Error	,045	32	,001		
Total	2383,452	48			
Corrected Total	128,705	47			

a. R Squared = 1,000 (Adjusted R Squared = ,999)

Post Hoc Tests

Dayalekat

Tukey HSD[a,b]

Formula	N	Subset			
		1	2	3	4
Kontrol negatif	12	4,6767			
Konsentrasi 7,5%	12		6,0517		
Konsentrasi 10%	12			7,8950	
Konsentrasi 12,5%	12				8,7917
Sig.		1,000	1,000	1,000	1,000

Dayalekat

Tukey HSD[a,b]

Hari	N	Subset			
		1	2	3	4
Hari ke-1	12	6,3975			
Hari ke-7	12		6,8317		
Hari ke-14	12			7,0525	
Hari ke-21	12				7,1333
Sig.		1,000	1,000	1,000	1,000

Lampiran 20. Hasil uji statistik Repeat ANOVA, stabilitas pH emulgel ekstrak daun belimbing wuluh

Formula 1 (emulgel dengan ekstrak daun belimbing wuluh 7,5%)

Within-Subjects Factors

Measure: pH

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,196	3	.	,996	3	,878
Standardized Residual for Hari_ke7	,343	3	.	,842	3	,220
Standardized Residual for Hari_ke14	,356	3	.	,818	3	,157
Standardized Residual for Hari_ke21	,321	3	.	,881	3	,328

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: pH

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	,107	,012	,075	-,024	,237
	3	,677*	,049	,031	,142	1,211
	4	,753*	,057	,034	,133	1,373
2	1	-,107	,012	,075	-,237	,024
	3	,570*	,045	,037	,079	1,061
	4	,647*	,050	,036	,098	1,196
3	1	-,677*	,049	,031	-1,211	-,142
	2	-,570*	,045	,037	-1,061	-,079
	4	,077	,090	1,000	-,902	1,055
4	1	-,753*	,057	,034	-1,373	-,133
	2	-,647*	,050	,036	-1,196	-,098
	3	-,077	,090	1,000	-1,055	,902

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Formula 2 (emulgel dengan ekstrak daun belimbing wuluh 10%)

Within-Subjects Factors

Measure: pH

Waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,328	3	.	,871	3	,298
Standardized Residual for Hari_ke7	,349	3	.	,832	3	,194
Standardized Residual for Hari_ke14	,219	3	.	,987	3	,780
Standardized Residual for Hari_ke21	,385	3	.	,750	3	,000

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: pH

(I) Waktu	(J) Waktu	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
	2	,090	,012	,096	-,036	,216
1	3	,133	,017	,092	-,048	,315
	4	,223*	,012	,017	,093	,354
	1	-,090	,012	,096	-,216	,036
2	3	,043	,009	,234	-,053	,139
	4	,133	,022	,155	-,105	,371
	1	-,133	,017	,092	-,315	,048
3	2	-,043	,009	,234	-,139	,053
	4	,090	,023	,360	-,161	,341
	1	-,223*	,012	,017	-,354	-,093
4	2	-,133	,022	,155	-,371	,105
	3	-,090	,023	,360	-,341	,161

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Formula 3 (emulgel dengan ekstrak daun belimbing wuluh 12,5%)

Within-Subjects Factors

Measure: pH

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,333	3	.	,862	3	,274
Standardized Residual for Hari_ke7	,270	3	.	,948	3	,561
Standardized Residual for Hari_ke14	,278	3	.	,940	3	,529
Standardized Residual for Hari_ke21	,263	3	.	,955	3	,593

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: pH

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
	2	,180	,130	1,000	-1,235	1,595
1	3	,227	,137	1,000	-1,261	1,714
	4	,450	,132	,458	-,987	1,887
	1	-,180	,130	1,000	-1,595	1,235
2	3	,047	,007	,119	-,026	,119
	4	,270	,150	1,000	-1,368	1,908
	1	-,227	,137	1,000	-1,714	1,261
3	2	-,047	,007	,119	-,119	,026
	4	,223	,154	1,000	-1,456	1,903
	1	-,450	,132	,458	-1,887	,987
4	2	-,270	,150	1,000	-1,908	1,368
	3	-,223	,154	1,000	-1,903	1,456

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Formula 4 (Kontrol negatif)

Within-Subjects Factors

Measure: pH

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,253	3	.	,964	3	,637
Standardized Residual for Hari_ke7	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_ke14	,276	3	.	,942	3	,537
Standardized Residual for Hari_ke21	,353	3	.	,824	3	,174

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: pH

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
	2	,130	,025	,213	-,144	,404
1	3	,750*	,045	,022	,259	1,241
	4	,867*	,035	,010	,483	1,251
	1	-,130	,025	,213	-,404	,144
2	3	,620*	,021	,007	,393	,847
	4	,737*	,042	,019	,282	1,191
	1	-,750*	,045	,022	-1,241	-,259
3	2	-,620*	,021	,007	-,847	-,393
	4	,117	,050	,863	-,425	,659
	1	-,867*	,035	,010	-1,251	-,483
4	2	-,737*	,042	,019	-1,191	-,282
	3	-,117	,050	,863	-,659	,425

Based on estimated marginal means

Lampiran 21. Hasil uji statistik Repeat ANOVA, stabilitas viskositas emulgel ekstrak daun belimbing wuluh

Formula 1 (emulgel dengan ekstrak daun belimbing wuluh 7,5%)

Within-Subjects Factors

Measure: Viskositas

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_ke7	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_ke14	,385	3	.	,750	3	,539
Standardized Residual for Hari_ke21	,385	3	.	,750	3	,591

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: Viskositas

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
	2	-30,000	11,547	,730	-155,699	95,699
1	3	-53,333	8,819	,158	-149,338	42,671
	4	-73,333	8,819	,085	-169,338	22,671
	1	30,000	11,547	,730	-95,699	155,699
2	3	-23,333	8,819	,708	-119,338	72,671
	4	-43,333	8,819	,234	-139,338	52,671
	1	53,333	8,819	,158	-42,671	149,338
3	2	23,333	8,819	,708	-72,671	119,338
	4	-20,000	,000	.	-20,000	-20,000
	1	73,333	8,819	,085	-22,671	169,338
4	2	43,333	8,819	,234	-52,671	139,338
	3	20,000	,000	.	20,000	20,000

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Formula 2 (emulgel dengan ekstrak daun belimbing wuluh 10%)

Within-Subjects Factors

Measure: viskositas

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_ke7	,385	3	.	,750	3	,630
Standardized Residual for Hari_ke14	,253	3	.	,964	3	,637
Standardized Residual for Hari_ke21	,385	3	.	,750	3	,736

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: viskositas

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
	2	-33,333	6,667	,226	-105,906	39,239
1	3	-56,667	6,667	,081	-129,239	15,906
	4	-93,333*	6,667	,030	-165,906	-20,761
	1	33,333	6,667	,226	-39,239	105,906
2	3	-23,333	6,667	,437	-95,906	49,239
	4	-60,000	,000	.	-60,000	-60,000
	1	56,667	6,667	,081	-15,906	129,239
3	2	23,333	6,667	,437	-49,239	95,906
	4	-36,667	6,667	,189	-109,239	35,906
	1	93,333*	6,667	,030	20,761	165,906
4	2	60,000	,000	.	60,000	60,000
	3	36,667	6,667	,189	-35,906	109,239

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Formula 3 (emulgel dengan ekstrak daun belimbing wuluh 12,5%)

Within-Subjects Factors

Measure: viskositas

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_ke7	,219	3	.	,987	3	,780
Standardized Residual for Hari_ke14	,253	3	.	,964	3	,637
Standardized Residual for Hari_ke21	,175	3	.	1,000	3	1,000

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: viskositas

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
	2	-10,000	5,774	1,000	-72,850	52,850
1	3	-30,000	5,774	,211	-92,850	32,850
	4	-63,333	3,333	,057	-99,620	-27,047
	1	10,000	5,774	1,000	-52,850	72,850
2	3	-20,000	3,576	.059	-20,000	-20,000
	4	-53,333	8,819	,158	-149,338	42,671
	1	30,000	5,774	,211	-32,850	92,850
3	2	20,000	3,576	.059	20,000	20,000
	4	-33,333	8,819	,380	-129,338	62,671
	1	63,333	3,333	,057	27,047	99,620
4	2	53,333	8,819	,158	-42,671	149,338
	3	33,333	8,819	,380	-62,671	129,338

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Formula 4 (kontrol negatif)

Within-Subjects Factors

Measure: viskositas

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,314	3	.	,893	3	,363
Standardized Residual for Hari_ke7	,253	3	.	,964	3	,637
Standardized Residual for Hari_ke14	,253	3	.	,964	3	,637
Standardized Residual for Hari_ke21	,175	3	.	1,000	3	1,000

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: viskositas

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
	2	-11,667	1,667	,119	-29,810	6,476
1	3	-31,667	4,410	,113	-79,669	16,335
	4	-50,000	5,774	,078	-112,850	12,850
	1	11,667	1,667	,119	-6,476	29,810
2	3	-20,000	5,774	,445	-82,850	42,850
	4	-38,333	7,265	,205	-117,417	40,751
	1	31,667	4,410	,113	-16,335	79,669
3	2	20,000	5,774	,445	-42,850	82,850
	4	-18,333	6,009	,556	-83,749	47,083
	1	50,000	5,774	,078	-12,850	112,850
4	2	38,333	7,265	,205	-40,751	117,417
	3	18,333	6,009	,556	-47,083	83,749

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Lampiran 22. Hasil uji statistik Repeat ANOVA, stabilitas daya sebar emulgel ekstrak daun belimbing wuluh

Formula 1 (emulgel dengan ekstrak daun belimbing wuluh 7,5%)

Within-Subjects Factors

Measure: DayaSebar

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,194	15	,133	,888	15	,062
Standardized Residual for Hari_ke7	,193	15	,138	,882	15	,051
Standardized Residual for Hari_ke14	,138	15	,200*	,919	15	,187
Standardized Residual for Hari_ke21	,167	15	,200*	,909	15	,133

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

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: DayaSebar

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
	2	,180*	,021	,000	,116	,244
1	3	2,008*	,069	,000	1,798	2,218
	4	,494*	,041	,000	,368	,620
	1	-,180*	,021	,000	-,244	-,116
2	3	1,828*	,064	,000	1,631	2,025
	4	,314*	,038	,000	,198	,430
	1	-2,008*	,069	,000	-2,218	-1,798
3	2	-1,828*	,064	,000	-2,025	-1,631
	4	-1,514*	,039	,000	-1,634	-1,394
	1	-,494*	,041	,000	-,620	-,368
4	2	-,314*	,038	,000	-,430	-,198
	3	1,514*	,039	,000	1,394	1,634

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Formula 2 (emulgel dengan ekstrak daun belimbing wuluh 10%)

Within-Subjects Factors

Measure: dayasebar

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,126	15	,200*	,925	15	,232
Standardized Residual for Hari_ke7	,193	15	,138	,896	15	,082
Standardized Residual for Hari_ke14	,210	15	,074	,881	15	,049
Standardized Residual for Hari_ke21	,214	15	,062	,889	15	,065

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

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: dayasebar

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	,335*	,037	,000	,222	,449
	3	,506*	,047	,000	,361	,651
	4	,610*	,042	,000	,482	,738
2	1	-,335*	,037	,000	-,449	-,222
	3	,171*	,021	,000	,106	,235
	4	,275*	,026	,000	,195	,355
3	1	-,506*	,047	,000	-,651	-,361
	2	-,171*	,021	,000	-,235	-,106
	4	,104*	,025	,005	,028	,180
4	1	-,610*	,042	,000	-,738	-,482
	2	-,275*	,026	,000	-,355	-,195
	3	-,104*	,025	,005	-,180	-,028

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Formula 3 (emulgel dengan ekstrak daun belimbing wuluh 12,5%)

Within-Subjects Factors

Measure: sebar

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,114	15	,200*	,932	15	,292
Standardized Residual for Hari_ke7	,138	15	,200*	,919	15	,187
Standardized Residual for Hari_ke14	,115	15	,200*	,932	15	,294
Standardized Residual for Hari_ke21	,127	15	,200*	,921	15	,198

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

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: DayaSebar

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
1	2	-11,083	1,021	,219	-29,810	6,476
	3	-31,127	4,007	,513	-79,669	16,335
	4	-50,246	5,028	,078	-112,850	12,850
2	1	11,083	1,021	,219	-6,476	29,810
	3	-20,043	5,020	,435	-82,850	42,850
	4	-38,163	7,043	,185	-117,417	40,751
3	1	31,127	4,007	,513	-16,335	79,669
	2	20,043	5,020	,435	-42,850	82,850
	4	-18,119	6,026	,556	-83,749	47,083
4	1	50,256	5,028	,078	-12,850	112,850
	2	38,163	7,043	,185	-40,751	117,417
	3	18,119	6,026	,556	-47,083	83,749

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Formula 4 (kontrol negatif)

Within-Subjects Factors

Measure: dayasebar

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,160	15	,200*	,913	15	,149
Standardized Residual for Hari_ke7	,171	15	,200*	,918	15	,182
Standardized Residual for Hari_ke14	,183	15	,187	,901	15	,099
Standardized Residual for Hari_ke21	,211	15	,071	,902	15	,103

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

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: dayasebar

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	,837*	,051	,000	,680	,994
	3	1,009*	,040	,000	,888	1,131
	4	1,153*	,046	,000	1,011	1,296
2	1	-,837*	,051	,000	-,994	-,680
	3	,172*	,026	,000	,093	,251
	4	,316*	,029	,000	,228	,404
3	1	-1,009*	,040	,000	-1,131	-,888
	2	-,172*	,026	,000	-,251	-,093
	4	,144*	,026	,000	,065	,223
4	1	-1,153*	,046	,000	-1,296	-1,011
	2	-,316*	,029	,000	-,404	-,228
	3	-,144*	,026	,000	-,223	-,065

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Lampiran 23. Hasil uji statistik Repeat ANOVA, stabilitas daya lekat emulgel ekstrak daun belimbing wuluh

Formula 1 (emulgel dengan ekstrak daun belimbing wuluh 7,5%)

Within-Subjects Factors

Measure: DayaLekat

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,253	3	.	,964	3	,637
Standardized Residual for Hari_ke7	,219	3	.	,987	3	,780
Standardized Residual for Hari_ke14	,292	3	.	,923	3	,463
Standardized Residual for Hari_ke21	,253	3	.	,964	3	,637

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: DayaLekat

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-1,073*	,012	,001	-1,204	-,943
	3	-1,413*	,013	,001	-1,558	-1,268
	4	-1,490*	,012	,000	-1,616	-1,364
2	1	1,073*	,012	,001	,943	1,204
	3	-,340*	,010	,005	-,449	-,231
	4	-,417*	,003	,000	-,453	-,380
3	1	1,413*	,013	,001	1,268	1,558
	2	,340*	,010	,005	,231	,449
	4	-,077*	,007	,045	-,149	-,004
4	1	1,490*	,012	,000	1,364	1,616
	2	,417*	,003	,000	,380	,453
	3	,077*	,007	,045	,004	,149

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Formula 2 (emulgel dengan ekstrak daun belimbing wuluh 10%)

Within-Subjects Factors

Measure: DayaLekat

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_ke7	,253	3	.	,964	3	,637
Standardized Residual for Hari_ke14	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_ke21	,253	3	.	,964	3	,637

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: DayaLekat

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-,433*	,020	,013	-,654	-,213
	3	-,790*	,006	,000	-,853	-,727
	4	-,837*	,018	,003	-1,029	-,645
2	1	,433*	,020	,013	,213	,654
	3	-,357*	,026	,032	-,640	-,073
	4	-,403*	,023	,020	-,657	-,149
3	1	,790*	,006	,000	,727	,853
	2	,357*	,026	,032	,073	,640
	4	-,047	,020	,888	-,267	,174
4	1	,837*	,018	,003	,645	1,029
	2	,403*	,023	,020	,149	,657
	3	,047	,020	,888	-,174	,267

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Formula 3 (emulgel dengan ekstrak daun belimbing wuluh 12,5%)

Within-Subjects Factors

Measure: dayalekat

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_ke7	,276	3	.	,942	3	,537
Standardized Residual for Hari_ke14	,219	3	.	,987	3	,780
Standardized Residual for Hari_ke21	,196	3	.	,996	3	,878

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: dayalekat

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-,240	,049	,238	-,777	,297
	3	-,423	,039	,051	-,851	,004
	4	-,503	,055	,070	-1,101	,094
2	1	,240	,049	,238	-,297	,777
	3	-,183	,020	,072	-,404	,037
	4	-,263	,029	,057	-,359	-,167
3	1	,423	,039	,051	-,004	,851
	2	,183	,020	,072	-,037	,404
	4	-,080	,020	,343	-,298	,138
4	1	,503	,055	,070	-,094	1,101
	2	,263	,029	,057	,167	,359
	3	,080	,020	,343	-,138	,298

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Formula 4 (kontrol negatif)

Within-Subjects Factors

Measure: DayaLekat

waktu	Dependent Variable
1	Hari_ke1
2	Hari_ke7
3	Hari_ke14
4	Hari_ke21

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_ke1	,356	3	.	,818	3	,157
Standardized Residual for Hari_ke7	,292	3	.	,923	3	,463
Standardized Residual for Hari_ke14	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_ke21	,276	3	.	,942	3	,537

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: DayaLekat

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
	2	-,007	,027	1,000	-,304	,290
1	3	-,010	,056	1,000	-,616	,596
	4	-,130	,017	,104	-,319	,059
	1	,007	,027	1,000	-,290	,304
2	3	-,003	,028	1,000	-,313	,307
	4	-,123	,019	,131	-,325	,079
	1	,010	,056	1,000	-,596	,616
3	2	,003	,028	1,000	-,307	,313
	4	-,120	,044	,663	-,595	,355
	1	,130	,017	,104	-,059	,319
4	2	,123	,019	,131	-,079	,325
	3	,120	,044	,663	-,355	,595

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Lampiran 24. Data berat badan dan gula darah Kelinci *New Zealand*

No Kelinci	Berat Badan Kelinci (kilogram)	Gula Darah Awal (mg/dL)	Gula Darah hari ke-3 (mg/dL)	Gula Darah hari ke-6 (mg/dL)	Gula Darah hari ke-15 (mg/dL)
1	3	83	257	242	231
2	2,9	87	252	241	231
3	2,6	75	250	239	235
4	2,8	85	252	240	219
5	2,6	78	251	240	235

Lampiran 25. Data perhitungan dosis aloksan

Diketahui :

Berat badan standar kelinci : 1,5 kg

Dosis : 150 mg/kgBB

Aloksan 1% = $\frac{1 gram}{100\ ml}$ = 10mg/ml

Perhitungan dosis kelinci 1

$\frac{3\ kg}{1{,}5\ kg}\ x\ 150\ mg/kgBB$ = 300 mg

Volume pemberian = $\frac{300\ mg}{10\ mg}\ x\ 1\ ml = 30\ ml$

Karena volume pemberian terlalu besar, maka volumenya dipekatkan menjadi 5 ml, sehingga konsentrasi aloksan yang digunakan yaitu

V1 x C1 = V2 x C2

5ml x C1 = 30 ml x 300 mg

C1 = 1800 mg

Perhitungan dosis kelinci 2

$\frac{2{,}9\ kg}{1{,}5\ kg}\ x\ 150\ mg/kgBB$ = 290 mg

Volume pemberian = $\frac{290\ mg}{10\ mg}\ x\ 1\ ml = 29\ ml$

Karena volume pemberian terlalu besar, maka volumenya dipekatkan menjadi 5 ml, sehingga konsentrasi aloksan yang digunakan yaitu

V1 x C1 = V2 x C2

5ml x C1 = 29 ml x 290 mg

C1 = 1682 mg

Perhitungan dosis kelinci 3

$\frac{2{,}6\ kg}{1{,}5\ kg}\ x\ 150\ mg/kgBB$ = 260 mg

Volume pemberian = $\frac{260\ mg}{10\ mg}\ x\ 1\ ml = 26\ ml$

Karena volume pemberian terlalu besar, maka volumenya dipekatkan menjadi 5 ml, sehingga konsentrasi aloksan yang digunakan yaitu

V1 x C1 = V2 x C2

5ml x C1 = 26 ml x 260 mg

C1 = 1352 mg

Perhitungan dosis kelinci 4

$\frac{2{,}8\ kg}{1{,}5\ kg}\ x\ 150\ mg/kgBB$ = 280 mg

Volume pemberian = $\frac{260\ mg}{10\ mg}\ x\ 1\ ml = 28\ ml$

Karena volume pemberian terlalu besar, maka volumenya dipekatkan menjadi 5 ml, sehingga konsentrasi aloksan yang digunakan yaitu

V1 x C1 = V2 x C2

5ml x C1 = 28 ml x 280 mg

C1 = 1568 mg

Perhitungan dosis kelinci 5

$\frac{2{,}6\ kg}{1{,}5\ kg}\ x\ 150\ mg/kgBB$ = 260 mg

Volume pemberian = $\frac{260\ mg}{10\ mg}\ x\ 1\ ml = 26\ ml$

Karena volume pemberian terlalu besar, maka volumenya dipekatkan menjadi 5 ml, sehingga konsentrasi aloksan yang digunakan yaitu

V1 x C1 = V2 x C2

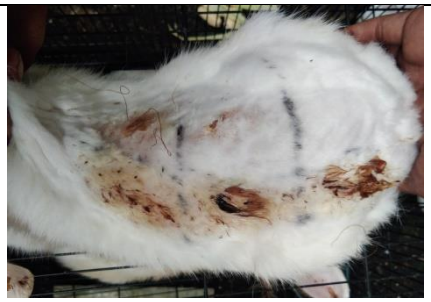
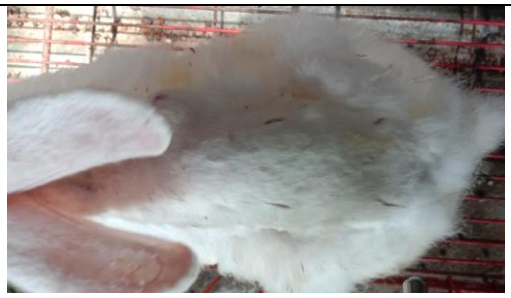
5ml x C1 = 26 ml x 260 mg

C1 = 1352 mg

Lampiran 26. Gambar aktivitas penyembuhan luka sayat

Uji aktivitas penyembuhan luka	
Hari ke-2	
	
	
	

	
Hari ke-8	
	
	

	
	
Hari ke-14	
	

Lampiran 27. Hasil uji aktivitas penyembuhan luka sayat

Hari	Rata-rata persen pengecilan panjang luka sayat (%) ± SD				
	Kontrol negatif [b]	Formula 7,5% [ab]	Formula 10% [a]	Formula 12,5% [a]	Kontrol positif
Ke-0	0 ± 0	0 ± 0	0 ± 0	0 ± 0	0 ± 0
Ke-2	5,84 ± 0,13	8,59 ± 1,90	12,92 ± 2,89	15,84 ± 6,16	18,72 ± 3,54
Ke-4	10,66 ± 2,04	20,33 ± 2,58	23,84 ± 4,48	29,49 ± 5,30	31,59 ± 4,83
Ke-6	15,52 ± 2,00	29,47 ± 3,77	37,73 ± 5,03	43,13 ± 4,82	47,51 ± 6,96
Ke-8	21,33 ± 4,08	38,32 ± 4,05	52,52 ± 4,33	64,75 ± 6,98	66,35 ± 6,88
Ke-10	29,04 ± 7,92	52,33 ± 6,43	66,32 ± 3,97	83,59 ± 6,82	84,22 ± 3,84
Ke-12	38,80 ± 8,74	62,24 ± 3,88	80,15 ± 6,21	96,31 ± 5,94	100 ± 0,00
Ke-14	49,52 ± 5,16	74,30 ± 1,66	99 ± 2,24	100 ± 0,00	100 ± 0,00

Lampiran 28. Hasil statistik uji aktivitas penyembuhan luka sayat

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Persen_Sembuh	175	48,8668	30,28399	4,76	100,00

One-Sample Kolmogorov-Smirnov Test

		Persen_Sembuh
N		175
Normal Parameters[a,b]	Mean	48,8668
	Std. Deviation	30,28399
Most Extreme Differences	Absolute	,099
	Positive	,099
	Negative	-,086
Kolmogorov-Smirnov Z		1,311
Asymp. Sig. (2-tailed)		,064

Oneway

Descriptives

Persen_Sembuh

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Kontrol negatif	35	24,2489	15,67776	2,65002	18,8634	29,6344	4,76	57,14
Formula 7,5%	35	40,8014	22,31538	3,77199	33,1358	48,4670	5,26	75,68
Formula 10%	35	53,2134	29,26888	4,94734	43,1592	63,2676	9,09	100,00
Formula 12,5%	35	62,0114	31,81373	5,37750	51,0830	72,9398	10,00	100,00
Kontrol positif	35	64,0589	30,90662	5,22417	53,4421	74,6757	15,00	100,00
Total	175	48,8668	30,28399	2,28925	44,3485	53,3851	4,76	100,00

Test of Homogeneity of Variances

Persen_Sembuh

Levene Statistic	df1	df2	Sig.
9,151	4	170	,000

ANOVA

Persen_Sembuh

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	38274,823	4	9568,706	13,410	,000
Within Groups	121304,105	170	713,554		
Total	159578,927	174			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Persen_Sembuh

Dunnett T3

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kontrol negatif	Formula 7,5%	-16,55257*	4,60983	,007	-29,9142	-3,1909
	Formula 10%	-28,96457*	5,61238	,000	-45,3301	-12,5991
	Formula 12,5%	-37,76257*	5,99501	,000	-55,2789	-20,2462
	Kontrol positif	-39,81000*	5,85787	,000	-56,9137	-22,7063
Formula 7,5%	Kontrol negatif	16,55257*	4,60983	,007	3,1909	29,9142
	Formula 10%	-12,41200	6,22126	,391	-30,4192	5,5952
	Formula 12,5%	-21,21000*	6,56852	,020	-40,2495	-2,1705
	Kontrol positif	-23,25743*	6,44359	,006	-41,9250	-4,5899
Formula 10%	Kontrol negatif	28,96457*	5,61238	,000	12,5991	45,3301
	Formula 7,5%	12,41200	6,22126	,391	-5,5952	30,4192
	Formula 12,5%	-8,79800	7,30710	,921	-29,9064	12,3104
	Kontrol positif	-10,84543	7,19501	,754	-31,6275	9,9366
Formula 12,5%	Kontrol negatif	37,76257*	5,99501	,000	20,2462	55,2789
	Formula 7,5%	21,21000*	6,56852	,020	2,1705	40,2495
	Formula 10%	8,79800	7,30710	,921	-12,3104	29,9064
	Kontrol positif	-2,04743	7,49730	1,000	-23,7012	19,6063
Kontrol positif	Kontrol negatif	39,81000*	5,85787	,000	22,7063	56,9137
	Formula 7,5%	23,25743*	6,44359	,006	4,5899	41,9250
	Formula 10%	10,84543	7,19501	,754	-9,9366	31,6275
	Formula 12,5%	2,04743	7,49730	1,000	-19,6063	23,7012

*. The mean difference is significant at the 0.05 level.