

BAB V

KESIMPULAN DAN SARAN

A. Kesimpulan

Berdasarkan hasil penelitian uji mutu fisik sediaan pasta gigi ekstrak daun sirih dengan variasi konsentrasi Na CMC sebagai pengikat dapat disimpulkan bahwa:

1. Semakin meningkatnya konsentrasi Na CMC pada sediaan pasta gigi ekstrak daun sirih (*Piper betle L.*) berpengaruh terhadap peningkatan viskositas sediaan pasta gigi.
2. Konsentrasi Na CMC 3% dalam formulasi pasta gigi ekstrak daun sirih mempunyai mutu fisik yang paling baik.

B. Saran

saran yang dapat diberikan untuk penelitian pasta gigi ekstrak daun sirih (*Piper betle L.*) dengan variasi konsentrasi Na CMC:

Pertama, perlu dilakukan penelitian lebih lanjut untuk mengembangkan hasil penelitian yang lebih akurat dan efek penggunaan pasta gigi ekstrak daun sirih (*Piper betle L.*)

Kedua, perlu dilakukan pengujian anti bakteri setelah dilakukan pembuatan pasta gigi.

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LAMPIRAN

Lampiran 1. Perhitungan rendemen serbuk

$$\begin{aligned}\text{Rendemen} &= \frac{\text{bobot kering serbuk}}{\text{bobot basah}} \times 100\% \\ &= \frac{850 \text{ g}}{4000 \text{ g}} \times 100\% \\ &= 21,25 \%\end{aligned}$$

Lampiran 2. Perhitungan rendemen ekstrak

$$\begin{aligned}\text{Rendemen} &= \frac{\text{bobot ekstrak}}{\text{berat serbuk}} \times 100\% \\ &= \frac{21,14 \text{ g}}{300 \text{ g}} \times 100\% \\ &= 7,04 \%\end{aligned}$$

Lampiran 3. Sediaan pasta gigi minggu ke 0



Bentuk sediaan yang dibuat



Pemeriksaan pH pasta gigi pada minggu ke 0



Viskositas pasta gigi F1 minggu ke 0



viskositas pasta gigi F2 minggu ke 0



Viskositas F3 pada minggu 0

Lampiran 4. Sediaan pasta gigi minggu ke 1



Sediaan pada minggu pertama



Viskositas F1 minggu ke 1



Viskositas F2 minggu ke 1



Viskositas F3 minggu ke 1

Lampiran 4. Sediaan pasta gigi minggu kedua



Sediaan pasta gigi minggu ke 2



Viskositas F1 minggu ke 2



Viskositas F2 minggu ke 2



Viskositas F3 minggu 2

Lampiran 5. Sediaan pasta gigi minggu ketiga



Sediaan pasta gigi pada minggu ke 3

Lampiran 6. Hasil Analisis Pengujian Viskositas minggu ke 0

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
viskositas	9	265,56	47,199	200	310

One-Sample Kolmogorov-Smirnov Test

		Viskositas
N		9
Normal Parameters ^{a,b}	Mean	265,56
	Std. Deviation	47,199
Most Extreme Differences	Absolute	,364
	Positive	,214
	Negative	-,364
Kolmogorov-Smirnov Z		1,093
Asymp. Sig. (2-tailed)		,183

a. Test distribution is Normal.

b. Calculated from data.

Oneway

Test of Homogeneity of Variances

viskositas

Levene Statistic	df1	df2	Sig.
,364	2	6	,709

ANOVA

viskositas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17488,889	2	8744,444	157,400	,000
Within Groups	333,333	6	55,556		
Total	17822,222	8			

Oneway

Test of Homogeneity of Variances

viskositas

Levene Statistic	df1	df2	Sig.
,364	2	6	,709

ANOVA

viskositas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17488,889	2	8744,444	157,400	,000
Within Groups	333,333	6	55,556		
Total	17822,222	8			

Post Hoc Tests

Homogeneous Subsets

Viskositas

Student-Newman-Keuls^a

formula pasta gigi	N	Subset for alpha = 0.05	
		1	2
formula 1	3	203,33	
formula 2	3		293,33
formula 3	3		300,00
Sig.		1,000	,315

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Lampiran 7. Hasil Analisis Pengujian Viskositas minggu kedua

NPar Tests

Notes		
Output Created		28-JUN-2019 07:40:02
Comments		
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	12
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each test are based on all cases with valid data for the variable(s) used in that test.
Syntax		NPAR TESTS /K-S(NORMAL)=viskostas /STATISTICS DESCRIPTIVES /MISSING ANALYSIS.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.26
	Number of Cases Allowed ^a	196608

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
viskostas	9	265,56	47,199	200	310

One-Sample Kolmogorov-Smirnov Test

		viskostas
N		9
Normal Parameters ^{a,b}	Mean	265,56
	Std. Deviation	47,199
Most Extreme Differences	Absolute	,364
	Positive	,214
	Negative	-,364
Kolmogorov-Smirnov Z		1,093
Asymp. Sig. (2-tailed)		,183

a. Test distribution is Normal.

b. Calculated from data.

Oneway

Notes

Output Created		28-JUN-2019 07:41:16
Comments		
Input	Active Dataset	DataSet0
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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax		ONEWAY viskostas BY formulasipastagigi /STATISTICS HOMOGENEITY /MISSING ANALYSIS.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.08

[DataSet0]

Test of Homogeneity of Variances

viskostas

Levene Statistic	df1	df2	Sig.
,364	2	6	,709

ANOVA

viskostas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17488,889	2	8744,444	157,400	,000
Within Groups	333,333	6	55,556		
Total	17822,222	8			

Oneway

Notes

Output Created	28-JUN-2019 07:51:55	
Comments		
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	12
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax	ONEWAY viskostas BY formulasipastagigi /STATISTICS HOMOGENEITY /MISSING ANALYSIS /POSTHOC=SNK ALPHA(0.05).	
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.10

Test of Homogeneity of Variances

viskostas

Levene Statistic	df1	df2	Sig.
,364	2	6	,709

ANOVA

viskostas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17488,889	2	8744,444	157,400	,000
Within Groups	333,333	6	55,556		
Total	17822,222	8			

Post Hoc Tests Homogeneous Subsets

Viskositas

Student-Newman-Keuls^a

formula pasta gigi	N	Subset for alpha = 0.05	
		1	2
formula 1	3	203,33	
formula 2	3		293,33
formula 3	3		300,00
Sig.		1,000	,315

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Lampiran 8. Hasil Analisis Pengujian Viskositas minggu ketiga

NPar Tests

Notes		
Output Created		28-JUN-2019 08:01:59
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	9
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each test are based on all cases with valid data for the variable(s) used in that test.
Syntax		NPAR TESTS /K-S(NORMAL)=viskositas /STATISTICS DESCRIPTIVES /MISSING ANALYSIS.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
	Number of Cases Allowed ^a	196608

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
viskositas	9	252,22	57,831	150	300

One-Sample Kolmogorov-Smirnov Test

		viskositas
N		9
Normal Parameters ^{a,b}	Mean	252,22
	Std. Deviation	57,831
Most Extreme Differences	Absolute	,299
	Positive	,204
	Negative	-,299
Kolmogorov-Smirnov Z		,896
Asymp. Sig. (2-tailed)		,398

a. Test distribution is Normal.

b. Calculated from data.

Oneway

Notes

Output Created	28-JUN-2019 08:02:54	
Comments		
Input	Active Dataset	DataSet0
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	9
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax	ONEWAY viskositas BY formulasipastagigi /STATISTICS HOMOGENEITY /MISSING ANALYSIS.	
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.06

Test of Homogeneity of Variances

viskositas

Levene Statistic	df1	df2	Sig.
3,564	2	6	,095

ANOVA

viskositas

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	23888,889	2	11944,444	25,000	,001
Within Groups	2866,667	6	477,778		
Total	26755,556	8			

ONEWAY viskositas BY formulasipastagigi

Oneway

Notes

Output Created		28-JUN-2019 08:03:45
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	9
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax		ONEWAY viskositas BY formulasipastagigi /STATISTICS HOMOGENEITY /MISSING ANALYSIS /POSTHOC=SNK ALPHA(0.05).
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.04

Test of Homogeneity of Variances

viskositas

Levene Statistic	df1	df2	Sig.
3,564	2	6	,095

ANOVA

viskositas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	23888,889	2	11944,444	25,000	,001
Within Groups	2866,667	6	477,778		
Total	26755,556	8			

Post Hoc Tests

Homogeneous Subsets

viskositas

Student-Newman-Keuls^a

formula pasta gigi	N	Subset for alpha = 0.05	
		1	2
formula 1	3	180,00	
formula 2	3		280,00
formula 3	3		296,67
Sig.		1,000	,386

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Lampiran 9. Hasil Analisis Pengujian Viskositas minggu ketiga

NPar Tests

Notes		
Output Created		28-JUN-2019 08:09:05
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	9
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each test are based on all cases with valid data for the variable(s) used in that test.
Syntax		NPAR TESTS /K-S(NORMAL)=viskositas /STATISTICS DESCRIPTIVES /MISSING ANALYSIS.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
	Number of Cases Allowed ^a	196608

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
visksitas	9	202,22	38,333	150	250

One-Sample Kolmogorov-Smirnov Test

		visksitas
N		9
Normal Parameters ^{a,b}	Mean	202,22
	Std. Deviation	38,333
Most Extreme Differences	Absolute	,190
	Positive	,190
	Negative	-,171
Kolmogorov-Smirnov Z		,569
Asymp. Sig. (2-tailed)		,902

Oneway

Notes

Output Created	28-JUN-2019 08:09:42	
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data	9
	File	
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax		ONEWAY viskositas BY formulasipastagigi /STATISTICS HOMOGENEITY /MISSING ANALYSIS.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.03

Test of Homogeneity of Variances

visksitas

Levene Statistic	df1	df2	Sig.
8,000	2	6	,020

ANOVA

visksitas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10555,556	2	5277,778	26,389	,001
Within Groups	1200,000	6	200,000		
Total	11755,556	8			

Test of Homogeneity of Variances

visksitas

Levene Statistic	df1	df2	Sig.
8,000	2	6	,020

ANOVA

visksitas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10555,556	2	5277,778	26,389	,001
Within Groups	1200,000	6	200,000		
Total	11755,556	8			

Post Hoc Tests Homogeneous Subsets

visksitas

Student-Newman-Keuls^a

formula pasta gigi	N	Subset for alpha = 0.05		
		1	2	3
formula 1	3	163,33		
formula 2	3		196,67	
formula 3	3			246,67
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.