```
 GET
  FILE='C:\Users\LENOVO\Documents\ImAnisah\Statistics\TOCO T3\SF36 NHP\SF36 an
d NHP scores.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
COMPUTE NHPtotal_pre=(NHPpreop_EL + NHPpreop_P + NHPpreop_ER + NHPpreop_S + NH
Ppreop_SI +
    NHPpreop_PA) / 6.
EXECUTE.
COMPUTE NHPtotal_discaj=(NHPdiscaj_EL + NHPdiscaj_P + NHPdiscaj_ER + NHPdiscaj
_S + NHPdiscaj_SI +
    NHPdiscaj_PA) / 6.
EXECUTE.
COMPUTE NHPtotal_fup=(NHPfup_EL + NHPfup_P + NHPfup_ER + NHPfup_S + NHPfup_SI
+ NHPfup_PA) / 6.
EXECUTE.
EXAMINE VARIABLES=SF36_total_preop SF36_total_discaj SF36_total_fup
  /PLOT BOXPLOT STEMLEAF HISTOGRAM NPPLOT
  /COMPARE GROUPS
  /STATISTICS DESCRIPTIVES
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.
```

Explore

Notes

Output Created		14-OCT-2022 12:14:54
Comments		
Input	Data	C:\Users\LENOVO\Documents\ImAnisah\Statistics\TOCO T3\SF36 NHP\SF36 and NHP scores.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values for dependent variables are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any dependent variable or factor used.
Syntax		EXAMINE VARIABLES=SF36_total_preop SF36_total_discaj SF36_total_fup /PLOT BOXPLOT STEMLEAF HISTOGRAM NPPLOT /COMPARE GROUPS /STATISTICS DESCRIPTIVES /CINTERVAL 95 /MISSING LISTWISE /NOTOTAL.
Resources	Processor Time	00:00:02.97
	Elapsed Time	00:00:02.00

[DataSet1] C:\Users\LENOVO\Documents\ImAnisah\Statistics\TOCO T3\SF36 NHP\SF36 and NHP scores.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
SF36_total_preop	220	88.0%	30	12.0%	250	100.0%
SF36_total_discaj	220	88.0%	30	12.0%	250	100.0%
SF36_total_fup	220	88.0%	30	12.0%	250	100.0%

Descriptives

			Statistic	Std. Error
SF36_total_preop	Mean		70.04	.804
	95% Confidence Interval for Mean	Lower Bound	68.46	
		Upper Bound	71.63	
	5% Trimmed Mean		69.86	
	Median		68.00	
	Variance		142.350	
	Std. Deviation		11.931	
	Minimum		30	
	Maximum		98	
	Range		68	
	Interquartile Range		17	
	Skewness		.273	.164
	Kurtosis		-.139	.327
SF36_total_discaj	Mean		73.09	.858
	95% Confidence Interval for Mean	Lower Bound	71.39	
		Upper Bound	74.78	
	5% Trimmed Mean		73.48	
	Median		72.00	
	Variance		162.098	
	Std. Deviation		12.732	
	Minimum		27	
	Maximum		98	
	Range		71	
	Interquartile Range		20	
	Skewness		-.373	.164
	Kurtosis		-.027	.327
SF36_total_fup	Mean		80.65	1.040

Descriptives

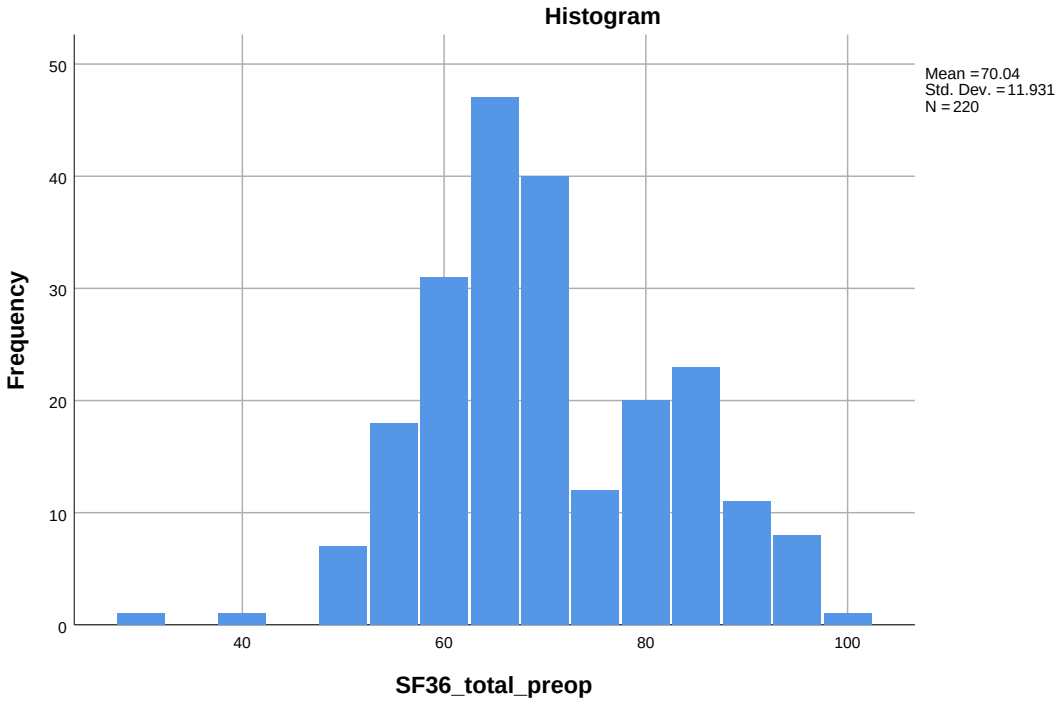
			Statistic	Std. Error
	95% Confidence Interval for Mean	Lower Bound	78.60	
		Upper Bound	82.70	
	5% Trimmed Mean		81.79	
	Median		86.00	
	Variance		238.118	
	Std. Deviation		15.431	
	Minimum		30	
	Maximum		100	
	Range		70	
	Interquartile Range		21	
	Skewness		-1.033	.164
	Kurtosis		.316	.327

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
SF36_total_preop	.110	220	.000	.971	220	.000
SF36_total_discaj	.073	220	.007	.972	220	.000
SF36_total_fup	.151	220	.000	.892	220	.000

a. Lilliefors Significance Correction

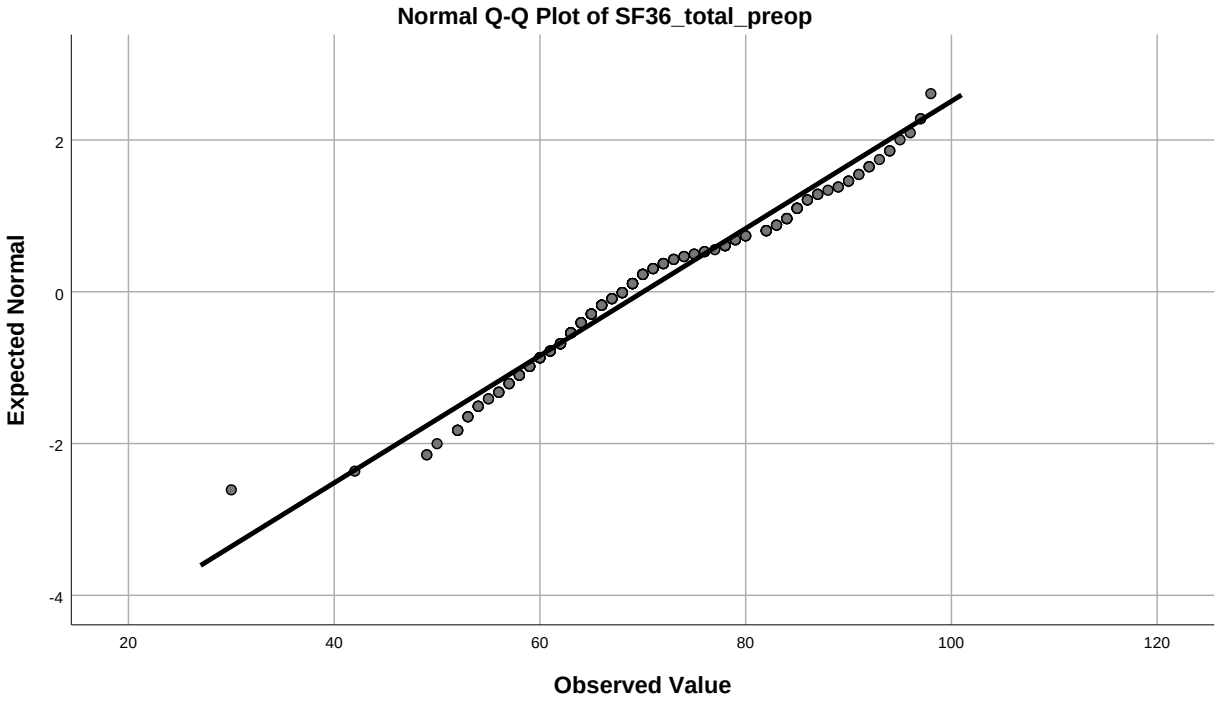
SF36_total_preop

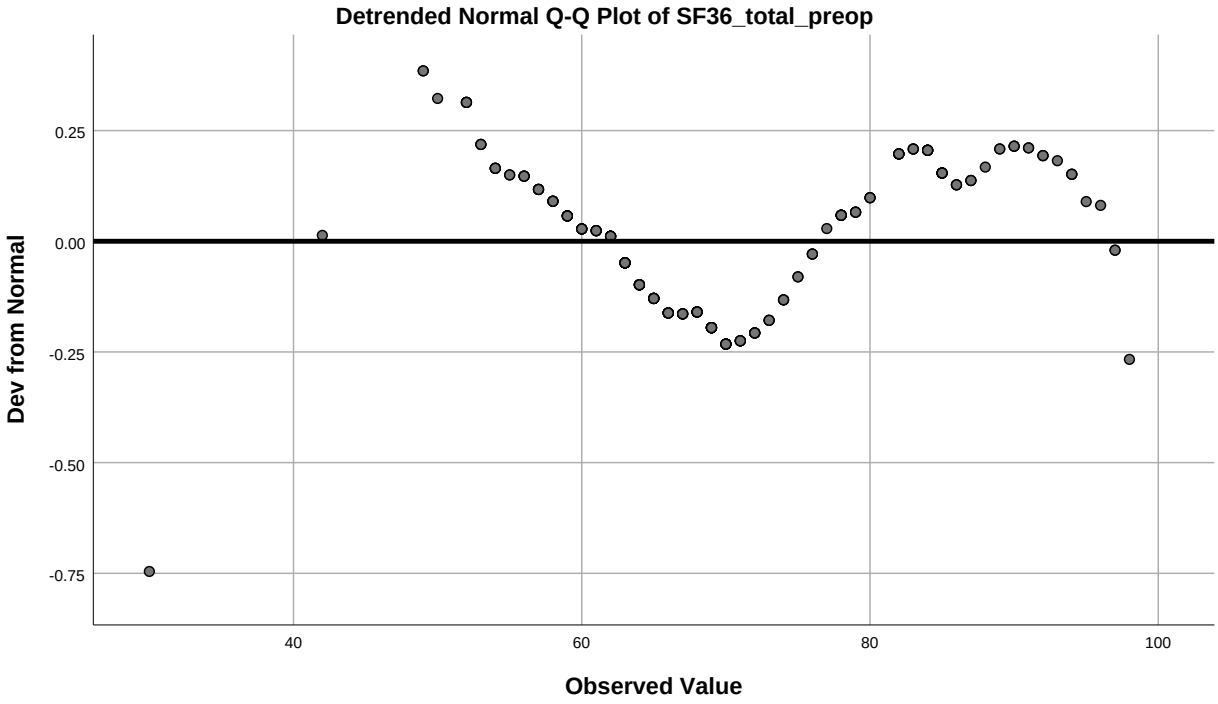


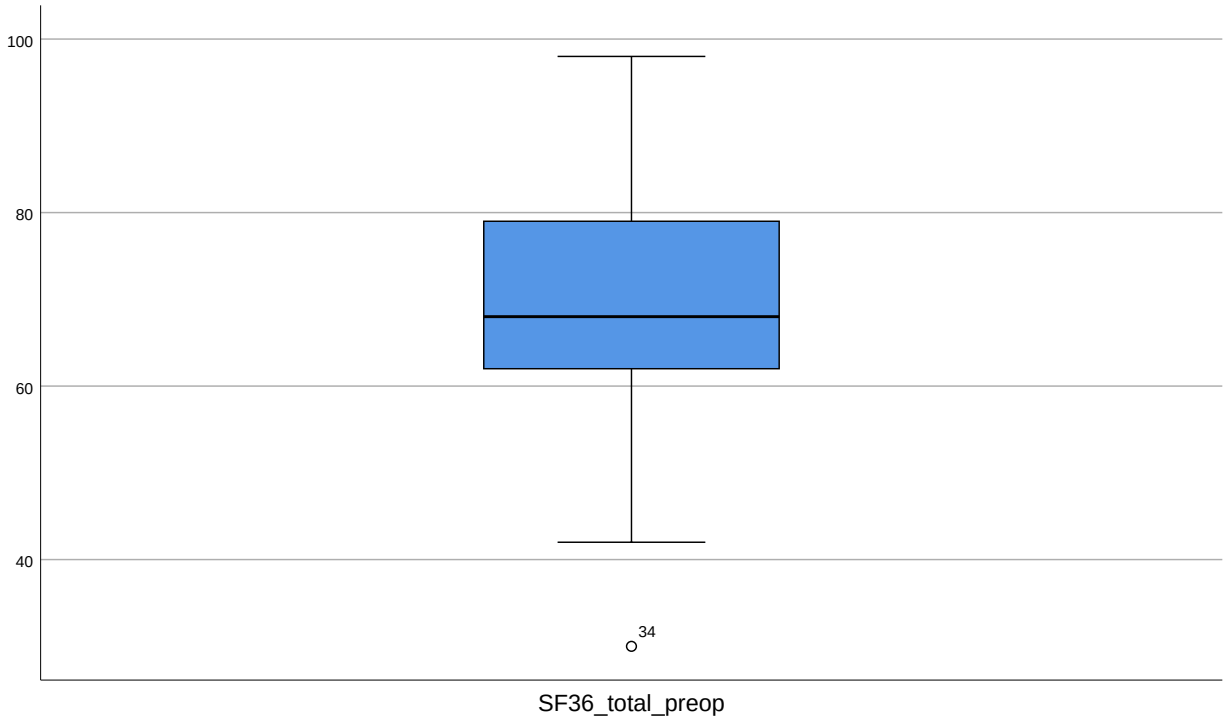
SF36_total_preop Stem-and-Leaf Plot

Frequency	Stem &	Leaf
1.00	Extremes	(=<30)
1.00	4 .	2
2.00	4 .	99
12.00	5 .	022223334444
23.00	5 .	55666777778888899999
40.00	6 .	0000001111122222223333333333333444444444
47.00	6 .	55555555556666666667777778888888899999999999999
25.00	7 .	0000000011111222222333444
17.00	7 .	55666788888889999
19.00	8 .	0002222223334444444
16.00	8 .	5555555666777899
12.00	9 .	000112223444
5.00	9 .	56778

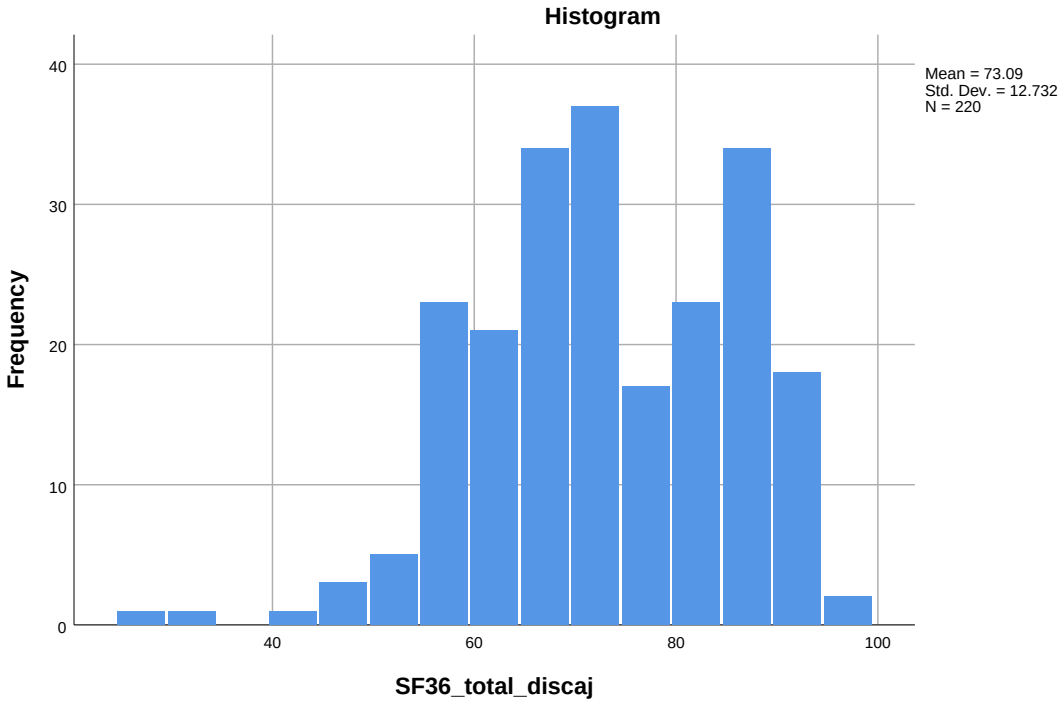
Stem width: 10
Each leaf: 1 case(s)


Normal Q-Q Plot of SF36_total_preop
Expected Normal
2
0
-2
-4
20
40
60
80
100
120
Observed Value


Detrended Normal Q-Q Plot of SF36_total_preop
Dev from Normal
0.25
0.00
-0.25
-0.50
-0.75
40
60
80
100
Observed Value

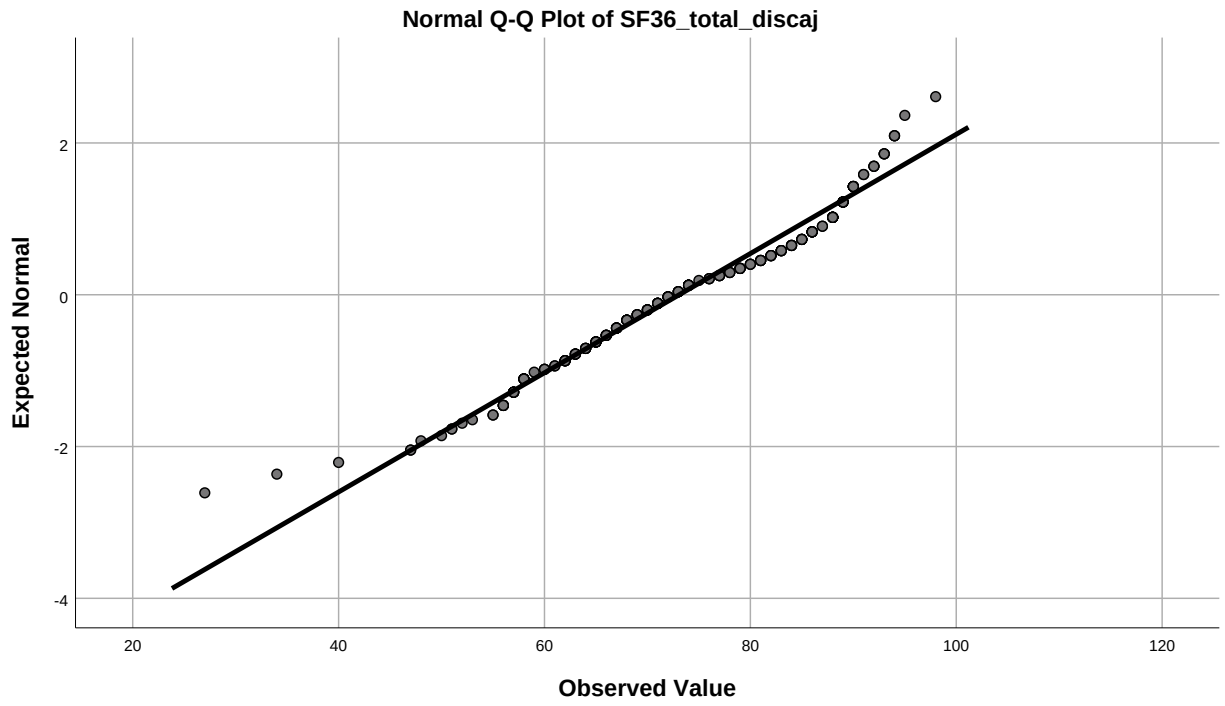


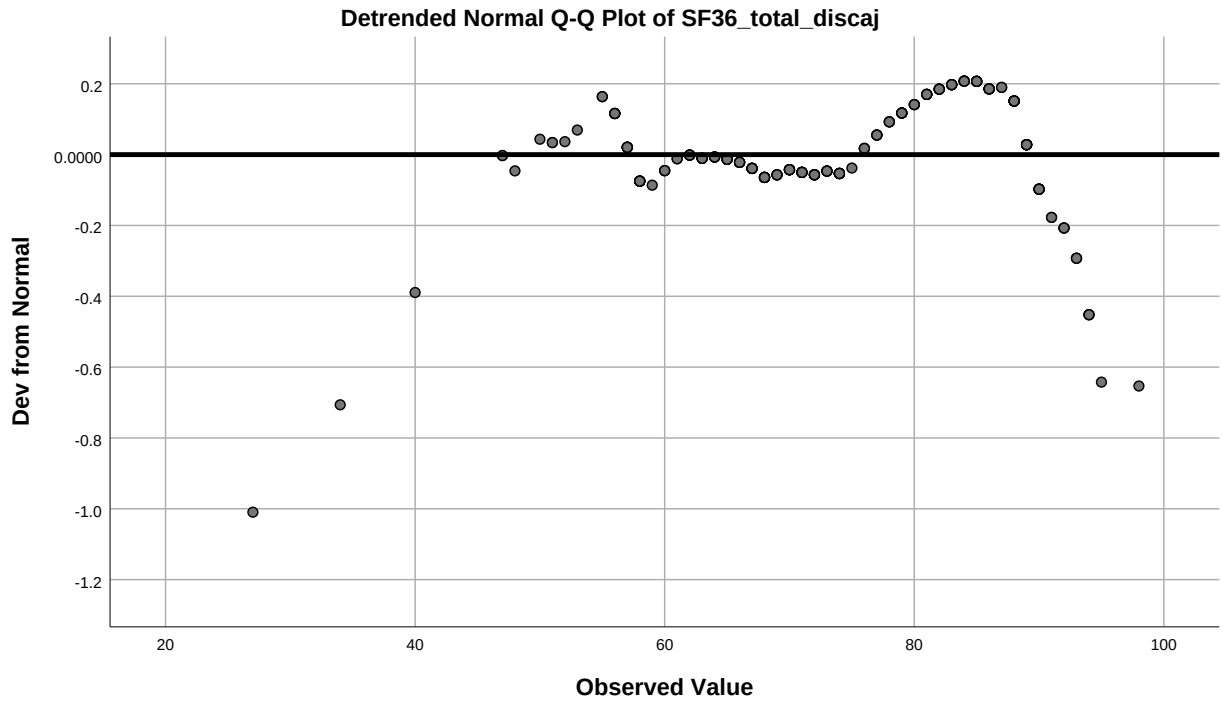
SF36_total_discaj

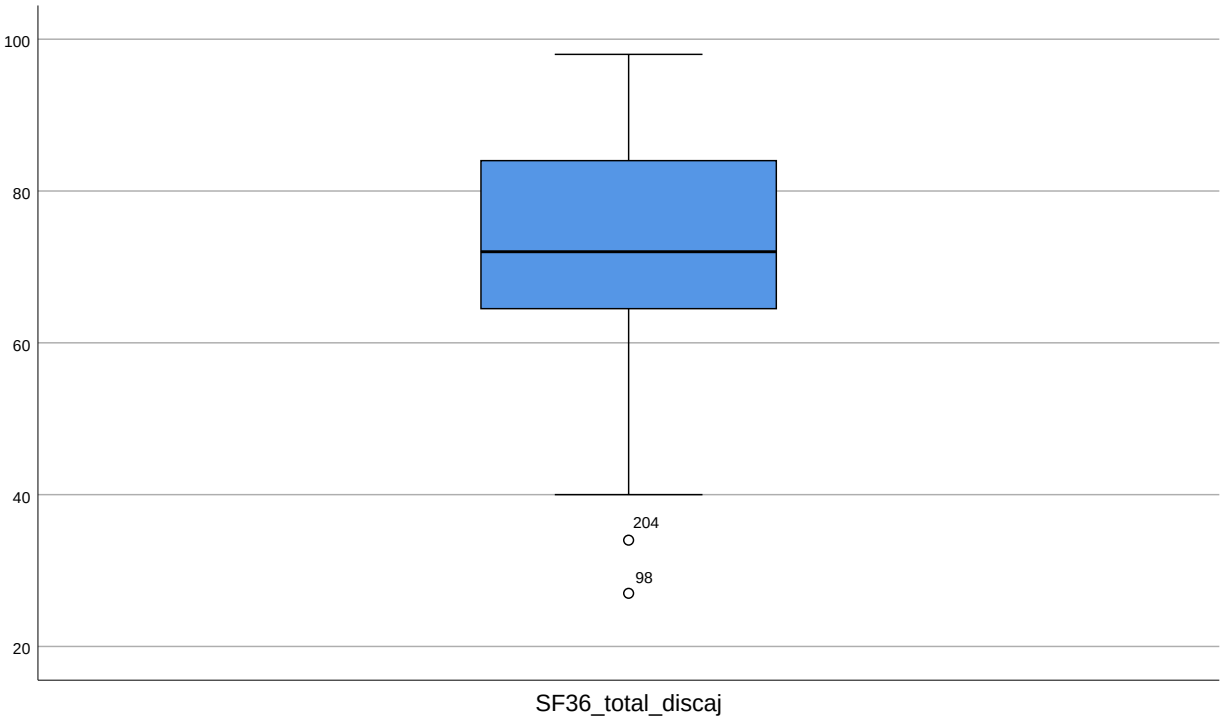


SF36_total_discaj Stem-and-Leaf Plot

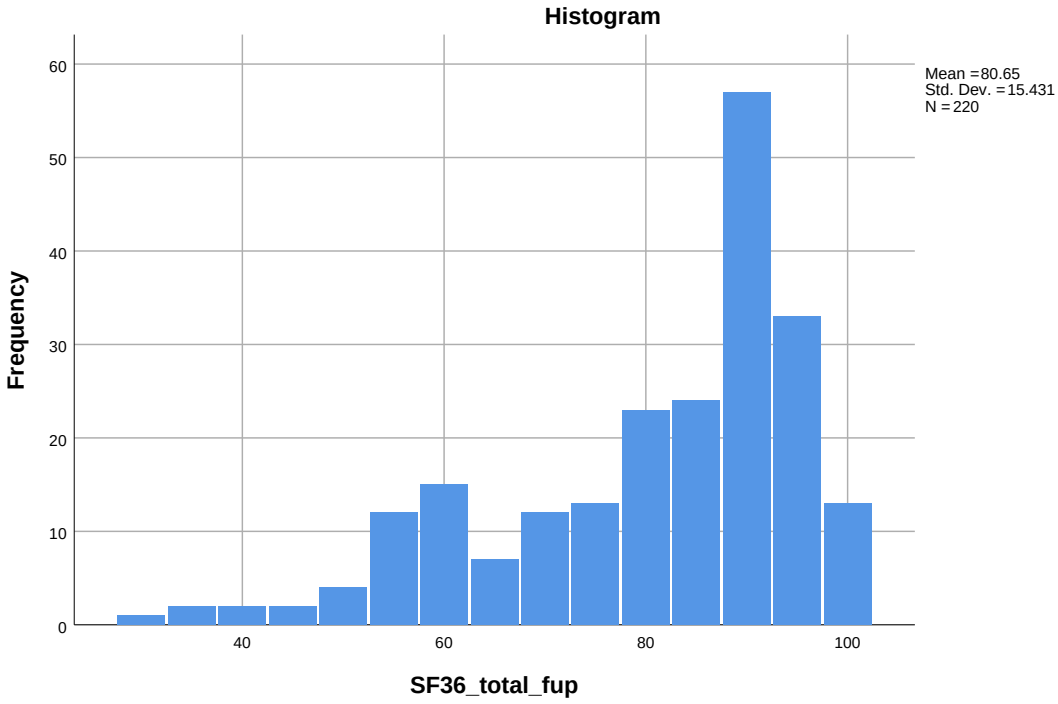
```
Frequency    Stem &  Leaf

    2.00 Extremes    (=<34)
    1.00        4 .  0
    3.00        4 .  778
    5.00        5 .  01123
   23.00        5 .  5566666777777888888889
   21.00        6 .  000112222223333344444
   34.00        6 .  55555556666667777777777888888889999
   37.00        7 .  000000011111111222222233333444444444444
   17.00        7 .  56667777888999999
   23.00        8 .  00011111222223333344444
   34.00        8 .  55555566666667788888888888999999999
   18.00        9 .  000000011222333444
    2.00        9 .  58

Stem width:        10
Each leaf:        1 case(s)
```







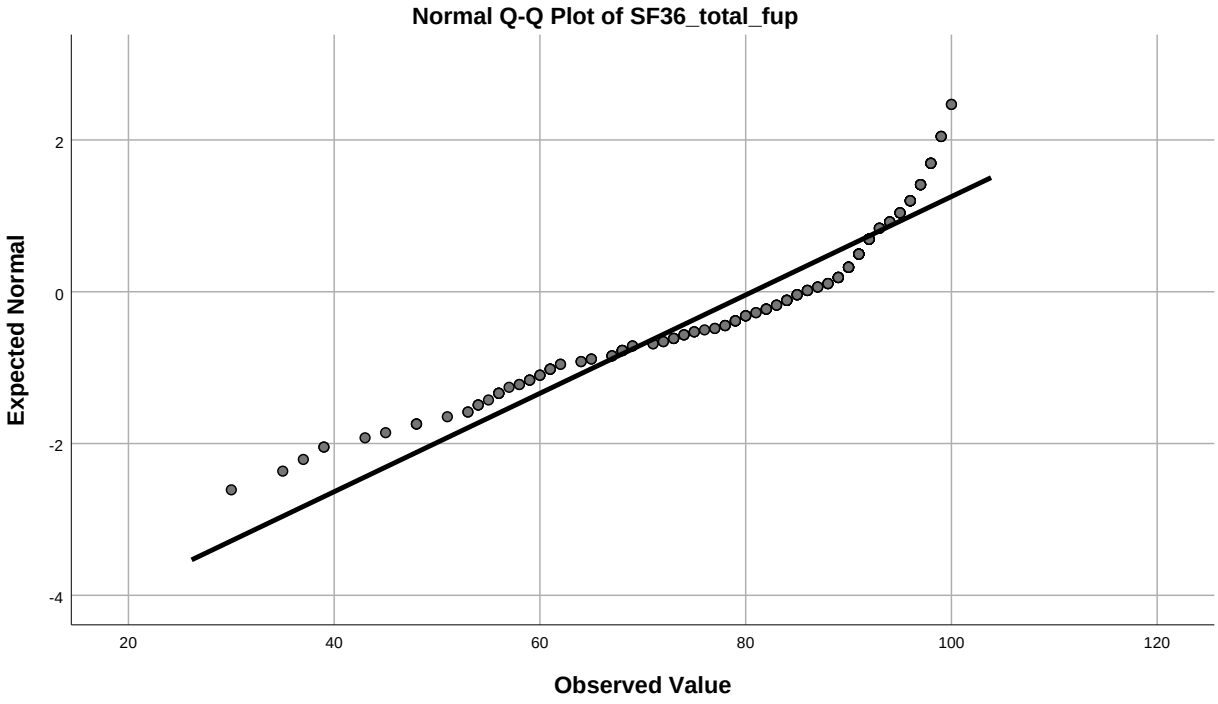
SF36_total_fup

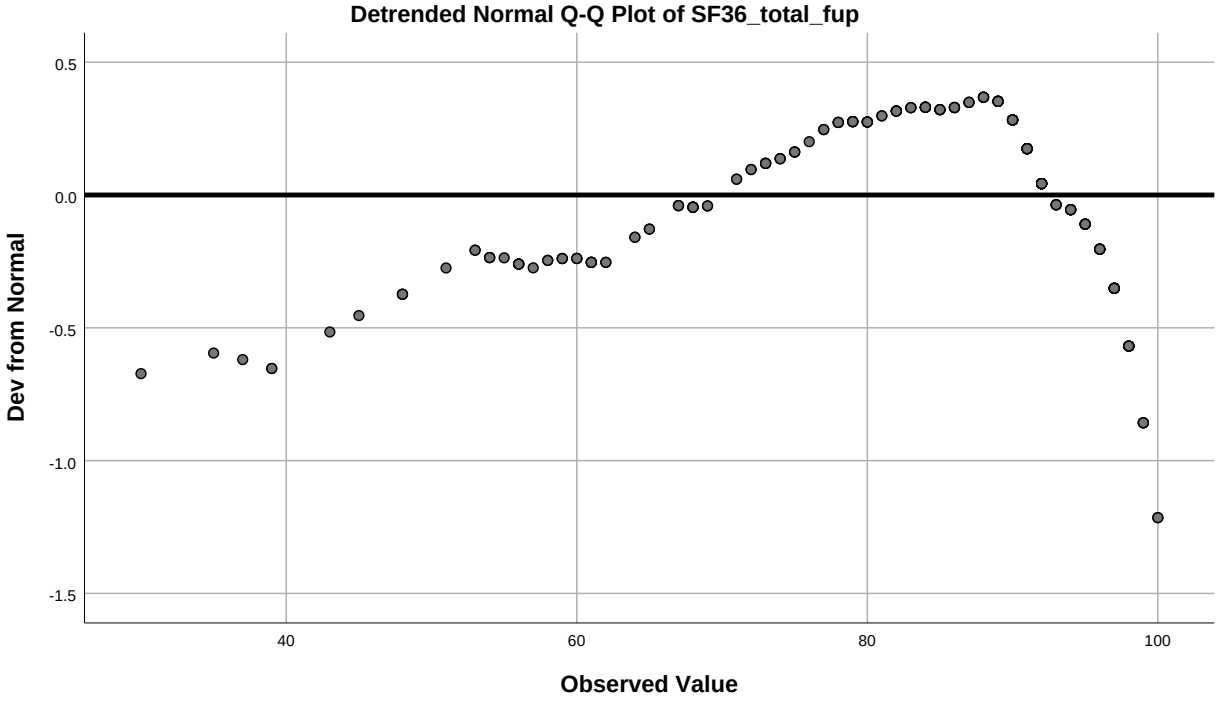


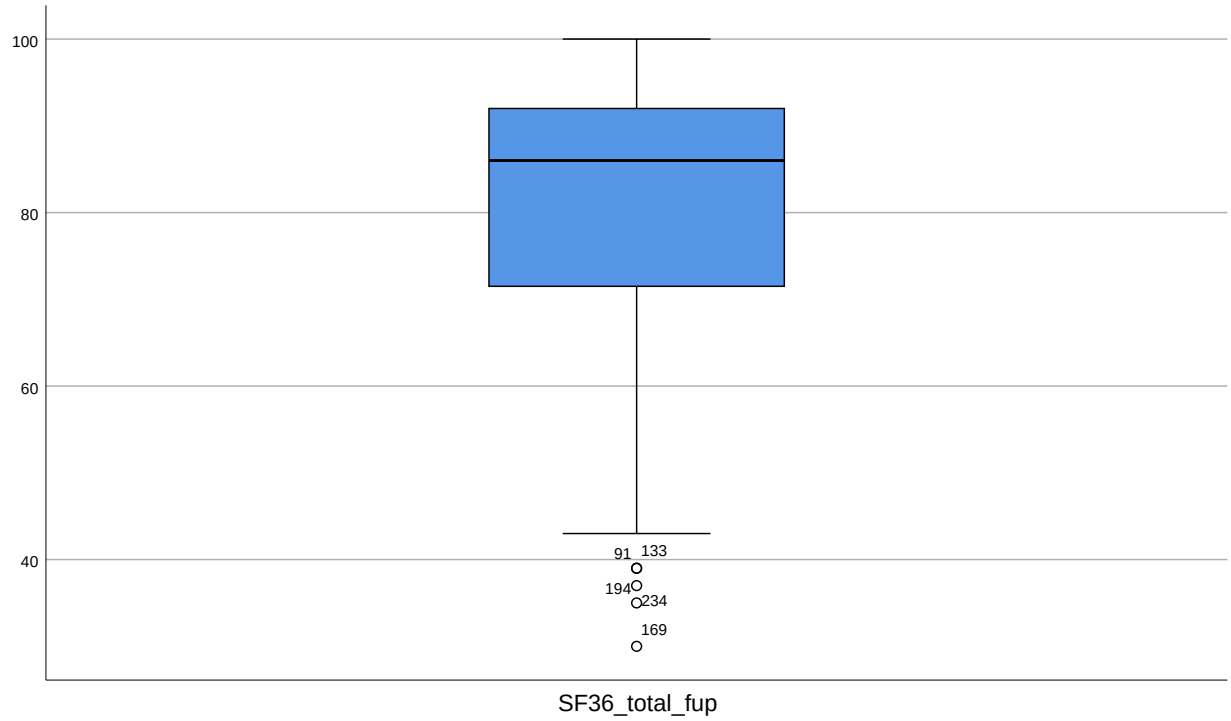
SF36_total_fup Stem-and-Leaf Plot

Frequency	Stem &	Leaf
5.00	Extremes	(=<39)
1.00	4 .	3
4.00	4 .	5888
6.00	5 .	133444
12.00	5 .	566666788999
12.00	6 .	000111112244
13.00	6 .	5577788888899
11.00	7 .	11223333444
16.00	7 .	5556778888999999
24.00	8 .	000001122222233344444444
27.00	8 .	555556666677788888999999999
53.00	9 .	000000000000001111111111111222222222222222333344444444
34.00	9 .	555555566666666777777788888889999
2.00	10 .	00

Stem width: 10
Each leaf: 1 case(s)


Normal Q-Q Plot of SF36_total_fup
Expected Normal
2
0
-2
-4
20
40
60
80
100
120
Observed Value


Detrended Normal Q-Q Plot of SF36_total_fup
Dev from Normal
0.5
0.0
-0.5
-1.0
-1.5
40
60
80
100
Observed Value




```
GLM SF36_total_preop SF36_total_discaj SF36_total_fup BY Randomization
  /WSFACTOR=time 3 Polynomial
  /MEASURE=score
  /METHOD=SSTYPE(3)
  /SAVE=SRESID
  /POSTHOC=Randomization(TUKEY GH)
  /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 13:02:25
Comments		
Input	Data	C:\Users\LENOVO\Documents\ImAnisah\Statistics\TOCO T3\SF36 NHP\SF36 and NHP scores.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM SF36_total_preop SF36_total_discaj SF36_total_fup BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.62
	Elapsed Time	00:00:00.23
Variables Created or Modified	SRE_4	Studentized Residual for SF36_total_preop
	SRE_5	Studentized Residual for SF36_total_discaj
	SRE_6	Studentized Residual for SF36_total_fup

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	SF36_total_preop
2	SF36_total_discaj
3	SF36_total_fup

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	109
	2	Placebo	111

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
SF36_total_preop	Tocotrienol	68.73	10.633	109
	Placebo	71.32	13.002	111
	Total	70.04	11.931	220
SF36_total_discaj	Tocotrienol	72.53	13.151	109
	Placebo	73.63	12.341	111
	Total	73.09	12.732	220
SF36_total_fup	Tocotrienol	81.27	14.780	109
	Placebo	80.05	16.089	111
	Total	80.65	15.431	220

Box's Test of Equality of Covariance Matrices[a]

Box's M	14.156
F	2.324
df1	6
df2	344014.476
Sig.	.030

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.258	37.811[b]	2.000	217.000
	Wilks' Lambda	.742	37.811[b]	2.000	217.000
	Hotelling's Trace	.348	37.811[b]	2.000	217.000
	Roy's Largest Root	.348	37.811[b]	2.000	217.000
time * Randomization	Pillai's Trace	.011	1.218[b]	2.000	217.000
	Wilks' Lambda	.989	1.218[b]	2.000	217.000
	Hotelling's Trace	.011	1.218[b]	2.000	217.000
	Roy's Largest Root	.011	1.218[b]	2.000	217.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.000	.258
	Wilks' Lambda	.000	.258
	Hotelling's Trace	.000	.258
	Roy's Largest Root	.000	.258
time * Randomization	Pillai's Trace	.298	.011
	Wilks' Lambda	.298	.011
	Hotelling's Trace	.298	.011
	Roy's Largest Root	.298	.011

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.808	46.352	2	.000	.839

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.848	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	13181.975	2	6590.987	54.029
	Greenhouse-Geisser	13181.975	1.677	7858.648	54.029
	Huynh-Feldt	13181.975	1.697	7769.395	54.029
	Lower-bound	13181.975	1.000	13181.975	54.029
time * Randomization	Sphericity Assumed	403.708	2	201.854	1.655
	Greenhouse-Geisser	403.708	1.677	240.677	1.655
	Huynh-Feldt	403.708	1.697	237.944	1.655
	Lower-bound	403.708	1.000	403.708	1.655
Error(time)	Sphericity Assumed	53187.519	436	121.990	
	Greenhouse-Geisser	53187.519	365.670	145.452	
	Huynh-Feldt	53187.519	369.871	143.800	
	Lower-bound	53187.519	218.000	243.979	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.000	.199
	Greenhouse-Geisser	.000	.199
	Huynh-Feldt	.000	.199
	Lower-bound	.000	.199
time * Randomization	Sphericity Assumed	.192	.008
	Greenhouse-Geisser	.197	.008
	Huynh-Feldt	.197	.008
	Lower-bound	.200	.008
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	12430.783	1	12430.783	75.574	.000
	Quadratic	751.192	1	751.192	9.449	.002
time * Randomization	Linear	397.565	1	397.565	2.417	.121
	Quadratic	6.143	1	6.143	.077	.781
Error(time)	Linear	35857.515	218	164.484		
	Quadratic	17330.005	218	79.495		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.257
	Quadratic	.042
time * Randomization	Linear	.011
	Quadratic	.000
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
SF36_total_preop	Based on Mean	7.487	1	218	.007
	Based on Median	5.895	1	218	.016
	Based on Median and with adjusted df	5.895	1	215.338	.016
	Based on trimmed mean	7.692	1	218	.006
SF36_total_discaj	Based on Mean	.004	1	218	.950
	Based on Median	.009	1	218	.925
	Based on Median and with adjusted df	.009	1	208.136	.925
	Based on trimmed mean	.001	1	218	.979
SF36_total_fup	Based on Mean	.778	1	218	.379
	Based on Median	.388	1	218	.534
	Based on Median and with adjusted df	.388	1	212.116	.534
	Based on trimmed mean	.717	1	218	.398

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	3671735.836	1	3671735.836	12292.114	.000	.983
Randomization	112.466	1	112.466	.377	.540	.002
Error	65118.043	218	298.707			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	74.177	.956	72.294	76.061
Placebo	75.003	.947	73.136	76.870

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	-.826	1.346	.540	-3.478
Placebo	Tocotrienol	.826	1.346	.540	-1.826

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	1.826
Placebo	Tocotrienol	3.478

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	37.489	1	37.489	.377	.540	.002
Error	21706.014	218	99.569			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	70.029	.801	68.449	71.609
2	73.081	.860	71.387	74.776
3	80.660	1.042	78.606	82.714

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-3.052*	.812	.001	-5.012	-1.092
	3	-10.631*	1.223	.000	-13.581	-7.681
2	1	3.052*	.812	.001	1.092	5.012
	3	-7.579*	1.083	.000	-10.190	-4.967
3	1	10.631*	1.223	.000	7.681	13.581
	2	7.579*	1.083	.000	4.967	10.190

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.258	37.811[a]	2.000	217.000	.000	.258
Wilks' lambda	.742	37.811[a]	2.000	217.000	.000	.258
Hotelling's trace	.348	37.811[a]	2.000	217.000	.000	.258
Roy's largest root	.348	37.811[a]	2.000	217.000	.000	.258

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

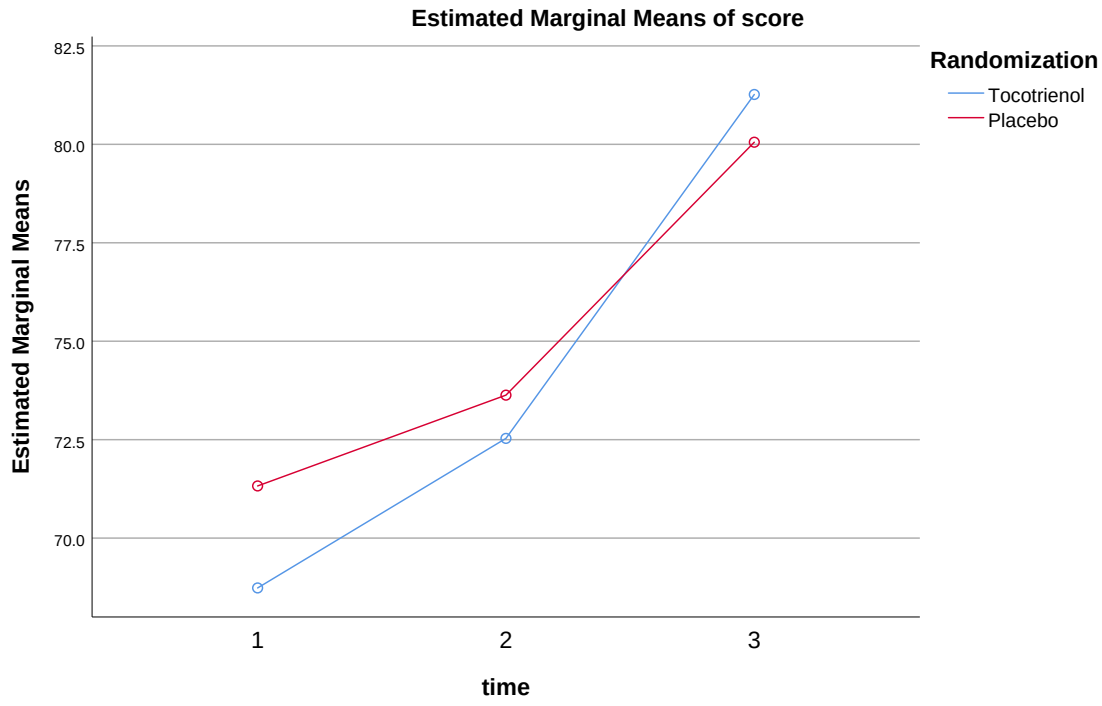
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	68.734	1.139	66.490	70.978
	2	72.532	1.221	70.125	74.939
	3	81.266	1.480	78.349	84.184
Placebo	1	71.324	1.128	69.101	73.548
	2	73.631	1.210	71.246	76.016
	3	80.054	1.467	77.163	82.945

Profile Plots




```
GLM SF36_PH_preop SF36_PH_discaj SF36_PH_fup BY Randomization
 /WSFACTOR=time 3 Polynomial
 /MEASURE=score
 /METHOD=SSTYPE(3)
 /SAVE=SRESID
 /POSTHOC=Randomization(TUKEY GH)
 /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 13:46:12
Comments		
Input	Data	C:\Users\LENOVO\Documents\ImAnisah\Statistics\TOCO T3\SF36 NHP\SF36 and NHP scores.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM SF36_PH_preop SF36_PH_discaj SF36_PH_fup BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.48
	Elapsed Time	00:00:00.17
Variables Created or Modified	SRE_7	Studentized Residual for SF36_PH_preop
	SRE_8	Studentized Residual for SF36_PH_discaj
	SRE_9	Studentized Residual for SF36_PH_fup

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	SF36_PH_preop
2	SF36_PH_discaj
3	SF36_PH_fup

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	109
	2	Placebo	111

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
SF36_PH_preop	Tocotrienol	64.22	11.520	109
	Placebo	66.77	13.733	111
	Total	65.51	12.721	220
SF36_PH_discaj	Tocotrienol	67.47	14.318	109
	Placebo	67.71	14.480	111
	Total	67.59	14.367	220
SF36_PH_fup	Tocotrienol	76.11	17.428	109
	Placebo	74.76	18.358	111
	Total	75.43	17.875	220

Box's Test of Equality of Covariance Matrices[a]

Box's M	13.805
F	2.266
df1	6
df2	344014.476
Sig.	.034

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.206	28.082[b]	2.000	217.000
	Wilks' Lambda	.794	28.082[b]	2.000	217.000
	Hotelling's Trace	.259	28.082[b]	2.000	217.000
	Roy's Largest Root	.259	28.082[b]	2.000	217.000
time * Randomization	Pillai's Trace	.012	1.277[b]	2.000	217.000
	Wilks' Lambda	.988	1.277[b]	2.000	217.000
	Hotelling's Trace	.012	1.277[b]	2.000	217.000
	Roy's Largest Root	.012	1.277[b]	2.000	217.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.000	.206
	Wilks' Lambda	.000	.206
	Hotelling's Trace	.000	.206
	Roy's Largest Root	.000	.206
time * Randomization	Pillai's Trace	.281	.012
	Wilks' Lambda	.281	.012
	Hotelling's Trace	.281	.012
	Roy's Largest Root	.281	.012

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.834	39.400	2	.000	.858

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.868	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	12071.374	2	6035.687	39.531
	Greenhouse-Geisser	12071.374	1.715	7037.828	39.531
	Huynh-Feldt	12071.374	1.735	6955.845	39.531
	Lower-bound	12071.374	1.000	12071.374	39.531
time * Randomization	Sphericity Assumed	424.610	2	212.305	1.390
	Greenhouse-Geisser	424.610	1.715	247.555	1.390
	Huynh-Feldt	424.610	1.735	244.671	1.390
	Lower-bound	424.610	1.000	424.610	1.390
Error(time)	Sphericity Assumed	66569.778	436	152.683	
	Greenhouse-Geisser	66569.778	373.916	178.034	
	Huynh-Feldt	66569.778	378.323	175.960	
	Lower-bound	66569.778	218.000	305.366	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.000	.153
	Greenhouse-Geisser	.000	.153
	Huynh-Feldt	.000	.153
	Lower-bound	.000	.153
time * Randomization	Sphericity Assumed	.250	.006
	Greenhouse-Geisser	.250	.006
	Huynh-Feldt	.250	.006
	Lower-bound	.240	.006
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	10858.633	1	10858.633	54.888	.000
	Quadratic	1212.740	1	1212.740	11.278	.001
time * Randomization	Linear	419.942	1	419.942	2.123	.147
	Quadratic	4.668	1	4.668	.043	.835
Error(time)	Linear	43127.321	218	197.832		
	Quadratic	23442.457	218	107.534		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.201
	Quadratic	.049
time * Randomization	Linear	.010
	Quadratic	.000
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
SF36_PH_preop	Based on Mean	4.818	1	218	.029
	Based on Median	4.817	1	218	.029
	Based on Median and with adjusted df	4.817	1	215.996	.029
	Based on trimmed mean	4.840	1	218	.029
SF36_PH_discaj	Based on Mean	.587	1	218	.444
	Based on Median	.465	1	218	.496
	Based on Median and with adjusted df	.465	1	215.723	.496
	Based on trimmed mean	.605	1	218	.438
SF36_PH_fup	Based on Mean	.427	1	218	.514
	Based on Median	.136	1	218	.713
	Based on Median and with adjusted df	.136	1	213.838	.713
	Based on trimmed mean	.361	1	218	.549

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	3188334.645	1	3188334.645	8315.339	.000	.974
Randomization	38.281	1	38.281	.100	.752	.000
Error	83587.331	218	383.428			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	69.266	1.083	67.132	71.400
Placebo	69.748	1.073	67.633	71.863

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	-.482	1.524	.752	-3.486
Placebo	Tocotrienol	.482	1.524	.752	-2.523

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	2.523
Placebo	Tocotrienol	3.486

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	12.760	1	12.760	.100	.752	.000
Error	27862.444	218	127.809			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	65.497	.855	63.812	67.183
2	67.590	.971	65.676	69.503
3	75.433	1.207	73.054	77.813

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-2.092	.920	.072	-4.311	.127
	3	-9.936*	1.341	.000	-13.172	-6.700
2	1	2.092	.920	.072	-.127	4.311
	3	-7.844*	1.233	.000	-10.818	-4.869
3	1	9.936*	1.341	.000	6.700	13.172
	2	7.844*	1.233	.000	4.869	10.818

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.206	28.082[a]	2.000	217.000	.000	.206
Wilks' lambda	.794	28.082[a]	2.000	217.000	.000	.206
Hotelling's trace	.259	28.082[a]	2.000	217.000	.000	.206
Roy's largest root	.259	28.082[a]	2.000	217.000	.000	.206

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

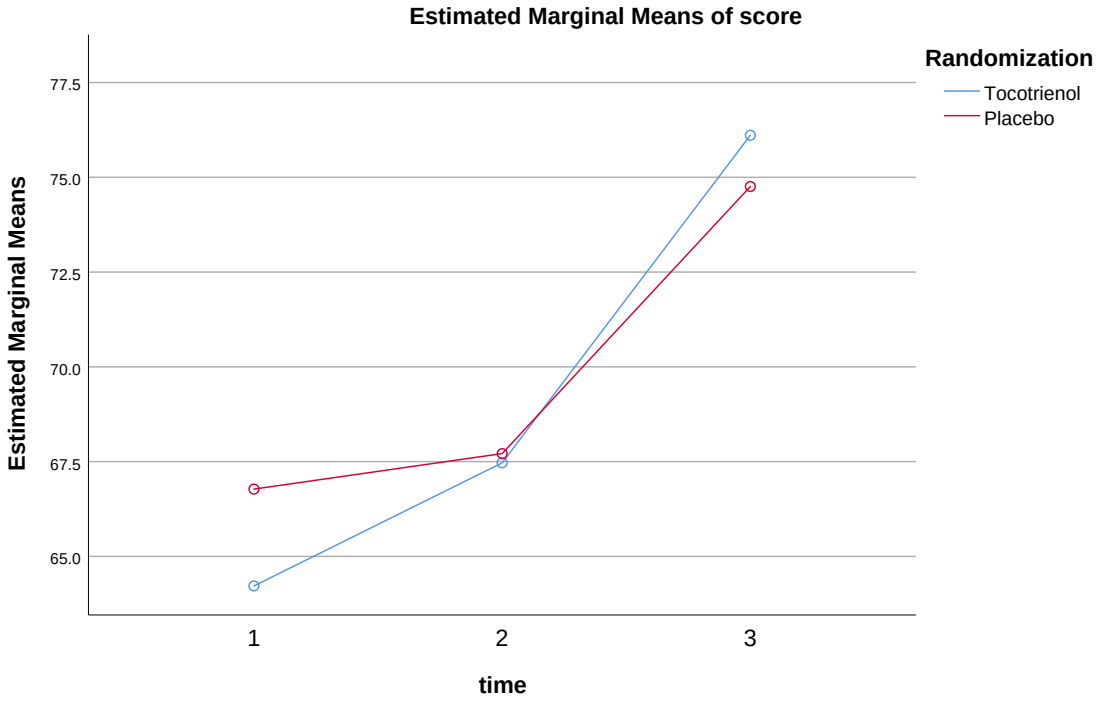
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	64.220	1.215	61.826	66.615
	2	67.468	1.379	64.750	70.186
	3	76.110	1.715	72.730	79.490
Placebo	1	66.775	1.204	64.402	69.148
	2	67.712	1.367	65.018	70.405
	3	74.757	1.699	71.408	78.106

Profile Plots




```
GLM SF36_MH_preop SF36_MH_discaj SF36_MH_fup BY Randomization
 /WSFACTOR=time 3 Polynomial
 /MEASURE=score
 /METHOD=SSTYPE(3)
 /SAVE=SRESID
 /POSTHOC=Randomization(TUKEY GH)
 /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 13:53:20
Comments		
Input	Data	C:\Users\LENOVO\Documents\ImAnisah\Statistics\TOCO T3\SF36 NHP\SF36 and NHP scores.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM SF36_MH_preop SF36_MH_discaj SF36_MH_fup BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.20
	Elapsed Time	00:00:00.29
Variables Created or Modified	SRE_10	Studentized Residual for SF36_MH_preop
	SRE_11	Studentized Residual for SF36_MH_discaj
	SRE_12	Studentized Residual for SF36_MH_fup

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	SF36_MH_preop
2	SF36_MH_discaj
3	SF36_MH_fup

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	109
	2	Placebo	111

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
SF36_MH_preop	Tocotrienol	78.70	8.647	109
	Placebo	80.22	10.414	111
	Total	79.46	9.588	220
SF36_MH_discaj	Tocotrienol	82.71	10.463	109
	Placebo	84.50	9.010	111
	Total	83.61	9.776	220
SF36_MH_fup	Tocotrienol	88.36	10.671	109
	Placebo	87.00	12.336	111
	Total	87.67	11.535	220

Box's Test of Equality of Covariance Matrices[a]

Box's M	14.638
F	2.403
df1	6
df2	344014.476
Sig.	.025

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.262	38.546[b]	2.000	217.000
	Wilks' Lambda	.738	38.546[b]	2.000	217.000
	Hotelling's Trace	.355	38.546[b]	2.000	217.000
	Roy's Largest Root	.355	38.546[b]	2.000	217.000
time * Randomization	Pillai's Trace	.015	1.700[b]	2.000	217.000
	Wilks' Lambda	.985	1.700[b]	2.000	217.000
	Hotelling's Trace	.016	1.700[b]	2.000	217.000
	Roy's Largest Root	.016	1.700[b]	2.000	217.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.000	.262
	Wilks' Lambda	.000	.262
	Hotelling's Trace	.000	.262
	Roy's Largest Root	.000	.262
time * Randomization	Pillai's Trace	.185	.015
	Wilks' Lambda	.185	.015
	Hotelling's Trace	.185	.015
	Roy's Largest Root	.185	.015

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.841	37.603	2	.000	.863

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.873	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	7435.990	2	3717.995	47.952
	Greenhouse-Geisser	7435.990	1.725	4309.533	47.952
	Huynh-Feldt	7435.990	1.746	4258.995	47.952
	Lower-bound	7435.990	1.000	7435.990	47.952
time * Randomization	Sphericity Assumed	334.584	2	167.292	2.158
	Greenhouse-Geisser	334.584	1.725	193.908	2.158
	Huynh-Feldt	334.584	1.746	191.634	2.158
	Lower-bound	334.584	1.000	334.584	2.158
Error(time)	Sphericity Assumed	33805.695	436	77.536	
	Greenhouse-Geisser	33805.695	376.153	89.872	
	Huynh-Feldt	33805.695	380.617	88.818	
	Lower-bound	33805.695	218.000	155.072	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.000	.180
	Greenhouse-Geisser	.000	.180
	Huynh-Feldt	.000	.180
	Lower-bound	.000	.180
time * Randomization	Sphericity Assumed	.117	.010
	Greenhouse-Geisser	.124	.010
	Huynh-Feldt	.124	.010
	Lower-bound	.143	.010
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	7435.829	1	7435.829	72.481	.000
	Quadratic	.161	1	.161	.003	.956
time * Randomization	Linear	227.565	1	227.565	2.218	.138
	Quadratic	107.019	1	107.019	2.039	.155
Error(time)	Linear	22364.626	218	102.590		
	Quadratic	11441.069	218	52.482		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.250
	Quadratic	.000
time * Randomization	Linear	.010
	Quadratic	.009
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
SF36_MH_preop	Based on Mean	1.803	1	218	.181
	Based on Median	1.836	1	218	.177
	Based on Median and with adjusted df	1.836	1	207.719	.177
	Based on trimmed mean	1.819	1	218	.179
SF36_MH_discaj	Based on Mean	.276	1	218	.600
	Based on Median	.267	1	218	.606
	Based on Median and with adjusted df	.267	1	204.517	.606
	Based on trimmed mean	.255	1	218	.614
SF36_MH_fup	Based on Mean	1.247	1	218	.265
	Based on Median	.583	1	218	.446
	Based on Median and with adjusted df	.583	1	209.588	.446
	Based on trimmed mean	.972	1	218	.325

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	4610000.391	1	4610000.391	27925.791	.000	.992
Randomization	69.724	1	69.724	.422	.516	.002
Error	35987.524	218	165.080			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	83.254	.711	81.853	84.654
Placebo	83.904	.704	82.516	85.292

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	-.650	1.000	.516	-2.622
Placebo	Tocotrienol	.650	1.000	.516	-1.321

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	1.321
Placebo	Tocotrienol	2.622

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	23.241	1	23.241	.422	.516	.002
Error	11995.841	218	55.027			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	79.457	.646	78.184	80.730
2	83.601	.658	82.304	84.897
3	87.679	.778	86.145	89.213

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-4.144*	.670	.000	-5.760	-2.529
	3	-8.222*	.966	.000	-10.552	-5.892
2	1	4.144*	.670	.000	2.529	5.760
	3	-4.078*	.857	.000	-6.145	-2.011
3	1	8.222*	.966	.000	5.892	10.552
	2	4.078*	.857	.000	2.011	6.145

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.262	38.546[a]	2.000	217.000	.000	.262
Wilks' lambda	.738	38.546[a]	2.000	217.000	.000	.262
Hotelling's trace	.355	38.546[a]	2.000	217.000	.000	.262
Roy's largest root	.355	38.546[a]	2.000	217.000	.000	.262

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

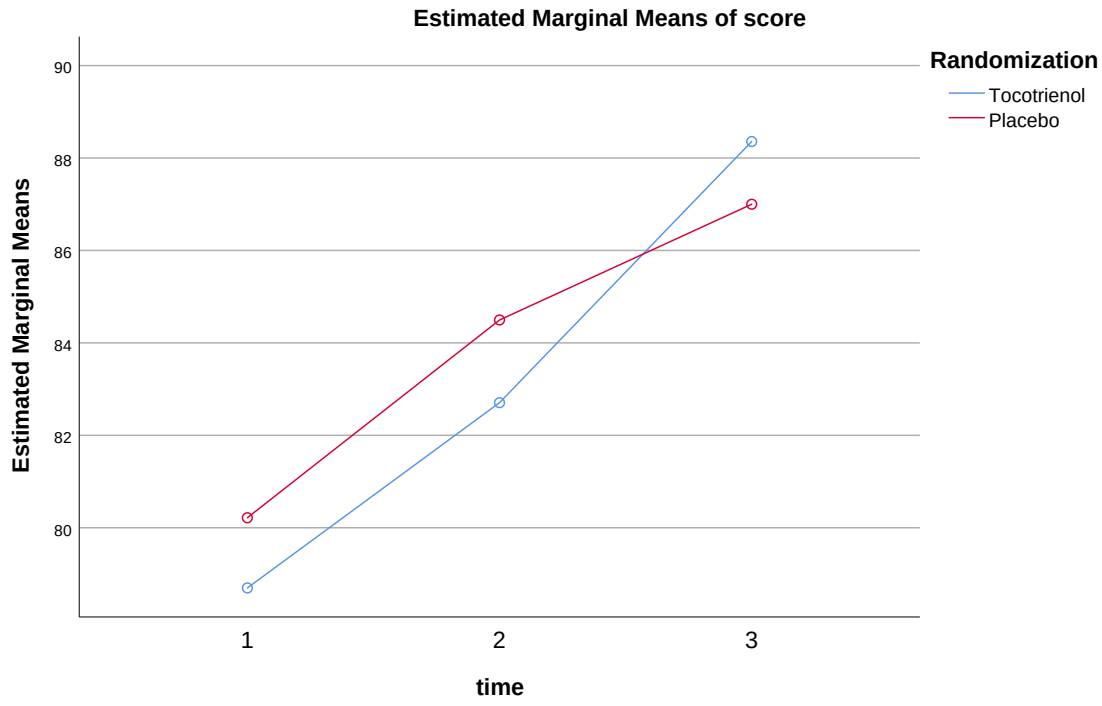
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	78.697	.918	76.889	80.506
	2	82.706	.935	80.865	84.548
	3	88.358	1.105	86.179	90.537
Placebo	1	80.216	.909	78.424	82.008
	2	84.495	.926	82.670	86.321
	3	87.000	1.095	84.841	89.159

Profile Plots




```
GLM NHPtotal_pre NHPtotal_discaj NHPtotal_fup BY Randomization
  /WSFACTOR=time 3 Polynomial
  /MEASURE=score
  /METHOD=SSTYPE(3)
  /SAVE=SRESID
  /POSTHOC=Randomization(TUKEY GH)
  /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 14:26:29
Comments		
Input	Data	C:\Users\LENOVO\Documents\ImAnisah\Statistics\TOCO T3\SF36 NHP\SF36 and NHP scores.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM NHPtotal_pre NHPtotal_discaj NHPtotal_fup BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.23
	Elapsed Time	00:00:00.18
Variables Created or Modified	SRE_13	Studentized Residual for NHPtotal_pre
	SRE_14	Studentized Residual for NHPtotal_discaj
	SRE_15	Studentized Residual for NHPtotal_fup

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	NHPtotal_pre
2	NHPtotal_discaj
3	NHPtotal_fup

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	102
	2	Placebo	105

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
NHPtotal_pre	Tocotrienol	11.2411	7.03609	102
	Placebo	12.0668	6.89848	105
	Total	11.6600	6.96199	207
NHPtotal_discaj	Tocotrienol	17.9081	13.10628	102
	Placebo	18.6059	11.73903	105
	Total	18.2620	12.40618	207
NHPtotal_fup	Tocotrienol	8.0510	9.89052	102
	Placebo	10.7952	13.49408	105
	Total	9.4430	11.90722	207

Box's Test of Equality of Covariance Matrices[a]

Box's M	13.764
F	2.258
df1	6
df2	303785.543
Sig.	.035

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.265	36.811[b]	2.000	204.000
	Wilks' Lambda	.735	36.811[b]	2.000	204.000
	Hotelling's Trace	.361	36.811[b]	2.000	204.000
	Roy's Largest Root	.361	36.811[b]	2.000	204.000
time * Randomization	Pillai's Trace	.005	.556[b]	2.000	204.000
	Wilks' Lambda	.995	.556[b]	2.000	204.000
	Hotelling's Trace	.005	.556[b]	2.000	204.000
	Roy's Largest Root	.005	.556[b]	2.000	204.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.000	.265
	Wilks' Lambda	.000	.265
	Hotelling's Trace	.000	.265
	Roy's Largest Root	.000	.265
time * Randomization	Pillai's Trace	.574	.005
	Wilks' Lambda	.574	.005
	Hotelling's Trace	.574	.005
	Roy's Largest Root	.574	.005

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.859	30.934	2	.000	.877

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.888	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	8734.560	2	4367.280	43.206
	Greenhouse-Geisser	8734.560	1.753	4981.755	43.206
	Huynh-Feldt	8734.560	1.776	4918.530	43.206
	Lower-bound	8734.560	1.000	8734.560	43.206
time * Randomization	Sphericity Assumed	135.986	2	67.993	.673
	Greenhouse-Geisser	135.986	1.753	77.560	.673
	Huynh-Feldt	135.986	1.776	76.575	.673
	Lower-bound	135.986	1.000	135.986	.673
Error(time)	Sphericity Assumed	41443.217	410	101.081	
	Greenhouse-Geisser	41443.217	359.429	115.303	
	Huynh-Feldt	41443.217	364.049	113.840	
	Lower-bound	41443.217	205.000	202.162	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.000	.174
	Greenhouse-Geisser	.000	.174
	Huynh-Feldt	.000	.174
	Lower-bound	.000	.174
time * Randomization	Sphericity Assumed	.511	.003
	Greenhouse-Geisser	.492	.003
	Huynh-Feldt	.494	.003
	Lower-bound	.413	.003
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	515.002	1	515.002	5.710	.018
	Quadratic	8219.558	1	8219.558	73.409	.000
time * Randomization	Linear	95.216	1	95.216	1.056	.305
	Quadratic	40.770	1	40.770	.364	.547
Error(time)	Linear	18489.417	205	90.192		
	Quadratic	22953.801	205	111.970		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.027
	Quadratic	.264
time * Randomization	Linear	.005
	Quadratic	.002
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
NHPtotal_pre	Based on Mean	.775	1	205	.380
	Based on Median	.400	1	205	.528
	Based on Median and with adjusted df	.400	1	203.841	.528
	Based on trimmed mean	.638	1	205	.425
NHPtotal_discaj	Based on Mean	.974	1	205	.325
	Based on Median	.723	1	205	.396
	Based on Median and with adjusted df	.723	1	198.804	.396
	Based on trimmed mean	.841	1	205	.360
NHPtotal_fup	Based on Mean	6.487	1	205	.012
	Based on Median	2.863	1	205	.092
	Based on Median and with adjusted df	2.863	1	181.082	.092
	Based on trimmed mean	4.553	1	205	.034

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	106731.918	1	106731.918	754.366	.000	.786
Randomization	314.112	1	314.112	2.220	.138	.011
Error	29004.556	205	141.486			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	12.400	.680	11.059	13.741
Placebo	13.823	.670	12.501	15.144

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	-1.423	.955	.138	-3.305
Placebo	Tocotrienol	1.423	.955	.138	-.460

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	.460
Placebo	Tocotrienol	3.305

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	104.704	1	104.704	2.220	.138	.011
Error	9668.185	205	47.162			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	11.654	.484	10.699	12.609
2	18.257	.864	16.553	19.961
3	9.423	.824	7.798	11.048

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-6.603*	.852	.000	-8.659	-4.547
	3	2.231	.934	.053	-.023	4.484
2	1	6.603*	.852	.000	4.547	8.659
	3	8.834*	1.155	.000	6.047	11.621
3	1	-2.231	.934	.053	-4.484	.023
	2	-8.834*	1.155	.000	-11.621	-6.047

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.265	36.811[a]	2.000	204.000	.000	.265
Wilks' lambda	.735	36.811[a]	2.000	204.000	.000	.265
Hotelling's trace	.361	36.811[a]	2.000	204.000	.000	.265
Roy's largest root	.361	36.811[a]	2.000	204.000	.000	.265

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

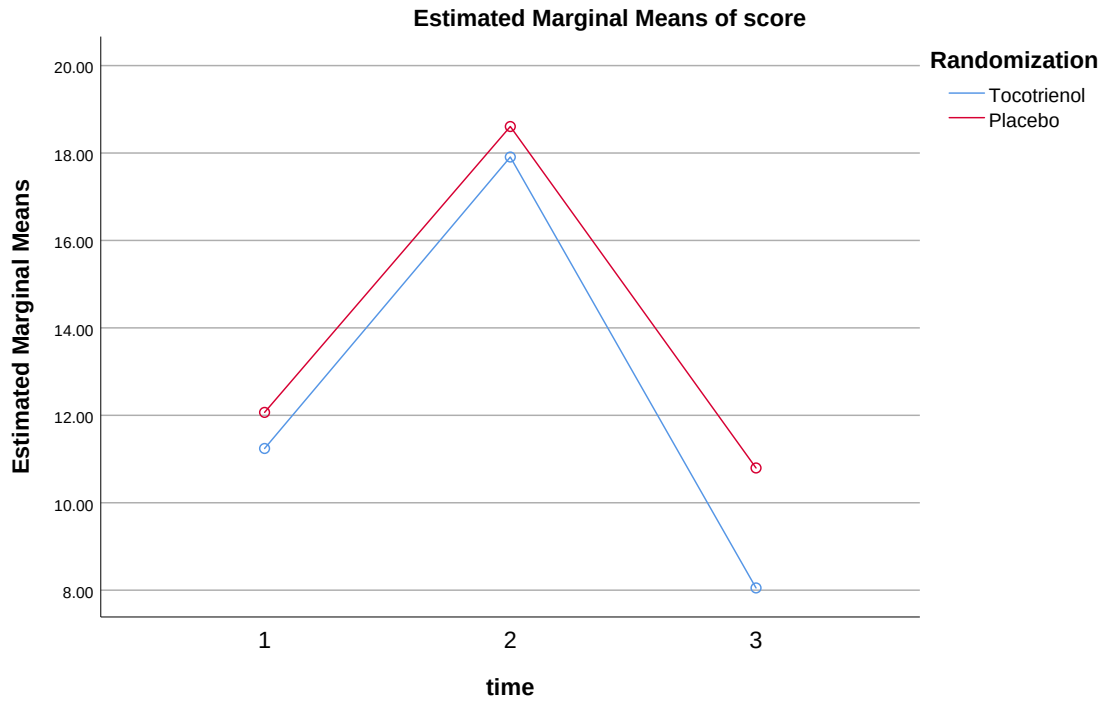
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	11.241	.690	9.881	12.601
	2	17.908	1.231	15.481	20.335
	3	8.051	1.174	5.736	10.366
Placebo	1	12.067	.680	10.726	13.407
	2	18.606	1.213	16.214	20.998
	3	10.795	1.157	8.514	13.076

Profile Plots




```
GLM SF36preop_PF SF36discaj_PF SF36fup_PF BY Randomization
  /WSFACTOR=time 3 Polynomial
  /MEASURE=score
  /METHOD=SSTYPE(3)
  /SAVE=SRESID
  /POSTHOC=Randomization(TUKEY GH)
  /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 14:45:32
Comments		
Input	Data	C:\Users\LENOVO\Documents\ImAnisah\Statistics\TOCO T3\SF36 NHP\SF36 and NHP scores.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM SF36preop_PF SF36discaj_PF SF36fup_PF BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.20
	Elapsed Time	00:00:00.14
Variables Created or Modified	SRE_16	Studentized Residual for SF36preop_PF
	SRE_17	Studentized Residual for SF36discaj_PF
	SRE_18	Studentized Residual for SF36fup_PF

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	SF36preop_PF
2	SF36discaj_PF
3	SF36fup_PF

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	109
	2	Placebo	111

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
SF36preop_PF	Tocotrienol	63.853	17.5150	109
	Placebo	62.793	18.8376	111
	Total	63.318	18.1606	220
SF36discaj_PF	Tocotrienol	61.972	28.3906	109
	Placebo	57.387	27.7967	111
	Total	59.659	28.1223	220
SF36fup_PF	Tocotrienol	70.367	19.8339	109
	Placebo	70.000	23.7027	111
	Total	70.182	21.8225	220

Box's Test of Equality of Covariance Matrices[a]

Box's M	9.059
F	1.487
df1	6
df2	344014.476
Sig.	.178

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.125	15.533[b]	2.000	217.000
	Wilks' Lambda	.875	15.533[b]	2.000	217.000
	Hotelling's Trace	.143	15.533[b]	2.000	217.000
	Roy's Largest Root	.143	15.533[b]	2.000	217.000
time * Randomization	Pillai's Trace	.006	.641[b]	2.000	217.000
	Wilks' Lambda	.994	.641[b]	2.000	217.000
	Hotelling's Trace	.006	.641[b]	2.000	217.000
	Roy's Largest Root	.006	.641[b]	2.000	217.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.000	.125
	Wilks' Lambda	.000	.125
	Hotelling's Trace	.000	.125
	Roy's Largest Root	.000	.125
time * Randomization	Pillai's Trace	.528	.006
	Wilks' Lambda	.528	.006
	Hotelling's Trace	.528	.006
	Roy's Largest Root	.528	.006

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.918	18.477	2	.000	.925

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.936	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	12514.241	2	6257.121	18.037
	Greenhouse-Geisser	12514.241	1.849	6767.840	18.037
	Huynh-Feldt	12514.241	1.873	6682.285	18.037
	Lower-bound	12514.241	1.000	12514.241	18.037
time * Randomization	Sphericity Assumed	562.726	2	281.363	.811
	Greenhouse-Geisser	562.726	1.849	304.329	.811
	Huynh-Feldt	562.726	1.873	300.481	.811
	Lower-bound	562.726	1.000	562.726	.811
Error(time)	Sphericity Assumed	151247.350	436	346.898	
	Greenhouse-Geisser	151247.350	403.098	375.212	
	Huynh-Feldt	151247.350	408.259	370.469	
	Lower-bound	151247.350	218.000	693.795	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.000	.076
	Greenhouse-Geisser	.000	.076
	Huynh-Feldt	.000	.076
	Lower-bound	.000	.076
time * Randomization	Sphericity Assumed	.445	.004
	Greenhouse-Geisser	.437	.004
	Huynh-Feldt	.438	.004
	Lower-bound	.369	.004
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	5176.859	1	5176.859	19.406	.000
	Quadratic	7337.382	1	7337.382	17.182	.000
time * Randomization	Linear	13.223	1	13.223	.050	.824
	Quadratic	549.503	1	549.503	1.287	.258
Error(time)	Linear	58154.732	218	266.765		
	Quadratic	93092.618	218	427.030		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.082
	Quadratic	.073
time * Randomization	Linear	.000
	Quadratic	.006
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
SF36preop_PF	Based on Mean	1.015	1	218	.315
	Based on Median	.927	1	218	.337
	Based on Median and with adjusted df	.927	1	217.489	.337
	Based on trimmed mean	.979	1	218	.323
SF36discaj_PF	Based on Mean	.269	1	218	.604
	Based on Median	.247	1	218	.620
	Based on Median and with adjusted df	.247	1	217.698	.620
	Based on trimmed mean	.294	1	218	.588
SF36fup_PF	Based on Mean	3.051	1	218	.082
	Based on Median	1.581	1	218	.210
	Based on Median and with adjusted df	1.581	1	206.102	.210
	Based on trimmed mean	2.687	1	218	.103

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	2736646.633	1	2736646.633	3024.576	.000	.933
Randomization	662.694	1	662.694	.732	.393	.003
Error	197247.117	218	904.803			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	65.398	1.663	62.119	68.676
Placebo	63.393	1.648	60.145	66.642

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	2.004	2.342	.393	-2.611
Placebo	Tocotrienol	-2.004	2.342	.393	-6.620

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	6.620
Placebo	Tocotrienol	2.611

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	220.898	1	220.898	.732	.393	.003
Error	65749.039	218	301.601			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	63.323	1.227	60.905	65.741
2	59.680	1.894	55.947	63.413
3	70.183	1.475	67.277	73.090

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	3.643	1.749	.115	-.577	7.863
	3	-6.860*	1.557	.000	-10.618	-3.103
2	1	-3.643	1.749	.115	-7.863	.577
	3	-10.504*	1.994	.000	-15.315	-5.692
3	1	6.860*	1.557	.000	3.103	10.618
	2	10.504*	1.994	.000	5.692	15.315

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.125	15.533[a]	2.000	217.000	.000	.125
Wilks' lambda	.875	15.533[a]	2.000	217.000	.000	.125
Hotelling's trace	.143	15.533[a]	2.000	217.000	.000	.125
Roy's largest root	.143	15.533[a]	2.000	217.000	.000	.125

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

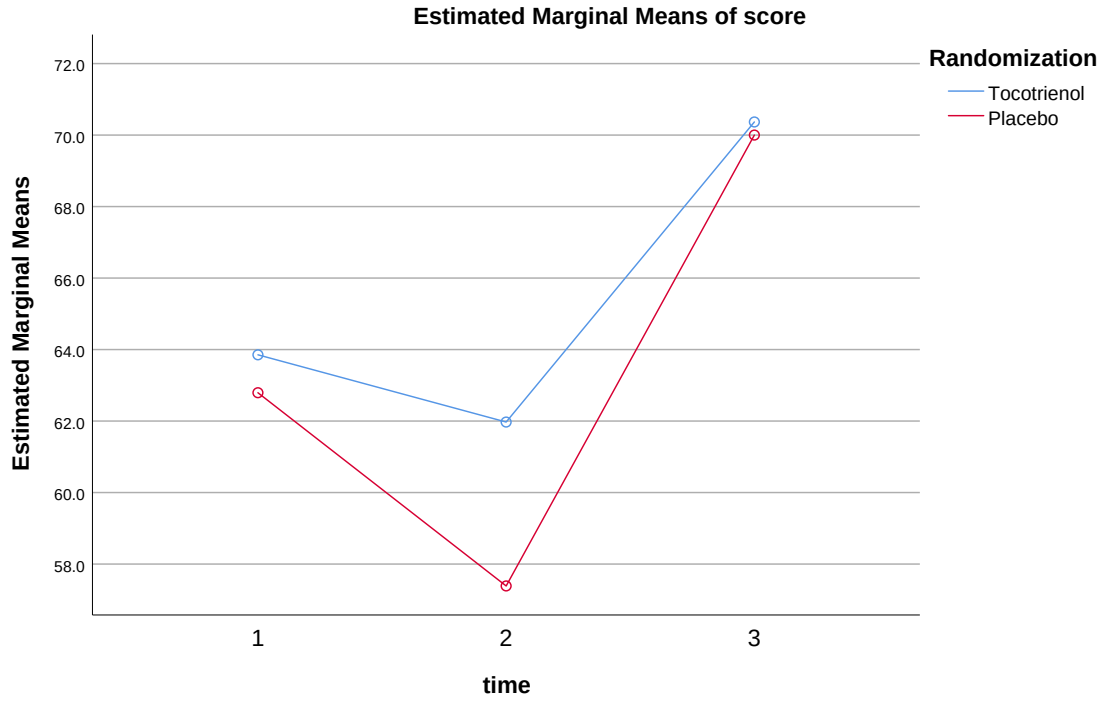
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	63.853	1.743	60.418	67.288
	2	61.972	2.691	56.669	67.276
	3	70.367	2.095	66.238	74.496
Placebo	1	62.793	1.727	59.389	66.196
	2	57.387	2.666	52.132	62.643
	3	70.000	2.076	65.908	74.092

Profile Plots




```
GLM SF36preop_RP SF36discaj_RP SF36fup_RP BY Randomization
  /WSFACTOR=time 3 Polynomial
  /MEASURE=score
  /METHOD=SSTYPE(3)
  /SAVE=SRESID
  /POSTHOC=Randomization(TUKEY GH)
  /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 15:07:48
Comments		
Input	Data	C:\Users\LENOVO\Documents\ImAnisah\Statistics\TOCO T3\SF36 NHP\SF36 and NHP scores.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM SF36preop_RP SF36discaj_RP SF36fup_RP BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.20
	Elapsed Time	00:00:00.16
Variables Created or Modified	SRE_19	Studentized Residual for SF36preop_RP
	SRE_20	Studentized Residual for SF36discaj_RP
	SRE_21	Studentized Residual for SF36fup_RP

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	SF36preop_RP
2	SF36discaj_RP
3	SF36fup_RP

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	109
	2	Placebo	109

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
SF36preop_RP	Tocotrienol	22.248	37.6293	109
	Placebo	38.532	46.9599	109
	Total	30.390	43.2303	218
SF36discaj_RP	Tocotrienol	36.239	45.1958	109
	Placebo	42.202	48.1963	109
	Total	39.220	46.7081	218
SF36fup_RP	Tocotrienol	67.431	43.2350	109
	Placebo	64.908	44.8918	109
	Total	66.170	43.9877	218

Box's Test of Equality of Covariance Matrices[a]

Box's M	5.957
F	.978
df1	6
df2	338035.925
Sig.	.438

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.279	41.679[b]	2.000	215.000
	Wilks' Lambda	.721	41.679[b]	2.000	215.000
	Hotelling's Trace	.388	41.679[b]	2.000	215.000
	Roy's Largest Root	.388	41.679[b]	2.000	215.000
time * Randomization	Pillai's Trace	.028	3.129[b]	2.000	215.000
	Wilks' Lambda	.972	3.129[b]	2.000	215.000
	Hotelling's Trace	.029	3.129[b]	2.000	215.000
	Roy's Largest Root	.029	3.129[b]	2.000	215.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.000	.279
	Wilks' Lambda	.000	.279
	Hotelling's Trace	.000	.279
	Roy's Largest Root	.000	.279
time * Randomization	Pillai's Trace	.046	.028
	Wilks' Lambda	.046	.028
	Hotelling's Trace	.046	.028
	Roy's Largest Root	.046	.028

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.911	19.939	2	.000	.919

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.930	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	151469.801	2	75734.901	52.974
	Greenhouse-Geisser	151469.801	1.837	82442.573	52.974
	Huynh-Feldt	151469.801	1.861	81397.858	52.974
	Lower-bound	151469.801	1.000	151469.801	52.974
time * Randomization	Sphericity Assumed	9669.343	2	4834.671	3.382
	Greenhouse-Geisser	9669.343	1.837	5262.867	3.382
	Huynh-Feldt	9669.343	1.861	5196.176	3.382
	Lower-bound	9669.343	1.000	9669.343	3.382
Error(time)	Sphericity Assumed	617610.856	432	1429.655	
	Greenhouse-Geisser	617610.856	396.852	1556.276	
	Huynh-Feldt	617610.856	401.945	1536.555	
	Lower-bound	617610.856	216.000	2859.310	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.000	.197
	Greenhouse-Geisser	.000	.197
	Huynh-Feldt	.000	.197
	Lower-bound	.000	.197
time * Randomization	Sphericity Assumed	.035	.015
	Greenhouse-Geisser	.039	.015
	Huynh-Feldt	.038	.015
	Lower-bound	.067	.015
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	139541.284	1	139541.284	82.675	.000
	Quadratic	11928.517	1	11928.517	10.182	.002
time * Randomization	Linear	9638.761	1	9638.761	5.711	.018
	Quadratic	30.581	1	30.581	.026	.872
Error(time)	Linear	364569.954	216	1687.824		
	Quadratic	253040.902	216	1171.486		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.277
	Quadratic	.045
time * Randomization	Linear	.026
	Quadratic	.000
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
SF36preop_RP	Based on Mean	31.438	1	216	.000
	Based on Median	7.982	1	216	.005
	Based on Median and with adjusted df	7.982	1	206.204	.005
	Based on trimmed mean	30.516	1	216	.000
SF36discaj_RP	Based on Mean	5.929	1	216	.016
	Based on Median	.888	1	216	.347
	Based on Median and with adjusted df	.888	1	215.114	.347
	Based on trimmed mean	5.838	1	216	.017
SF36fup_RP	Based on Mean	1.003	1	216	.318
	Based on Median	.179	1	216	.673
	Based on Median and with adjusted df	.179	1	215.695	.673
	Based on trimmed mean	.994	1	216	.320

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	1339694.190	1	1339694.190	435.484	.000	.668
Randomization	7068.043	1	7068.043	2.298	.131	.011
Error	664487.768	216	3076.332			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	41.972	3.067	35.927	48.018
Placebo	48.547	3.067	42.502	54.593

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	-6.575	4.338	.131	-15.125
Placebo	Tocotrienol	6.575	4.338	.131	-1.975

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	1.975
Placebo	Tocotrienol	15.125

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	2356.014	1	2356.014	2.298	.131	.011
Error	221495.923	216	1025.444			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	30.390	2.882	24.710	36.070
2	39.220	3.164	32.983	45.457
3	66.170	2.985	60.287	72.053

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-8.830*	3.041	.012	-16.166	-1.494
	3	-35.780*	3.935	.000	-45.274	-26.285
2	1	8.830*	3.041	.012	1.494	16.166
	3	-26.950*	3.823	.000	-36.175	-17.724
3	1	35.780*	3.935	.000	26.285	45.274
	2	26.950*	3.823	.000	17.724	36.175

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.279	41.679[a]	2.000	215.000	.000	.279
Wilks' lambda	.721	41.679[a]	2.000	215.000	.000	.279
Hotelling's trace	.388	41.679[a]	2.000	215.000	.000	.279
Roy's largest root	.388	41.679[a]	2.000	215.000	.000	.279

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

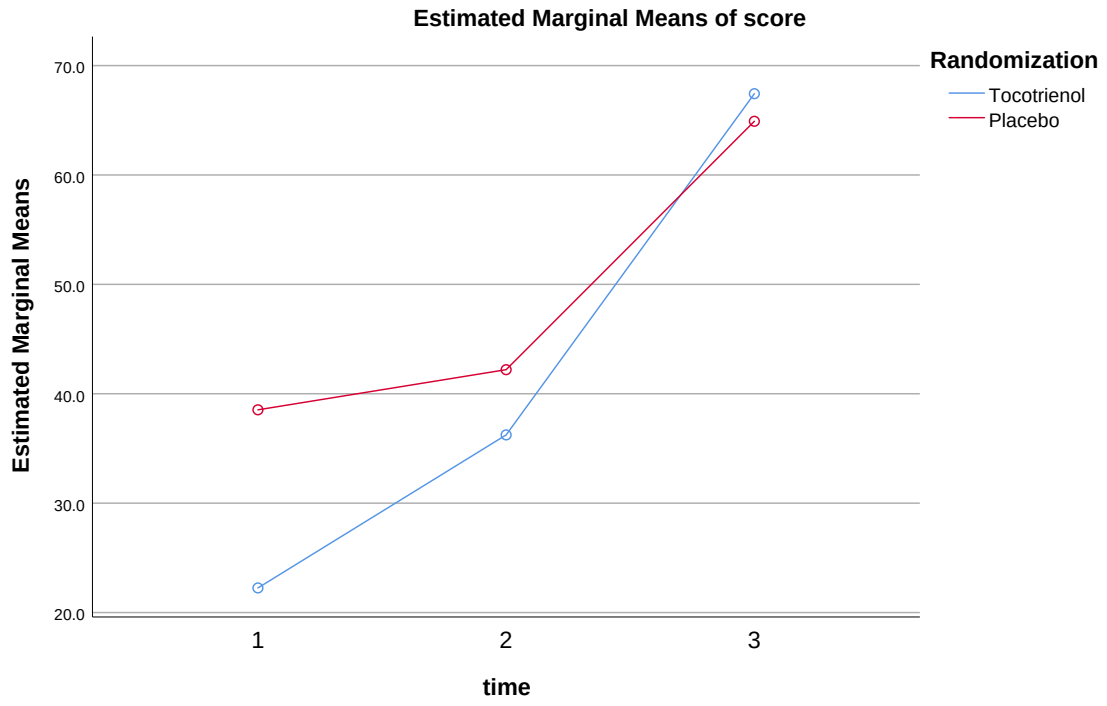
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	22.248	4.076	14.215	30.281
	2	36.239	4.475	27.418	45.059
	3	67.431	4.221	59.111	75.751
Placebo	1	38.532	4.076	30.499	46.565
	2	42.202	4.475	33.382	51.022
	3	64.908	4.221	56.588	73.228

Profile Plots




```
GLM SF36preop_RE SF36discaj_RE SF36fup_RE BY Randomization
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  /MEASURE=score
  /METHOD=SSTYPE(3)
  /SAVE=SRESID
  /POSTHOC=Randomization(TUKEY GH)
  /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 15:11:23
Comments		
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM SF36preop_RE SF36discaj_RE SF36fup_RE BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.23
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Variables Created or Modified	SRE_22	Studentized Residual for SF36preop_RE
	SRE_23	Studentized Residual for SF36discaj_RE
	SRE_24	Studentized Residual for SF36fup_RE

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	SF36preop_RE
2	SF36discaj_RE
3	SF36fup_RE

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	108
	2	Placebo	111

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
SF36preop_RE	Tocotrienol	51.235	31.3841	108
	Placebo	62.462	34.8495	111
	Total	56.925	33.5844	219
SF36discaj_RE	Tocotrienol	65.123	35.4131	108
	Placebo	71.772	34.2888	111
	Total	68.493	34.9269	219
SF36fup_RE	Tocotrienol	92.901	24.1366	108
	Placebo	89.189	26.6523	111
	Total	91.020	25.4526	219

Box's Test of Equality of Covariance Matrices[a]

Box's M	4.310
F	.708
df1	6
df2	340475.511
Sig.	.643

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.429	81.306[b]	2.000	216.000
	Wilks' Lambda	.571	81.306[b]	2.000	216.000
	Hotelling's Trace	.753	81.306[b]	2.000	216.000
	Roy's Largest Root	.753	81.306[b]	2.000	216.000
time * Randomization	Pillai's Trace	.035	3.936[b]	2.000	216.000
	Wilks' Lambda	.965	3.936[b]	2.000	216.000
	Hotelling's Trace	.036	3.936[b]	2.000	216.000
	Roy's Largest Root	.036	3.936[b]	2.000	216.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.000	.429
	Wilks' Lambda	.000	.429
	Hotelling's Trace	.000	.429
	Roy's Largest Root	.000	.429
time * Randomization	Pillai's Trace	.021	.035
	Wilks' Lambda	.021	.035
	Hotelling's Trace	.021	.035
	Roy's Largest Root	.021	.035

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.989	2.326	2	.312	.989

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	1.000	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	132441.277	2	66220.638	90.106
	Greenhouse-Geisser	132441.277	1.979	66930.021	90.106
	Huynh-Feldt	132441.277	2.000	66220.638	90.106
	Lower-bound	132441.277	1.000	132441.277	90.106
time * Randomization	Sphericity Assumed	6413.880	2	3206.940	4.364
	Greenhouse-Geisser	6413.880	1.979	3241.294	4.364
	Huynh-Feldt	6413.880	2.000	3206.940	4.364
	Lower-bound	6413.880	1.000	6413.880	4.364
Error(time)	Sphericity Assumed	318953.954	434	734.917	
	Greenhouse-Geisser	318953.954	429.400	742.790	
	Huynh-Feldt	318953.954	434.000	734.917	
	Lower-bound	318953.954	217.000	1469.834	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.000	.293
	Greenhouse-Geisser	.000	.293
	Huynh-Feldt	.000	.293
	Lower-bound	.000	.293
time * Randomization	Sphericity Assumed	.013	.020
	Greenhouse-Geisser	.014	.020
	Huynh-Feldt	.013	.020
	Lower-bound	.038	.020
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	128026.811	1	128026.811	159.315	.000
	Quadratic	4414.466	1	4414.466	6.626	.011
time * Randomization	Linear	6109.003	1	6109.003	7.602	.006
	Quadratic	304.877	1	304.877	.458	.499
Error(time)	Linear	174383.133	217	803.609		
	Quadratic	144570.821	217	666.225		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.423
	Quadratic	.030
time * Randomization	Linear	.034
	Quadratic	.002
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
SF36preop_RE	Based on Mean	12.335	1	217	.001
	Based on Median	7.887	1	217	.005
	Based on Median and with adjusted df	7.887	1	215.865	.005
	Based on trimmed mean	12.934	1	217	.000
SF36discaj_RE	Based on Mean	1.176	1	217	.279
	Based on Median	3.153	1	217	.077
	Based on Median and with adjusted df	3.153	1	123.015	.078
	Based on trimmed mean	1.427	1	217	.234
SF36fup_RE	Based on Mean	3.921	1	217	.049
	Based on Median	1.165	1	217	.282
	Based on Median and with adjusted df	1.165	1	214.907	.282
	Based on trimmed mean	4.627	1	217	.033

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	3416019.901	1	3416019.901	2287.744	.000	.913
Randomization	3660.693	1	3660.693	2.452	.119	.011
Error	324020.687	217	1493.183			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	69.753	2.147	65.522	73.984
Placebo	74.474	2.118	70.301	78.648

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	-4.721	3.015	.119	-10.665
Placebo	Tocotrienol	4.721	3.015	.119	-1.222

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	1.222
Placebo	Tocotrienol	10.665

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	1220.231	1	1220.231	2.452	.119	.011
Error	108006.896	217	497.728			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	56.849	2.243	52.428	61.269
2	68.448	2.355	63.806	73.089
3	91.045	1.719	87.656	94.434

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-11.599*	2.478	.000	-17.578	-5.620
	3	-34.197*	2.709	.000	-40.733	-27.660
2	1	11.599*	2.478	.000	5.620	17.578
	3	-22.598*	2.580	.000	-28.823	-16.372
3	1	34.197*	2.709	.000	27.660	40.733
	2	22.598*	2.580	.000	16.372	28.823

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.429	81.306[a]	2.000	216.000	.000	.429
Wilks' lambda	.571	81.306[a]	2.000	216.000	.000	.429
Hotelling's trace	.753	81.306[a]	2.000	216.000	.000	.429
Roy's largest root	.753	81.306[a]	2.000	216.000	.000	.429

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

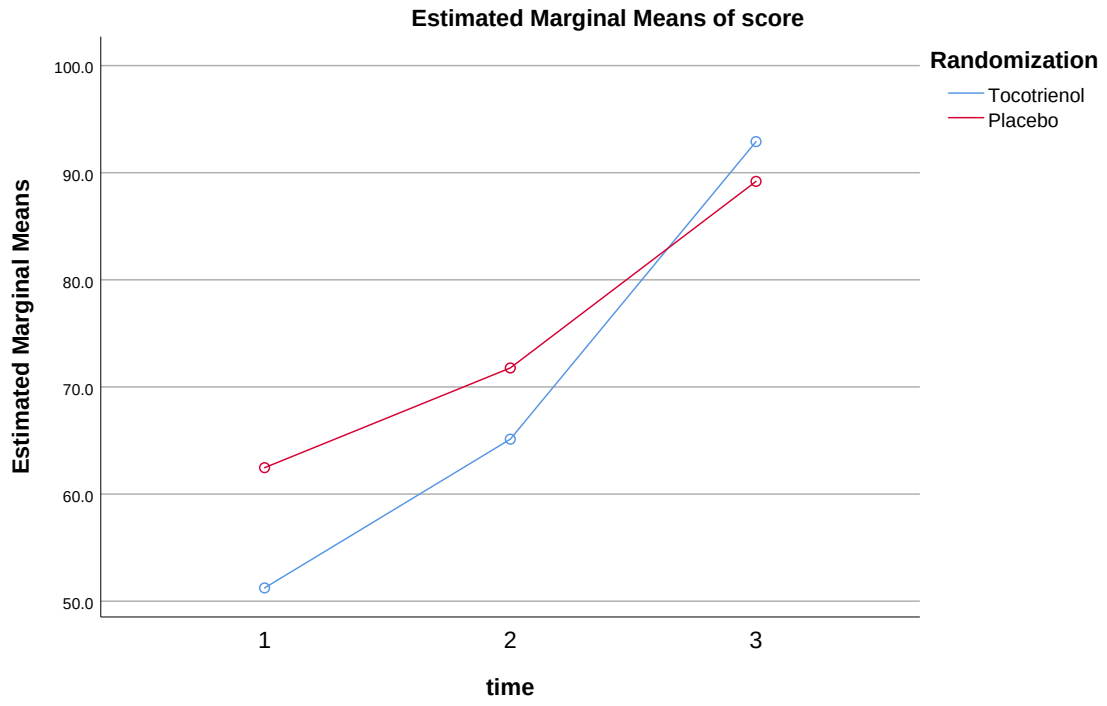
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	51.235	3.193	44.941	57.528
	2	65.123	3.353	58.514	71.733
	3	92.901	2.448	88.076	97.727
Placebo	1	62.462	3.150	56.254	68.671
	2	71.772	3.308	65.253	78.291
	3	89.189	2.415	84.429	93.949

Profile Plots




```
GLM SF36preop_VT Sf36discaj_VT SF36fup_VT BY Randomization
 /WSFACTOR=time 3 Polynomial
 /MEASURE=score
 /METHOD=SSTYPE(3)
 /SAVE=SRESID
 /POSTHOC=Randomization(TUKEY GH)
 /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 15:13:33
Comments		
Input	Data	C:\Users\LENOVO\Documents\ImAnisah\Statistics\TOCO T3\SF36 NHP\SF36 and NHP scores.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM SF36preop_VT Sf36discaj_VT SF36fup_VT BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.25
	Elapsed Time	00:00:00.13
Variables Created or Modified	SRE_25	Studentized Residual for SF36preop_VT
	SRE_26	Studentized Residual for Sf36discaj_VT
	SRE_27	Studentized Residual for SF36fup_VT

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	SF36preop_VT
2	Sf36discaj_VT
3	SF36fup_VT

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	109
	2	Placebo	111

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
SF36preop_VT	Tocotrienol	94.679	12.3655	109
	Placebo	93.694	11.1337	111
	Total	94.182	11.7436	220
Sf36discaj_VT	Tocotrienol	88.119	14.9813	109
	Placebo	88.288	15.8902	111
	Total	88.205	15.4115	220
SF36fup_VT	Tocotrienol	88.211	14.0851	109
	Placebo	86.441	15.9029	111
	Total	87.318	15.0217	220

Box's Test of Equality of Covariance Matrices[a]

Box's M	4.664
F	.766
df1	6
df2	344014.476
Sig.	.597

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.182	24.080[b]	2.000	217.000
	Wilks' Lambda	.818	24.080[b]	2.000	217.000
	Hotelling's Trace	.222	24.080[b]	2.000	217.000
	Roy's Largest Root	.222	24.080[b]	2.000	217.000
time * Randomization	Pillai's Trace	.003	.356[b]	2.000	217.000
	Wilks' Lambda	.997	.356[b]	2.000	217.000
	Hotelling's Trace	.003	.356[b]	2.000	217.000
	Roy's Largest Root	.003	.356[b]	2.000	217.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.000	.182
	Wilks' Lambda	.000	.182
	Hotelling's Trace	.000	.182
	Roy's Largest Root	.000	.182
time * Randomization	Pillai's Trace	.701	.003
	Wilks' Lambda	.701	.003
	Hotelling's Trace	.701	.003
	Roy's Largest Root	.701	.003

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.977	5.095	2	.078	.977

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.991	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	6131.715	2	3065.858	22.078
	Greenhouse-Geisser	6131.715	1.955	3137.009	22.078
	Huynh-Feldt	6131.715	1.981	3095.014	22.078
	Lower-bound	6131.715	1.000	6131.715	22.078
time * Randomization	Sphericity Assumed	104.594	2	52.297	.377
	Greenhouse-Geisser	104.594	1.955	53.511	.377
	Huynh-Feldt	104.594	1.981	52.794	.377
	Lower-bound	104.594	1.000	104.594	.377
Error(time)	Sphericity Assumed	60546.391	436	138.868	
	Greenhouse-Geisser	60546.391	426.111	142.091	
	Huynh-Feldt	60546.391	431.893	140.189	
	Lower-bound	60546.391	218.000	277.736	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.000	.092
	Greenhouse-Geisser	.000	.092
	Huynh-Feldt	.000	.092
	Lower-bound	.000	.092
time * Randomization	Sphericity Assumed	.686	.002
	Greenhouse-Geisser	.682	.002
	Huynh-Feldt	.684	.002
	Lower-bound	.540	.002
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	5176.235	1	5176.235	35.512	.000
	Quadratic	955.480	1	955.480	7.240	.008
time * Randomization	Linear	16.917	1	16.917	.116	.734
	Quadratic	87.677	1	87.677	.664	.416
Error(time)	Linear	31776.037	218	145.762		
	Quadratic	28770.354	218	131.974		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.140
	Quadratic	.032
time * Randomization	Linear	.001
	Quadratic	.003
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
SF36preop_VT	Based on Mean	.288	1	218	.592
	Based on Median	.386	1	218	.535
	Based on Median and with adjusted df	.386	1	215.639	.535
	Based on trimmed mean	.615	1	218	.434
Sf36discaj_VT	Based on Mean	.860	1	218	.355
	Based on Median	.031	1	218	.860
	Based on Median and with adjusted df	.031	1	202.084	.860
	Based on trimmed mean	.498	1	218	.481
SF36fup_VT	Based on Mean	.446	1	218	.505
	Based on Median	.250	1	218	.617
	Based on Median and with adjusted df	.250	1	217.955	.617
	Based on trimmed mean	.405	1	218	.525

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	5334330.447	1	5334330.447	16410.384	.000	.987
Randomization	122.569	1	122.569	.377	.540	.002
Error	70862.697	218	325.058			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	90.336	.997	88.371	92.301
Placebo	89.474	.988	87.527	91.422

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	.862	1.404	.540	-1.905
Placebo	Tocotrienol	-.862	1.404	.540	-3.628

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	3.628
Placebo	Tocotrienol	1.905

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	40.856	1	40.856	.377	.540	.002
Error	23620.899	218	108.353			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	94.186	.793	92.624	95.749
2	88.204	1.041	86.151	90.256
3	87.326	1.013	85.329	89.323

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	5.983*	1.036	.000	3.483	8.482
	3	6.860*	1.151	.000	4.083	9.637
2	1	-5.983*	1.036	.000	-8.482	-3.483
	3	.878	1.178	1.000	-1.966	3.721
3	1	-6.860*	1.151	.000	-9.637	-4.083
	2	-.878	1.178	1.000	-3.721	1.966

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.182	24.080[a]	2.000	217.000	.000	.182
Wilks' lambda	.818	24.080[a]	2.000	217.000	.000	.182
Hotelling's trace	.222	24.080[a]	2.000	217.000	.000	.182
Roy's largest root	.222	24.080[a]	2.000	217.000	.000	.182

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

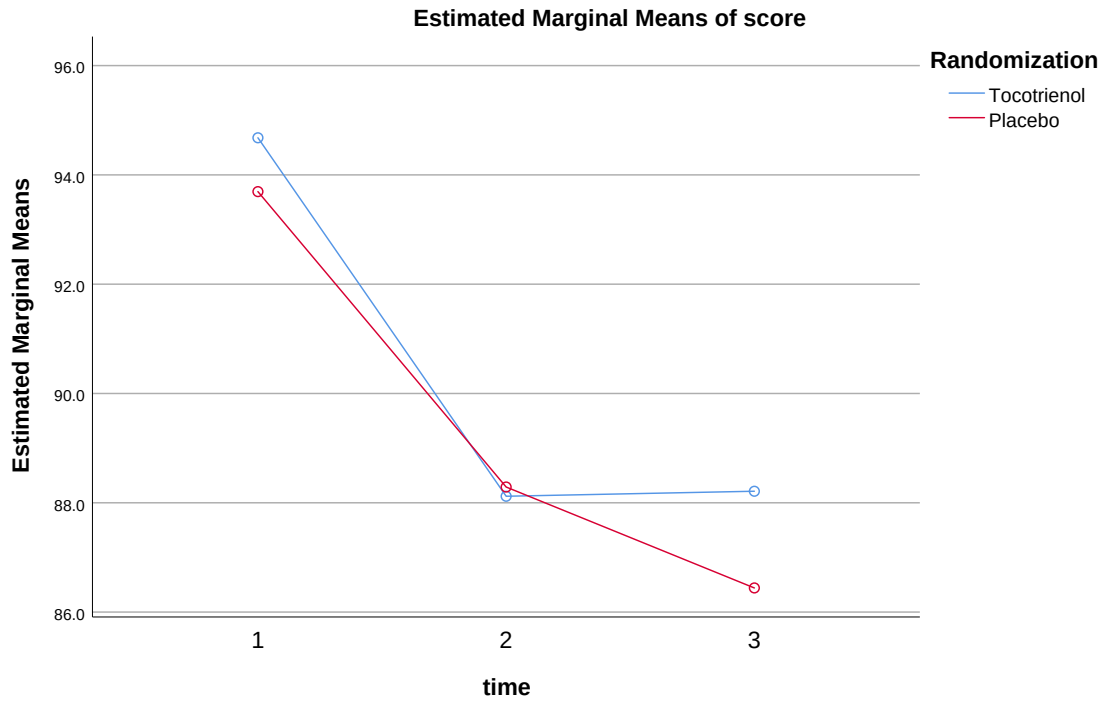
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	94.679	1.126	92.459	96.899
	2	88.119	1.480	85.203	91.035
	3	88.211	1.440	85.374	91.048
Placebo	1	93.694	1.116	91.494	95.894
	2	88.288	1.466	85.399	91.178
	3	86.441	1.427	83.630	89.253

Profile Plots




```
GLM SF36preop_MH SF36discaj_MH SF36fup_MH BY Randomization
 /WSFACTOR=time 3 Polynomial
 /MEASURE=score
 /METHOD=SSTYPE(3)
 /SAVE=SRESID
 /POSTHOC=Randomization(TUKEY GH)
 /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 15:16:14
Comments		
Input	Data	C:\Users\LENOVO\Documents\ImAnisah\Statistics\TOCO T3\SF36 NHP\SF36 and NHP scores.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM SF36preop_MH SF36discaj_MH SF36fup_MH BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.17
	Elapsed Time	00:00:00.14
Variables Created or Modified	SRE_28	Studentized Residual for SF36preop_MH
	SRE_29	Studentized Residual for SF36discaj_MH
	SRE_30	Studentized Residual for SF36fup_MH

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	SF36preop_MH
2	SF36discaj_MH
3	SF36fup_MH

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	109
	2	Placebo	111

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
SF36preop_MH	Tocotrienol	94.092	8.8543	109
	Placebo	91.495	13.8471	111
	Total	92.782	11.6904	220
SF36discaj_MH	Tocotrienol	95.890	7.3527	109
	Placebo	94.919	9.1683	111
	Total	95.400	8.3137	220
SF36fup_MH	Tocotrienol	95.780	7.7524	109
	Placebo	94.162	10.9050	111
	Total	94.964	9.4882	220

Box's Test of Equality of Covariance Matrices[a]

Box's M	49.526
F	8.131
df1	6
df2	344014.476
Sig.	.000

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.034	3.871[b]	2.000	217.000
	Wilks' Lambda	.966	3.871[b]	2.000	217.000
	Hotelling's Trace	.036	3.871[b]	2.000	217.000
	Roy's Largest Root	.036	3.871[b]	2.000	217.000
time * Randomization	Pillai's Trace	.003	.380[b]	2.000	217.000
	Wilks' Lambda	.997	.380[b]	2.000	217.000
	Hotelling's Trace	.004	.380[b]	2.000	217.000
	Roy's Largest Root	.004	.380[b]	2.000	217.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.022	.034
	Wilks' Lambda	.022	.034
	Hotelling's Trace	.022	.034
	Roy's Largest Root	.022	.034
time * Randomization	Pillai's Trace	.684	.003
	Wilks' Lambda	.684	.003
	Hotelling's Trace	.684	.003
	Roy's Largest Root	.684	.003

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.900	22.941	2	.000	.909

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.920	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	861.232	2	430.616	4.842
	Greenhouse-Geisser	861.232	1.818	473.817	4.842
	Huynh-Feldt	861.232	1.840	467.935	4.842
	Lower-bound	861.232	1.000	861.232	4.842
time * Randomization	Sphericity Assumed	73.644	2	36.822	.414
	Greenhouse-Geisser	73.644	1.818	40.516	.414
	Huynh-Feldt	73.644	1.840	40.013	.414
	Lower-bound	73.644	1.000	73.644	.414
Error(time)	Sphericity Assumed	38772.610	436	88.928	
	Greenhouse-Geisser	38772.610	396.247	97.850	
	Huynh-Feldt	38772.610	401.228	96.635	
	Lower-bound	38772.610	218.000	177.856	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.008	.022
	Greenhouse-Geisser	.010	.022
	Huynh-Feldt	.010	.022
	Lower-bound	.029	.022
time * Randomization	Sphericity Assumed	.661	.002
	Greenhouse-Geisser	.642	.002
	Huynh-Feldt	.644	.002
	Lower-bound	.521	.002
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	521.460	1	521.460	4.854	.029
	Quadratic	339.772	1	339.772	4.824	.029
time * Randomization	Linear	26.333	1	26.333	.245	.621
	Quadratic	47.311	1	47.311	.672	.413
Error(time)	Linear	23418.031	218	107.422		
	Quadratic	15354.580	218	70.434		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.022
	Quadratic	.022
time * Randomization	Linear	.001
	Quadratic	.003
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
SF36preop_MH	Based on Mean	7.518	1	218	.007
	Based on Median	2.734	1	218	.100
	Based on Median and with adjusted df	2.734	1	185.583	.100
	Based on trimmed mean	5.544	1	218	.019
SF36discaj_MH	Based on Mean	3.557	1	218	.061
	Based on Median	.749	1	218	.388
	Based on Median and with adjusted df	.749	1	208.220	.388
	Based on trimmed mean	2.012	1	218	.157
SF36fup_MH	Based on Mean	4.856	1	218	.029
	Based on Median	1.603	1	218	.207
	Based on Median and with adjusted df	1.603	1	196.875	.207
	Based on trimmed mean	2.573	1	218	.110

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	5879725.010	1	5879725.010	50378.563	.000	.996
Randomization	492.816	1	492.816	4.223	.041	.019
Error	25442.966	218	116.711			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	95.254	.597	94.076	96.431
Placebo	93.526	.592	92.359	94.692

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence [b]...
					Lower Bound
Tocotrienol	Placebo	1.728*	.841	.041	.071
Placebo	Tocotrienol	-1.728*	.841	.041	-3.386

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [b]...
		Upper Bound
Tocotrienol	Placebo	3.386
Placebo	Tocotrienol	-.071

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	164.272	1	164.272	4.223	.041	.019
Error	8480.989	218	38.904			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	92.794	.785	91.246	94.341
2	95.404	.561	94.299	96.510
3	94.971	.639	93.712	96.230

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-2.611*	.944	.019	-4.889	-.333
	3	-2.177	.988	.086	-4.562	.207
2	1	2.611*	.944	.019	.333	4.889
	3	.433	.746	1.000	-1.367	2.234
3	1	2.177	.988	.086	-.207	4.562
	2	-.433	.746	1.000	-2.234	1.367

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.034	3.871[a]	2.000	217.000	.022	.034
Wilks' lambda	.966	3.871[a]	2.000	217.000	.022	.034
Hotelling's trace	.036	3.871[a]	2.000	217.000	.022	.034
Roy's largest root	.036	3.871[a]	2.000	217.000	.022	.034

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

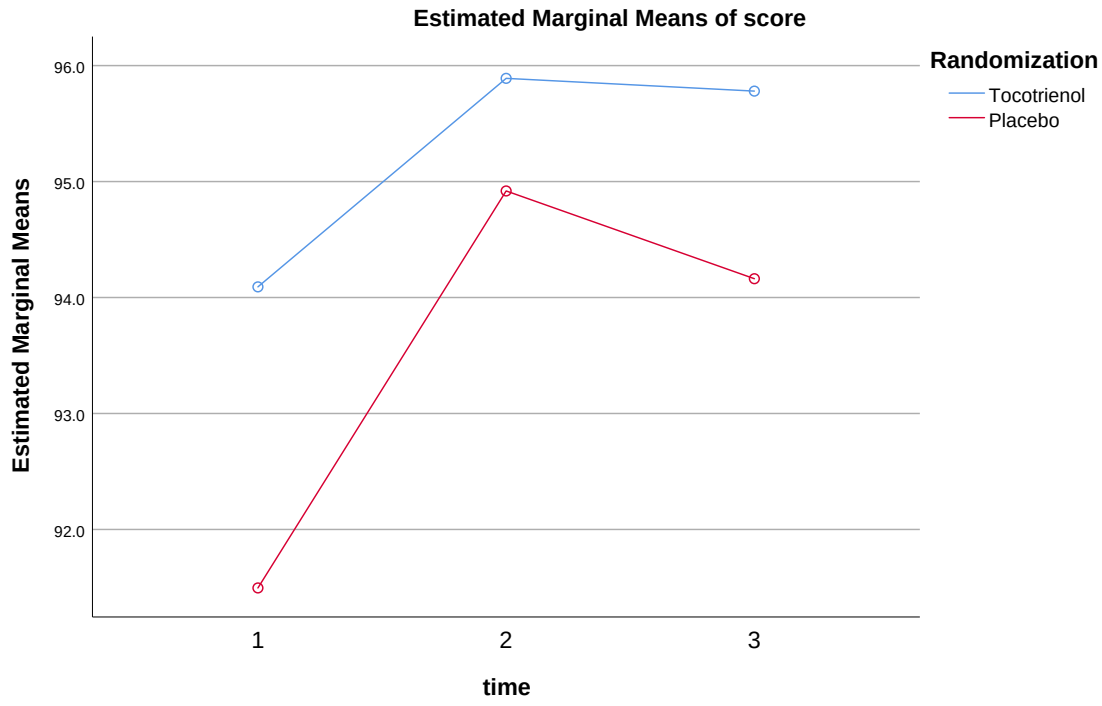
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	94.092	1.115	91.894	96.290
	2	95.890	.797	94.320	97.460
	3	95.780	.908	93.991	97.569
Placebo	1	91.495	1.105	89.317	93.674
	2	94.919	.790	93.363	96.475
	3	94.162	.899	92.390	95.935

Profile Plots




```
GLM SF36preop_SF SF36discaj_SF SF36fup_SF BY Randomization
 /WSFACTOR=time 3 Polynomial
 /MEASURE=score
 /METHOD=SSTYPE(3)
 /SAVE=SRESID
 /POSTHOC=Randomization(TUKEY GH)
 /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 15:18:45
Comments		
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	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM SF36preop_SF SF36discaj_SF SF36fup_SF BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.16
	Elapsed Time	00:00:00.12
Variables Created or Modified	SRE_31	Studentized Residual for SF36preop_SF
	SRE_32	Studentized Residual for SF36discaj_SF
	SRE_33	Studentized Residual for SF36fup_SF

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	SF36preop_SF
2	SF36discaj_SF
3	SF36fup_SF

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	108
	2	Placebo	110

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
SF36preop_SF	Tocotrienol	84.144	14.4614	108
	Placebo	82.386	17.7824	110
	Total	83.257	16.2090	218
SF36discaj_SF	Tocotrienol	80.903	20.8226	108
	Placebo	83.523	16.8415	110
	Total	82.225	18.9206	218
SF36fup_SF	Tocotrienol	80.556	24.4885	108
	Placebo	82.500	24.5487	110
	Total	81.537	24.4817	218

Box's Test of Equality of Covariance Matrices[a]

Box's M	24.621
F	4.042
df1	6
df2	337725.575
Sig.	.000

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.005	.522[b]	2.000	215.000
	Wilks' Lambda	.995	.522[b]	2.000	215.000
	Hotelling's Trace	.005	.522[b]	2.000	215.000
	Roy's Largest Root	.005	.522[b]	2.000	215.000
time * Randomization	Pillai's Trace	.013	1.401[b]	2.000	215.000
	Wilks' Lambda	.987	1.401[b]	2.000	215.000
	Hotelling's Trace	.013	1.401[b]	2.000	215.000
	Roy's Largest Root	.013	1.401[b]	2.000	215.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.594	.005
	Wilks' Lambda	.594	.005
	Hotelling's Trace	.594	.005
	Roy's Largest Root	.594	.005
time * Randomization	Pillai's Trace	.248	.013
	Wilks' Lambda	.248	.013
	Hotelling's Trace	.248	.013
	Roy's Largest Root	.248	.013

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.806	46.241	2	.000	.838

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.848	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	333.805	2	166.902	.469
	Greenhouse-Geisser	333.805	1.676	199.201	.469
	Huynh-Feldt	333.805	1.695	196.921	.469
	Lower-bound	333.805	1.000	333.805	.469
time * Randomization	Sphericity Assumed	605.211	2	302.606	.850
	Greenhouse-Geisser	605.211	1.676	361.166	.850
	Huynh-Feldt	605.211	1.695	357.031	.850
	Lower-bound	605.211	1.000	605.211	.850
Error(time)	Sphericity Assumed	153755.454	432	355.915	
	Greenhouse-Geisser	153755.454	361.955	424.792	
	Huynh-Feldt	153755.454	366.147	419.929	
	Lower-bound	153755.454	216.000	711.831	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.626	.002
	Greenhouse-Geisser	.592	.002
	Huynh-Feldt	.594	.002
	Lower-bound	.494	.002
time * Randomization	Sphericity Assumed	.428	.004
	Greenhouse-Geisser	.411	.004
	Huynh-Feldt	.412	.004
	Lower-bound	.358	.004
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	328.906	1	328.906	.771	.381
	Quadratic	4.899	1	4.899	.017	.896
time * Randomization	Linear	373.344	1	373.344	.875	.350
	Quadratic	231.868	1	231.868	.813	.368
Error(time)	Linear	92116.622	216	426.466		
	Quadratic	61638.832	216	285.365		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.004
	Quadratic	.000
time * Randomization	Linear	.004
	Quadratic	.004
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
SF36preop_SF	Based on Mean	4.064	1	216	.045
	Based on Median	2.825	1	216	.094
	Based on Median and with adjusted df	2.825	1	204.398	.094
	Based on trimmed mean	3.717	1	216	.055
SF36discaj_SF	Based on Mean	3.456	1	216	.064
	Based on Median	2.420	1	216	.121
	Based on Median and with adjusted df	2.420	1	200.755	.121
	Based on trimmed mean	3.241	1	216	.073
SF36fup_SF	Based on Mean	.156	1	216	.693
	Based on Median	.343	1	216	.559
	Based on Median and with adjusted df	.343	1	215.999	.559
	Based on trimmed mean	.391	1	216	.532

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	4433143.917	1	4433143.917	8685.147	.000	.976
Randomization	143.152	1	143.152	.280	.597	.001
Error	110252.490	216	510.428			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	81.867	1.255	79.393	84.341
Placebo	82.803	1.244	80.352	85.254

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	-.936	1.767	.597	-4.418
Placebo	Tocotrienol	.936	1.767	.597	-2.547

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	2.547
Placebo	Tocotrienol	4.418

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	47.717	1	47.717	.280	.597	.001
Error	36750.830	216	170.143			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	83.265	1.099	81.099	85.431
2	82.213	1.281	79.687	84.738
3	81.528	1.661	78.255	84.801

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
1	2	1.052	1.353	1.000	-2.213	4.317
	3	1.737	1.978	1.000	-3.036	6.510
2	1	-1.052	1.353	1.000	-4.317	2.213
	3	.685	2.013	1.000	-4.172	5.542
3	1	-1.737	1.978	1.000	-6.510	3.036
	2	-.685	2.013	1.000	-5.542	4.172

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.005	.522[a]	2.000	215.000	.594	.005
Wilks' lambda	.995	.522[a]	2.000	215.000	.594	.005
Hotelling's trace	.005	.522[a]	2.000	215.000	.594	.005
Roy's largest root	.005	.522[a]	2.000	215.000	.594	.005

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

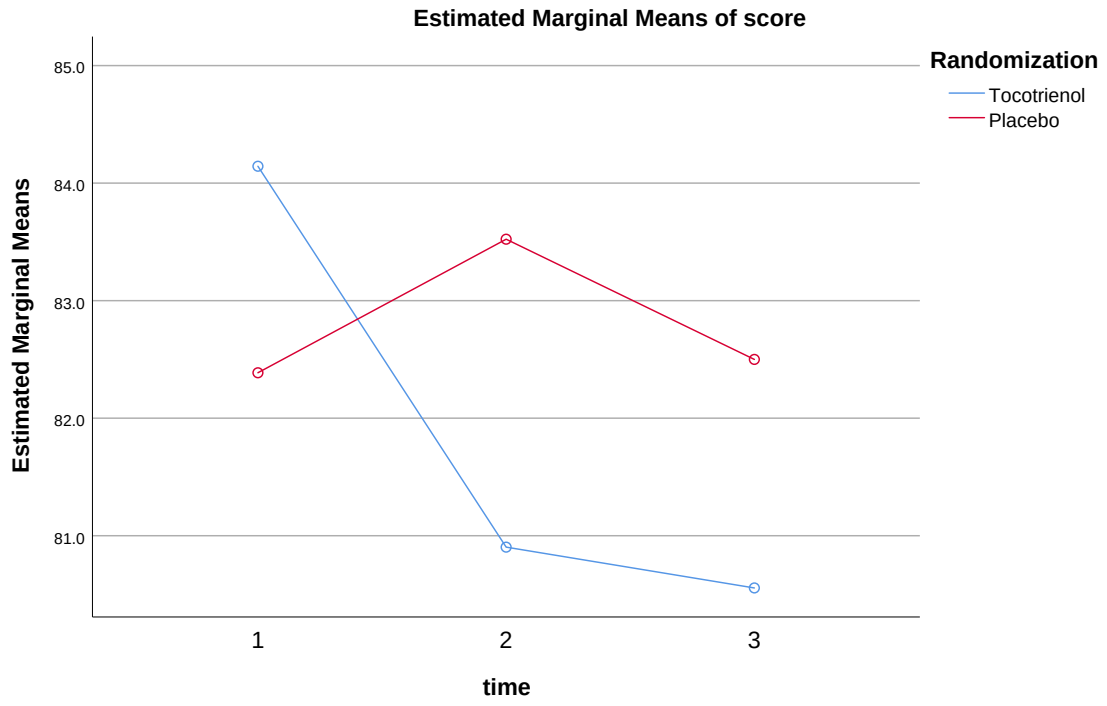
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	84.144	1.561	81.067	87.220
	2	80.903	1.820	77.315	84.491
	3	80.556	2.359	75.905	85.206
Placebo	1	82.386	1.547	79.338	85.435
	2	83.523	1.804	79.967	87.078
	3	82.500	2.338	77.892	87.108

Profile Plots




```
GLM SF36preop_BP SF36discaj_BP SF36fup_BP BY Randomization
 /WSFACTOR=time 3 Polynomial
 /MEASURE=score
 /METHOD=SSTYPE(3)
 /SAVE=SRESID
 /POSTHOC=Randomization(TUKEY GH)
 /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 15:21:55
Comments		
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	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM SF36preop_BP SF36discaj_BP SF36fup_BP BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.20
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Variables Created or Modified	SRE_34	Studentized Residual for SF36preop_BP
	SRE_35	Studentized Residual for SF36discaj_BP
	SRE_36	Studentized Residual for SF36fup_BP

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	SF36preop_BP
2	SF36discaj_BP
3	SF36fup_BP

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	109
	2	Placebo	111

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
SF36preop_BP	Tocotrienol	74.610	17.1768	109
	Placebo	73.063	18.8706	111
	Total	73.830	18.0268	220
SF36discaj_BP	Tocotrienol	71.950	18.1951	109
	Placebo	71.059	19.9930	111
	Total	71.500	19.0849	220
SF36fup_BP	Tocotrienol	73.922	21.4502	109
	Placebo	73.446	20.6377	111
	Total	73.682	20.9974	220

Box's Test of Equality of Covariance Matrices[a]

Box's M	13.420
F	2.203
df1	6
df2	344014.476
Sig.	.040

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.016	1.811[b]	2.000	217.000
	Wilks' Lambda	.984	1.811[b]	2.000	217.000
	Hotelling's Trace	.017	1.811[b]	2.000	217.000
	Roy's Largest Root	.017	1.811[b]	2.000	217.000
time * Randomization	Pillai's Trace	.000	.053[b]	2.000	217.000
	Wilks' Lambda	1.000	.053[b]	2.000	217.000
	Hotelling's Trace	.000	.053[b]	2.000	217.000
	Roy's Largest Root	.000	.053[b]	2.000	217.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.166	.016
	Wilks' Lambda	.166	.016
	Hotelling's Trace	.166	.016
	Roy's Largest Root	.166	.016
time * Randomization	Pillai's Trace	.948	.000
	Wilks' Lambda	.948	.000
	Hotelling's Trace	.948	.000
	Roy's Largest Root	.948	.000

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.880	27.826	2	.000	.893

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.904	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	749.117	2	374.558	1.284
	Greenhouse-Geisser	749.117	1.785	419.636	1.284
	Huynh-Feldt	749.117	1.807	414.527	1.284
	Lower-bound	749.117	1.000	749.117	1.284
time * Randomization	Sphericity Assumed	32.071	2	16.036	.055
	Greenhouse-Geisser	32.071	1.785	17.966	.055
	Huynh-Feldt	32.071	1.807	17.747	.055
	Lower-bound	32.071	1.000	32.071	.055
Error(time)	Sphericity Assumed	127190.107	436	291.720	
	Greenhouse-Geisser	127190.107	389.164	326.829	
	Huynh-Feldt	127190.107	393.961	322.850	
	Lower-bound	127190.107	218.000	583.441	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.278	.006
	Greenhouse-Geisser	.276	.006
	Huynh-Feldt	.277	.006
	Lower-bound	.258	.006
time * Randomization	Sphericity Assumed	.947	.000
	Greenhouse-Geisser	.931	.000
	Huynh-Feldt	.933	.000
	Lower-bound	.815	.000
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	2.561	1	2.561	.007	.932
	Quadratic	746.556	1	746.556	3.266	.072
time * Randomization	Linear	31.538	1	31.538	.089	.766
	Quadratic	.533	1	.533	.002	.962
Error(time)	Linear	77362.936	218	354.876		
	Quadratic	49827.171	218	228.565		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.000
	Quadratic	.015
time * Randomization	Linear	.000
	Quadratic	.000
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
SF36preop_BP	Based on Mean	1.029	1	218	.312
	Based on Median	.850	1	218	.357
	Based on Median and with adjusted df	.850	1	216.219	.357
	Based on trimmed mean	1.057	1	218	.305
SF36discaj_BP	Based on Mean	.211	1	218	.647
	Based on Median	.682	1	218	.410
	Based on Median and with adjusted df	.682	1	216.317	.410
	Based on trimmed mean	.270	1	218	.604
SF36fup_BP	Based on Mean	.162	1	218	.688
	Based on Median	.576	1	218	.449
	Based on Median and with adjusted df	.576	1	217.586	.449
	Based on trimmed mean	.251	1	218	.617

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	3517639.763	1	3517639.763	6384.408	.000	.967
Randomization	155.672	1	155.672	.283	.596	.001
Error	120112.236	218	550.974			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	73.494	1.298	70.936	76.052
Placebo	72.523	1.286	69.987	75.058

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	.971	1.827	.596	-2.630
Placebo	Tocotrienol	-.971	1.827	.596	-4.573

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	4.573
Placebo	Tocotrienol	2.630

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	51.891	1	51.891	.283	.596	.001
Error	40037.412	218	183.658			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	73.837	1.217	71.438	76.235
2	71.504	1.289	68.963	74.045
3	73.684	1.419	70.888	76.480

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
1	2	2.333	1.320	.236	-.852	5.517
	3	.153	1.796	1.000	-4.181	4.486
2	1	-2.333	1.320	.236	-5.517	.852
	3	-2.180	1.729	.626	-6.350	1.990
3	1	-.153	1.796	1.000	-4.486	4.181
	2	2.180	1.729	.626	-1.990	6.350

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.016	1.811[a]	2.000	217.000	.166	.016
Wilks' lambda	.984	1.811[a]	2.000	217.000	.166	.016
Hotelling's trace	.017	1.811[a]	2.000	217.000	.166	.016
Roy's largest root	.017	1.811[a]	2.000	217.000	.166	.016

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

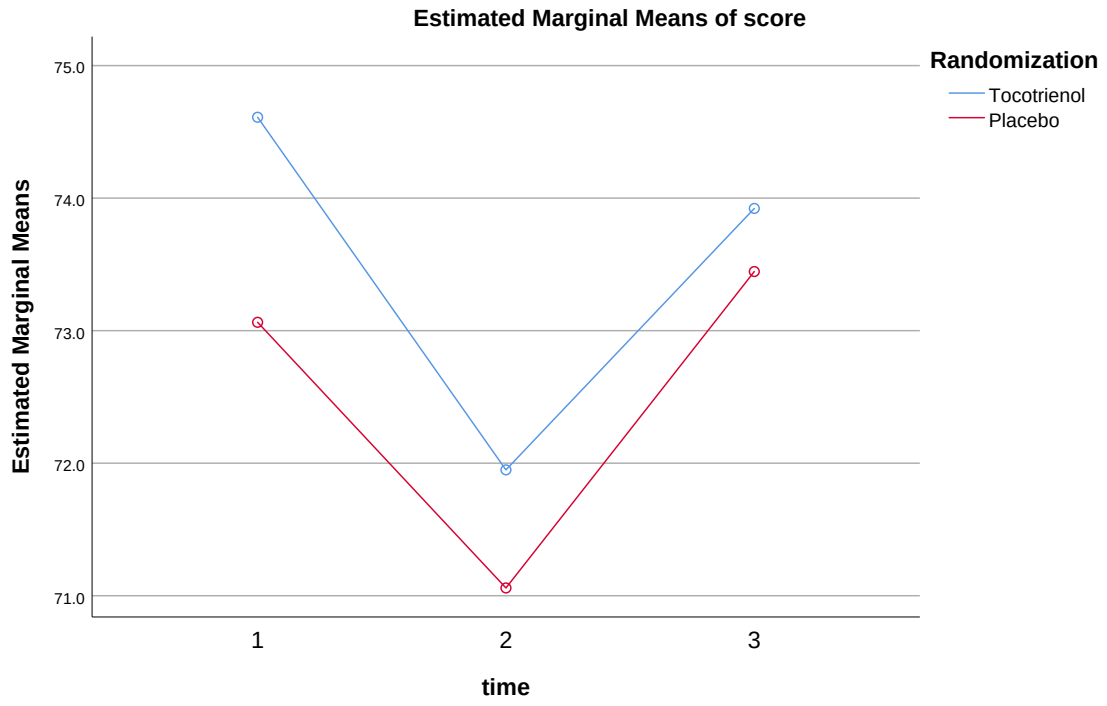
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	74.610	1.729	71.202	78.018
	2	71.950	1.832	68.339	75.560
	3	73.922	2.016	69.949	77.895
Placebo	1	73.063	1.713	69.686	76.440
	2	71.059	1.815	67.481	74.636
	3	73.446	1.997	69.509	77.383

Profile Plots




```
GLM SF36preop_GH SF36discaj_GH SF36fup_GH BY Randomization
  /WSFACTOR=time 3 Polynomial
  /MEASURE=score
  /METHOD=SSTYPE(3)
  /SAVE=SRESID
  /POSTHOC=Randomization(TUKEY GH)
  /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
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General Linear Model

Notes

Output Created		14-OCT-2022 15:24:29
Comments		
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM SF36preop_GH SF36discaj_GH SF36fup_GH BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.16
	Elapsed Time	00:00:00.15
Variables Created or Modified	SRE_37	Studentized Residual for SF36preop_GH
	SRE_38	Studentized Residual for SF36discaj_GH
	SRE_39	Studentized Residual for SF36fup_GH

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	SF36preop_GH
2	SF36discaj_GH
3	SF36fup_GH

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	108
	2	Placebo	111

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
SF36preop_GH	Tocotrienol	68.148	17.7020	108
	Placebo	68.874	18.7045	111
	Total	68.516	18.1789	219
SF36discaj_GH	Tocotrienol	81.157	14.4947	108
	Placebo	81.982	13.9199	111
	Total	81.575	14.1796	219
SF36fup_GH	Tocotrienol	82.824	15.5923	108
	Placebo	81.306	16.8511	111
	Total	82.055	16.2231	219

Box's Test of Equality of Covariance Matrices[a]

Box's M	5.143
F	.844
df1	6
df2	340475.511
Sig.	.535

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.338	55.232[b]	2.000	216.000
	Wilks' Lambda	.662	55.232[b]	2.000	216.000
	Hotelling's Trace	.511	55.232[b]	2.000	216.000
	Roy's Largest Root	.511	55.232[b]	2.000	216.000
time * Randomization	Pillai's Trace	.004	.475[b]	2.000	216.000
	Wilks' Lambda	.996	.475[b]	2.000	216.000
	Hotelling's Trace	.004	.475[b]	2.000	216.000
	Roy's Largest Root	.004	.475[b]	2.000	216.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.000	.338
	Wilks' Lambda	.000	.338
	Hotelling's Trace	.000	.338
	Roy's Largest Root	.000	.338
time * Randomization	Pillai's Trace	.622	.004
	Wilks' Lambda	.622	.004
	Hotelling's Trace	.622	.004
	Roy's Largest Root	.622	.004

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.957	9.415	2	.009	.959

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.972	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	25872.951	2	12936.476	63.373
	Greenhouse-Geisser	25872.951	1.918	13488.211	63.373
	Huynh-Feldt	25872.951	1.944	13310.259	63.373
	Lower-bound	25872.951	1.000	25872.951	63.373
time * Randomization	Sphericity Assumed	192.129	2	96.065	.471
	Greenhouse-Geisser	192.129	1.918	100.162	.471
	Huynh-Feldt	192.129	1.944	98.840	.471
	Lower-bound	192.129	1.000	192.129	.471
Error(time)	Sphericity Assumed	88593.639	434	204.133	
	Greenhouse-Geisser	88593.639	416.247	212.839	
	Huynh-Feldt	88593.639	421.812	210.031	
	Lower-bound	88593.639	217.000	408.266	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.000	.226
	Greenhouse-Geisser	.000	.226
	Huynh-Feldt	.000	.226
	Lower-bound	.000	.226
time * Randomization	Sphericity Assumed	.625	.002
	Greenhouse-Geisser	.617	.002
	Huynh-Feldt	.619	.002
	Lower-bound	.493	.002
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	20113.102	1	20113.102	82.345	.000
	Quadratic	5759.849	1	5759.849	35.119	.000
time * Randomization	Linear	137.760	1	137.760	.564	.453
	Quadratic	54.369	1	54.369	.332	.565
Error(time)	Linear	53003.450	217	244.256		
	Quadratic	35590.189	217	164.010		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.275
	Quadratic	.139
time * Randomization	Linear	.003
	Quadratic	.002
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
SF36preop_GH	Based on Mean	2.015	1	217	.157
	Based on Median	1.681	1	217	.196
	Based on Median and with adjusted df	1.681	1	215.100	.196
	Based on trimmed mean	1.813	1	217	.180
SF36discaj_GH	Based on Mean	.503	1	217	.479
	Based on Median	.274	1	217	.601
	Based on Median and with adjusted df	.274	1	216.667	.601
	Based on trimmed mean	.451	1	217	.502
SF36fup_GH	Based on Mean	.233	1	217	.630
	Based on Median	.322	1	217	.571
	Based on Median and with adjusted df	.322	1	216.675	.571
	Based on trimmed mean	.355	1	217	.552

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	3933357.097	1	3933357.097	10105.382	.000	.979
Randomization	.019	1	.019	.000	.994	.000
Error	84463.755	217	389.234			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	77.377	1.096	75.216	79.537
Placebo	77.387	1.081	75.257	79.518

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	-.011	1.540	.994	-3.045
Placebo	Tocotrienol	.011	1.540	.994	-3.024

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	3.024
Placebo	Tocotrienol	3.045

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	.006	1	.006	.000	.994	.000
Error	28154.585	217	129.745			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	68.511	1.231	66.085	70.937
2	81.570	.960	79.677	83.462
3	82.065	1.098	79.902	84.229

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-13.059*	1.336	.000	-16.281	-9.836
	3	-13.554*	1.494	.000	-17.158	-9.950
2	1	13.059*	1.336	.000	9.836	16.281
	3	-.495	1.257	1.000	-3.527	2.536
3	1	13.554*	1.494	.000	9.950	17.158
	2	.495	1.257	1.000	-2.536	3.527

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.338	55.232[a]	2.000	216.000	.000	.338
Wilks' lambda	.662	55.232[a]	2.000	216.000	.000	.338
Hotelling's trace	.511	55.232[a]	2.000	216.000	.000	.338
Roy's largest root	.511	55.232[a]	2.000	216.000	.000	.338

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

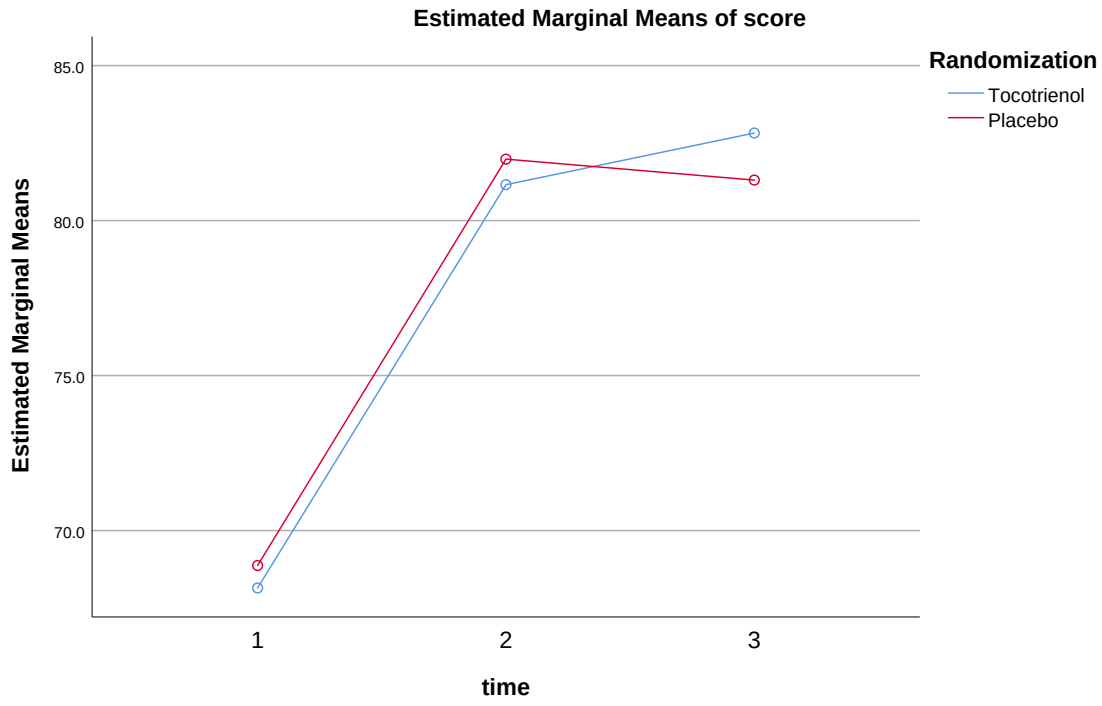
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	68.148	1.753	64.693	71.603
	2	81.157	1.367	78.463	83.852
	3	82.824	1.563	79.744	85.905
Placebo	1	68.874	1.729	65.466	72.282
	2	81.982	1.348	79.324	84.640
	3	81.306	1.542	78.268	84.345

Profile Plots

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 /WSFACTOR=time 3 Polynomial
 /MEASURE=score
 /METHOD=SSTYPE(3)
 /SAVE=SRESID
 /POSTHOC=Randomization(TUKEY GH)
 /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
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  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 15:35:25
Comments		
Input	Data	C:\Users\LENOVO\Documents\ImAnisah\Statistics\TOCO T3\SF36 NHP\SF36 and NHP scores.sav
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM NHPpreop_EL NHPdiscaj_EL NHPfup_EL BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.19
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Variables Created or Modified	SRE_40	Studentized Residual for NHPpreop_EL
	SRE_41	Studentized Residual for NHPdiscaj_EL
	SRE_42	Studentized Residual for NHPfup_EL

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	NHPpreop_EL
2	NHPdiscaj_EL
3	NHPfup_EL

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	106
	2	Placebo	106

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
NHPpreop_EL	Tocotrienol	46.6717	24.90629	106
	Placebo	49.3811	26.37853	106
	Total	48.0264	25.62811	212
NHPdiscaj_EL	Tocotrienol	44.1283	31.93195	106
	Placebo	45.7736	33.27315	106
	Total	44.9509	32.54253	212
NHPfup_EL	Tocotrienol	15.0717	22.79332	106
	Placebo	20.4830	28.11323	106
	Total	17.7774	25.67481	212

Box's Test of Equality of Covariance Matrices[a]

Box's M	8.781
F	1.441
df1	6
df2	319516.981
Sig.	.195

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.439	81.844[b]	2.000	209.000
	Wilks' Lambda	.561	81.844[b]	2.000	209.000
	Hotelling's Trace	.783	81.844[b]	2.000	209.000
	Roy's Largest Root	.783	81.844[b]	2.000	209.000
time * Randomization	Pillai's Trace	.002	.242[b]	2.000	209.000
	Wilks' Lambda	.998	.242[b]	2.000	209.000
	Hotelling's Trace	.002	.242[b]	2.000	209.000
	Roy's Largest Root	.002	.242[b]	2.000	209.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.000	.439
	Wilks' Lambda	.000	.439
	Hotelling's Trace	.000	.439
	Roy's Largest Root	.000	.439
time * Randomization	Pillai's Trace	.785	.002
	Wilks' Lambda	.785	.002
	Hotelling's Trace	.785	.002
	Roy's Largest Root	.785	.002

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.950	10.780	2	.005	.952

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.965	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	117509.315	2	58754.658	85.057
	Greenhouse-Geisser	117509.315	1.904	61708.421	85.057
	Huynh-Feldt	117509.315	1.930	60873.551	85.057
	Lower-bound	117509.315	1.000	117509.315	85.057
time * Randomization	Sphericity Assumed	399.543	2	199.772	.289
	Greenhouse-Geisser	399.543	1.904	209.815	.289
	Huynh-Feldt	399.543	1.930	206.976	.289
	Lower-bound	399.543	1.000	399.543	.289
Error(time)	Sphericity Assumed	290122.715	420	690.768	
	Greenhouse-Geisser	290122.715	399.896	725.495	
	Huynh-Feldt	290122.715	405.381	715.680	
	Lower-bound	290122.715	210.000	1381.537	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.000	.288
	Greenhouse-Geisser	.000	.288
	Huynh-Feldt	.000	.288
	Lower-bound	.000	.288
time * Randomization	Sphericity Assumed	.749	.001
	Greenhouse-Geisser	.738	.001
	Huynh-Feldt	.741	.001
	Lower-bound	.591	.001
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	96990.575	1	96990.575	156.934	.000
	Quadratic	20518.740	1	20518.740	26.875	.000
time * Randomization	Linear	193.455	1	193.455	.313	.576
	Quadratic	206.088	1	206.088	.270	.604
Error(time)	Linear	129787.490	210	618.036		
	Quadratic	160335.225	210	763.501		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.428
	Quadratic	.113
time * Randomization	Linear	.001
	Quadratic	.001
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
NHPpreop_EL	Based on Mean	.212	1	210	.646
	Based on Median	.419	1	210	.518
	Based on Median and with adjusted df	.419	1	205.802	.518
	Based on trimmed mean	.221	1	210	.639
NHPdiscaj_EL	Based on Mean	.479	1	210	.490
	Based on Median	.656	1	210	.419
	Based on Median and with adjusted df	.656	1	209.979	.419
	Based on trimmed mean	.512	1	210	.475
NHPfup_EL	Based on Mean	5.844	1	210	.016
	Based on Median	2.370	1	210	.125
	Based on Median and with adjusted df	2.370	1	201.392	.125
	Based on trimmed mean	5.331	1	210	.022

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	866840.252	1	866840.252	871.320	.000	.806
Randomization	1684.967	1	1684.967	1.694	.195	.008
Error	208920.328	210	994.859			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	35.291	1.769	31.804	38.777
Placebo	38.546	1.769	35.059	42.033

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	-3.255	2.501	.195	-8.186
Placebo	Tocotrienol	3.255	2.501	.195	-1.676

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	1.676
Placebo	Tocotrienol	8.186

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	561.656	1	561.656	1.694	.195	.008
Error	69640.109	210	331.620			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	48.026	1.762	44.553	51.500
2	44.951	2.240	40.536	49.366
3	17.777	1.758	14.312	21.242

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	3.075	2.396	.602	-2.708	8.859
	3	30.249*	2.415	.000	24.422	36.076
2	1	-3.075	2.396	.602	-8.859	2.708
	3	27.174*	2.824	.000	20.358	33.990
3	1	-30.249*	2.415	.000	-36.076	-24.422
	2	-27.174*	2.824	.000	-33.990	-20.358

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.439	81.844[a]	2.000	209.000	.000	.439
Wilks' lambda	.561	81.844[a]	2.000	209.000	.000	.439
Hotelling's trace	.783	81.844[a]	2.000	209.000	.000	.439
Roy's largest root	.783	81.844[a]	2.000	209.000	.000	.439

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

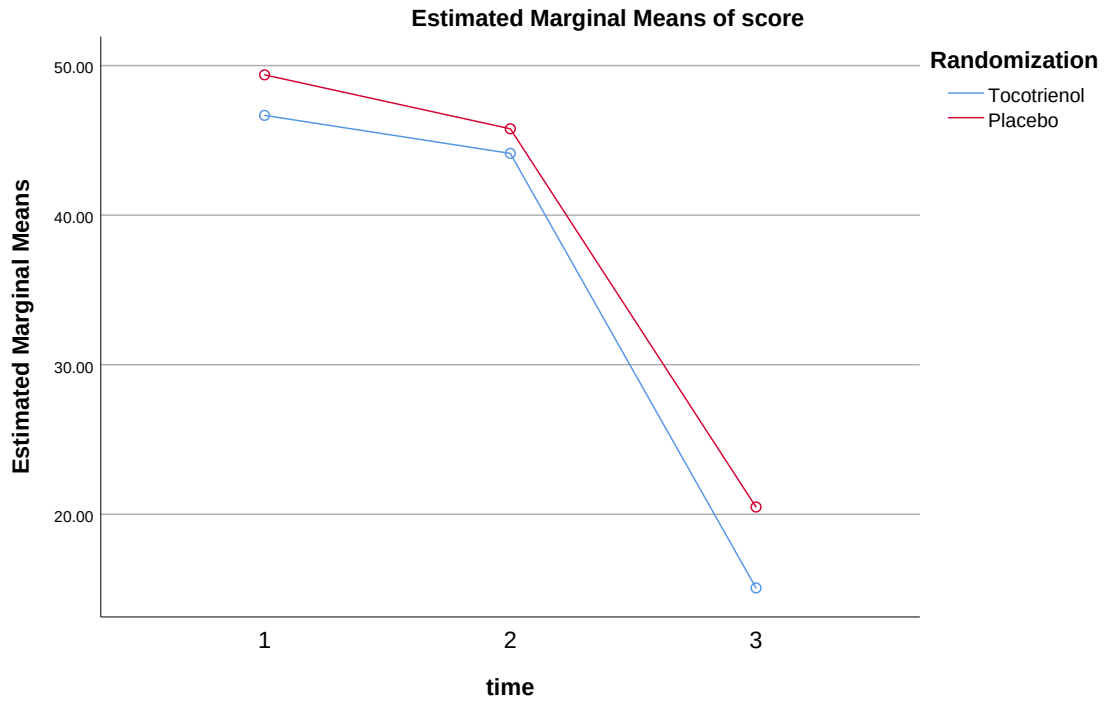
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	46.672	2.492	41.760	51.584
	2	44.128	3.167	37.885	50.372
	3	15.072	2.486	10.172	19.972
Placebo	1	49.381	2.492	44.469	54.293
	2	45.774	3.167	39.530	52.017
	3	20.483	2.486	15.583	25.383

Profile Plots




```
GLM NHPpreop_P NHPdiscaj_P NHPfup_P BY Randomization
 /WSFACTOR=time 3 Polynomial
 /MEASURE=score
 /METHOD=SSTYPE(3)
 /SAVE=SRESID
 /POSTHOC=Randomization(TUKEY GH)
 /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 15:39:59
Comments		
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	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM NHPpreop_P NHPdiscaj_P NHPfup_P BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
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Variables Created or Modified	SRE_43	Studentized Residual for NHPpreop_P
	SRE_44	Studentized Residual for NHPdiscaj_P
	SRE_45	Studentized Residual for NHPfup_P

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	NHPpreop_P
2	NHPdiscaj_P
3	NHPfup_P

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	104
	2	Placebo	106

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
NHPpreop_P	Tocotrienol	3.0431	12.49421	104
	Placebo	3.0212	10.85816	106
	Total	3.0320	11.66895	210
NHPdiscaj_P	Tocotrienol	11.5138	14.72300	104
	Placebo	13.5532	13.68006	106
	Total	12.5432	14.20887	210
NHPfup_P	Tocotrienol	6.7387	13.15670	104
	Placebo	8.4625	17.04794	106
	Total	7.6088	15.23368	210

Box's Test of Equality of Covariance Matrices[a]

Box's M	10.192
F	1.672
df1	6
df2	313149.594
Sig.	.123

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.238	32.325[b]	2.000	207.000
	Wilks' Lambda	.762	32.325[b]	2.000	207.000
	Hotelling's Trace	.312	32.325[b]	2.000	207.000
	Roy's Largest Root	.312	32.325[b]	2.000	207.000
time * Randomization	Pillai's Trace	.004	.431[b]	2.000	207.000
	Wilks' Lambda	.996	.431[b]	2.000	207.000
	Hotelling's Trace	.004	.431[b]	2.000	207.000
	Roy's Largest Root	.004	.431[b]	2.000	207.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.000	.238
	Wilks' Lambda	.000	.238
	Hotelling's Trace	.000	.238
	Roy's Largest Root	.000	.238
time * Randomization	Pillai's Trace	.650	.004
	Wilks' Lambda	.650	.004
	Hotelling's Trace	.650	.004
	Roy's Largest Root	.650	.004

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.955	9.455	2	.009	.957

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.971	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	9482.686	2	4741.343	25.740
	Greenhouse-Geisser	9482.686	1.915	4953.028	25.740
	Huynh-Feldt	9482.686	1.941	4885.002	25.740
	Lower-bound	9482.686	1.000	9482.686	25.740
time * Randomization	Sphericity Assumed	129.422	2	64.711	.351
	Greenhouse-Geisser	129.422	1.915	67.600	.351
	Huynh-Feldt	129.422	1.941	66.672	.351
	Lower-bound	129.422	1.000	129.422	.351
Error(time)	Sphericity Assumed	76628.283	416	184.203	
	Greenhouse-Geisser	76628.283	398.221	192.427	
	Huynh-Feldt	76628.283	403.766	189.784	
	Lower-bound	76628.283	208.000	368.405	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.000	.110
	Greenhouse-Geisser	.000	.110
	Huynh-Feldt	.000	.110
	Lower-bound	.000	.110
time * Randomization	Sphericity Assumed	.704	.002
	Greenhouse-Geisser	.695	.002
	Huynh-Feldt	.698	.002
	Lower-bound	.554	.002
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	2191.227	1	2191.227	11.124	.001
	Quadratic	7291.459	1	7291.459	42.534	.000
time * Randomization	Linear	79.993	1	79.993	.406	.525
	Quadratic	49.429	1	49.429	.288	.592
Error(time)	Linear	40971.588	208	196.979		
	Quadratic	35656.694	208	171.426		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.051
	Quadratic	.170
time * Randomization	Linear	.002
	Quadratic	.001
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
NHPpreop_P	Based on Mean	.003	1	208	.954
	Based on Median	.000	1	208	.989
	Based on Median and with adjusted df	.000	1	204.023	.989
	Based on trimmed mean	.010	1	208	.921
NHPdiscaj_P	Based on Mean	.049	1	208	.826
	Based on Median	.123	1	208	.726
	Based on Median and with adjusted df	.123	1	207.632	.726
	Based on trimmed mean	.001	1	208	.975
NHPfup_P	Based on Mean	2.234	1	208	.136
	Based on Median	.671	1	208	.414
	Based on Median and with adjusted df	.671	1	195.503	.414
	Based on trimmed mean	1.440	1	208	.231

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	37563.790	1	37563.790	185.356	.000	.471
Randomization	244.957	1	244.957	1.209	.273	.006
Error	42152.718	208	202.657			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	7.098	.806	5.510	8.687
Placebo	8.346	.798	6.772	9.919

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	-1.247	1.134	.273	-3.484
Placebo	Tocotrienol	1.247	1.134	.273	-.989

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	.989
Placebo	Tocotrienol	3.484

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	81.652	1	81.652	1.209	.273	.006
Error	14050.906	208	67.552			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	3.032	.807	1.441	4.624
2	12.533	.980	10.601	14.466
3	7.601	1.052	5.526	9.675

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-9.501*	1.179	.000	-12.347	-6.655
	3	-4.568*	1.370	.003	-7.874	-1.263
2	1	9.501*	1.179	.000	6.655	12.347
	3	4.933*	1.413	.002	1.522	8.343
3	1	4.568*	1.370	.003	1.263	7.874
	2	-4.933*	1.413	.002	-8.343	-1.522

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.238	32.325[a]	2.000	207.000	.000	.238
Wilks' lambda	.762	32.325[a]	2.000	207.000	.000	.238
Hotelling's trace	.312	32.325[a]	2.000	207.000	.000	.238
Roy's largest root	.312	32.325[a]	2.000	207.000	.000	.238

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

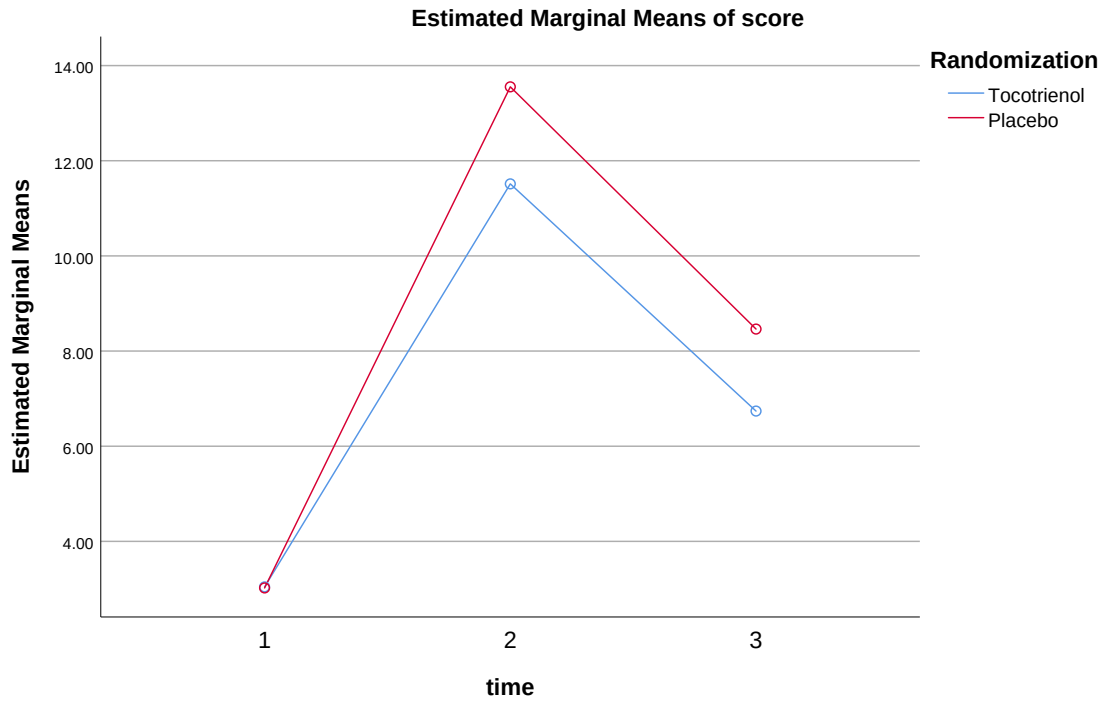
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	3.043	1.147	.782	5.304
	2	11.514	1.393	8.767	14.260
	3	6.739	1.495	3.791	9.686
Placebo	1	3.021	1.136	.781	5.261
	2	13.553	1.380	10.833	16.273
	3	8.463	1.481	5.543	11.382

Profile Plots




```
GLM NHPpreop_ER NHPdiscaj_ER NHPfup_ER BY Randomization
 /WSFACTOR=time 3 Polynomial
 /MEASURE=score
 /METHOD=SSTYPE(3)
 /SAVE=SRESID
 /POSTHOC=Randomization(TUKEY GH)
 /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 15:43:57
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	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM NHPpreop_ER NHPdiscaj_ER NHPfup_ER BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.19
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Variables Created or Modified	SRE_46	Studentized Residual for NHPpreop_ER
	SRE_47	Studentized Residual for NHPdiscaj_ER
	SRE_48	Studentized Residual for NHPfup_ER

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	NHPpreop_ER
2	NHPdiscaj_ER
3	NHPfup_ER

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	104
	2	Placebo	106

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
NHPpreop_ER	Tocotrienol	2.3810	7.24113	104
	Placebo	2.4056	8.41202	106
	Total	2.3934	7.83525	210
NHPdiscaj_ER	Tocotrienol	2.9837	9.53535	104
	Placebo	2.4101	8.16729	106
	Total	2.6941	8.85457	210
NHPfup_ER	Tocotrienol	1.4202	7.45376	104
	Placebo	2.9210	9.97919	106
	Total	2.1778	8.83044	210

Box's Test of Equality of Covariance Matrices[a]

Box's M	27.538
F	4.518
df1	6
df2	313149.594
Sig.	.000

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.002	.215[b]	2.000	207.000
	Wilks' Lambda	.998	.215[b]	2.000	207.000
	Hotelling's Trace	.002	.215[b]	2.000	207.000
	Roy's Largest Root	.002	.215[b]	2.000	207.000
time * Randomization	Pillai's Trace	.007	.758[b]	2.000	207.000
	Wilks' Lambda	.993	.758[b]	2.000	207.000
	Hotelling's Trace	.007	.758[b]	2.000	207.000
	Roy's Largest Root	.007	.758[b]	2.000	207.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.806	.002
	Wilks' Lambda	.806	.002
	Hotelling's Trace	.806	.002
	Roy's Largest Root	.806	.002
time * Randomization	Pillai's Trace	.470	.007
	Wilks' Lambda	.470	.007
	Hotelling's Trace	.470	.007
	Roy's Largest Root	.470	.007

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.897	22.616	2	.000	.906

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.918	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	29.306	2	14.653	.243
	Greenhouse-Geisser	29.306	1.812	16.170	.243
	Huynh-Feldt	29.306	1.836	15.960	.243
	Lower-bound	29.306	1.000	29.306	.243
time * Randomization	Sphericity Assumed	119.693	2	59.847	.993
	Greenhouse-Geisser	119.693	1.812	66.041	.993
	Huynh-Feldt	119.693	1.836	65.184	.993
	Lower-bound	119.693	1.000	119.693	.993
Error(time)	Sphericity Assumed	25070.711	416	60.266	
	Greenhouse-Geisser	25070.711	376.983	66.504	
	Huynh-Feldt	25070.711	381.936	65.641	
	Lower-bound	25070.711	208.000	120.532	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.784	.001
	Greenhouse-Geisser	.762	.001
	Huynh-Feldt	.765	.001
	Lower-bound	.622	.001
time * Randomization	Sphericity Assumed	.371	.005
	Greenhouse-Geisser	.365	.005
	Huynh-Feldt	.366	.005
	Lower-bound	.320	.005
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	5.205	1	5.205	.081	.776
	Quadratic	24.102	1	24.102	.426	.515
time * Randomization	Linear	57.201	1	57.201	.894	.345
	Quadratic	62.492	1	62.492	1.105	.294
Error(time)	Linear	13302.343	208	63.954		
	Quadratic	11768.368	208	56.579		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.000
	Quadratic	.002
time * Randomization	Linear	.004
	Quadratic	.005
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
NHPpreop_ER	Based on Mean	.044	1	208	.834
	Based on Median	.001	1	208	.982
	Based on Median and with adjusted df	.001	1	203.509	.982
	Based on trimmed mean	.016	1	208	.898
NHPdiscaj_ER	Based on Mean	.665	1	208	.416
	Based on Median	.219	1	208	.640
	Based on Median and with adjusted df	.219	1	203.190	.640
	Based on trimmed mean	.533	1	208	.466
NHPfup_ER	Based on Mean	5.069	1	208	.025
	Based on Median	1.520	1	208	.219
	Based on Median and with adjusted df	1.520	1	192.578	.219
	Based on trimmed mean	3.639	1	208	.058

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	3689.963	1	3689.963	37.794	.000	.154
Randomization	15.855	1	15.855	.162	.687	.001
Error	20307.897	208	97.634			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	2.262	.559	1.159	3.364
Placebo	2.579	.554	1.487	3.671

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	-.317	.787	.687	-1.870
Placebo	Tocotrienol	.317	.787	.687	-1.235

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	1.235
Placebo	Tocotrienol	1.870

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	5.285	1	5.285	.162	.687	.001
Error	6769.299	208	32.545			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	2.393	.542	1.325	3.462
2	2.697	.612	1.490	3.904
3	2.171	.609	.971	3.370

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
1	2	-.304	.632	1.000	-1.829	1.222
	3	.223	.780	1.000	-1.661	2.106
2	1	.304	.632	1.000	-1.222	1.829
	3	.526	.845	1.000	-1.512	2.565
3	1	-.223	.780	1.000	-2.106	1.661
	2	-.526	.845	1.000	-2.565	1.512

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.002	.215[a]	2.000	207.000	.806	.002
Wilks' lambda	.998	.215[a]	2.000	207.000	.806	.002
Hotelling's trace	.002	.215[a]	2.000	207.000	.806	.002
Roy's largest root	.002	.215[a]	2.000	207.000	.806	.002

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

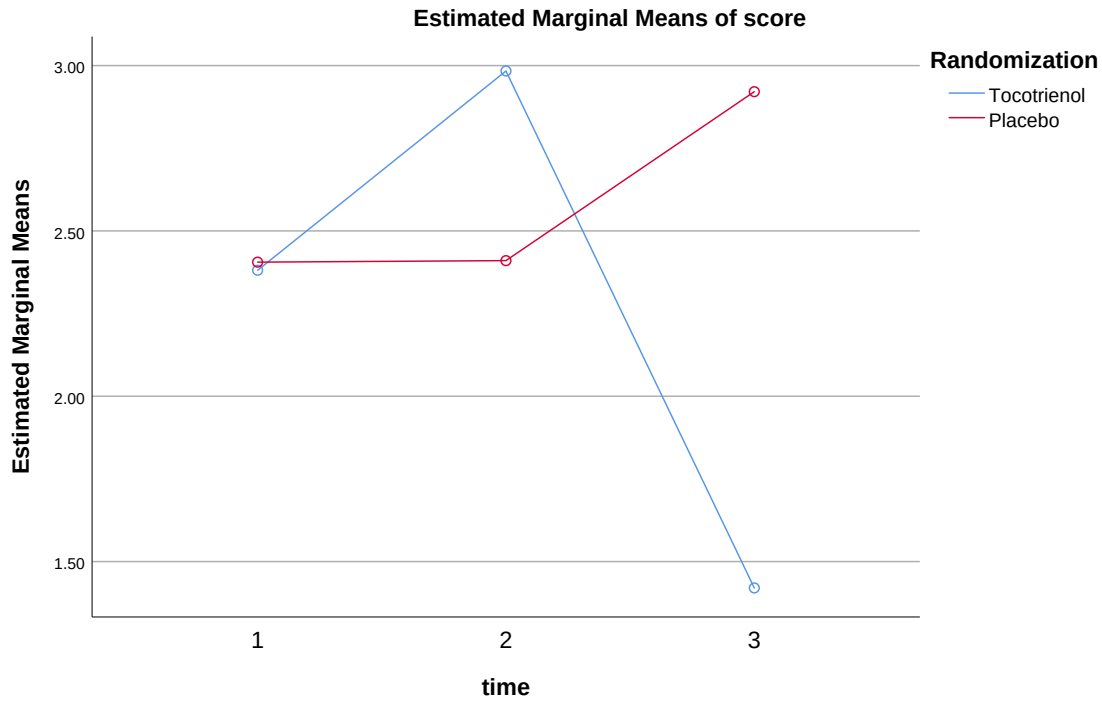
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	2.381	.770	.863	3.899
	2	2.984	.870	1.269	4.699
	3	1.420	.865	-.285	3.125
Placebo	1	2.406	.763	.902	3.909
	2	2.410	.862	.711	4.109
	3	2.921	.857	1.232	4.610

Profile Plots




```
GLM NHPpreop_S NHPdiscaj_S NHPfup_S BY Randomization
 /WSFACTOR=time 3 Polynomial
 /MEASURE=score
 /METHOD=SSTYPE(3)
 /SAVE=SRESID
 /POSTHOC=Randomization(TUKEY GH)
 /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 15:46:30
Comments		
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM NHPpreop_S NHPdiscaj_S NHPfup_S BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
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	Elapsed Time	00:00:00.12
Variables Created or Modified	SRE_49	Studentized Residual for NHPpreop_S
	SRE_50	Studentized Residual for NHPdiscaj_S
	SRE_51	Studentized Residual for NHPfup_S

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	NHPpreop_S
2	NHPdiscaj_S
3	NHPfup_S

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	106
	2	Placebo	106

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
NHPpreop_S	Tocotrienol	13.0907	12.51600	106
	Placebo	13.4819	17.09839	106
	Total	13.2863	14.94915	212
NHPdiscaj_S	Tocotrienol	26.7401	28.76756	106
	Placebo	32.6791	28.62359	106
	Total	29.7096	28.78191	212
NHPfup_S	Tocotrienol	10.7210	20.37550	106
	Placebo	22.0956	31.98140	106
	Total	16.4083	27.35098	212

Box's Test of Equality of Covariance Matrices[a]

Box's M	34.928
F	5.731
df1	6
df2	319516.981
Sig.	.000

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.235	32.162[b]	2.000	209.000
	Wilks' Lambda	.765	32.162[b]	2.000	209.000
	Hotelling's Trace	.308	32.162[b]	2.000	209.000
	Roy's Largest Root	.308	32.162[b]	2.000	209.000
time * Randomization	Pillai's Trace	.036	3.923[b]	2.000	209.000
	Wilks' Lambda	.964	3.923[b]	2.000	209.000
	Hotelling's Trace	.038	3.923[b]	2.000	209.000
	Roy's Largest Root	.038	3.923[b]	2.000	209.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.000	.235
	Wilks' Lambda	.000	.235
	Hotelling's Trace	.000	.235
	Roy's Largest Root	.000	.235
time * Randomization	Pillai's Trace	.021	.036
	Wilks' Lambda	.021	.036
	Hotelling's Trace	.021	.036
	Roy's Largest Root	.021	.036

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.897	22.675	2	.000	.907

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.919	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	32251.969	2	16125.984	30.632
	Greenhouse-Geisser	32251.969	1.814	17783.952	30.632
	Huynh-Feldt	32251.969	1.837	17555.369	30.632
	Lower-bound	32251.969	1.000	32251.969	30.632
time * Randomization	Sphericity Assumed	3196.884	2	1598.442	3.036
	Greenhouse-Geisser	3196.884	1.814	1762.783	3.036
	Huynh-Feldt	3196.884	1.837	1740.125	3.036
	Lower-bound	3196.884	1.000	3196.884	3.036
Error(time)	Sphericity Assumed	221107.320	420	526.446	
	Greenhouse-Geisser	221107.320	380.844	580.572	
	Huynh-Feldt	221107.320	385.803	573.109	
	Lower-bound	221107.320	210.000	1052.892	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.000	.127
	Greenhouse-Geisser	.000	.127
	Huynh-Feldt	.000	.127
	Lower-bound	.000	.127
time * Randomization	Sphericity Assumed	.049	.014
	Greenhouse-Geisser	.054	.014
	Huynh-Feldt	.054	.014
	Lower-bound	.083	.014
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	1033.188	1	1033.188	2.340	.128
	Quadratic	31218.780	1	31218.780	51.060	.000
time * Randomization	Linear	3196.772	1	3196.772	7.241	.008
	Quadratic	.111	1	.111	.000	.989
Error(time)	Linear	92710.516	210	441.479		
	Quadratic	128396.804	210	611.413		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.011
	Quadratic	.196
time * Randomization	Linear	.033
	Quadratic	.000
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
NHPpreop_S	Based on Mean	5.268	1	210	.023
	Based on Median	4.538	1	210	.034
	Based on Median and with adjusted df	4.538	1	188.571	.034
	Based on trimmed mean	4.578	1	210	.034
NHPdiscaj_S	Based on Mean	.475	1	210	.491
	Based on Median	.093	1	210	.760
	Based on Median and with adjusted df	.093	1	199.388	.760
	Based on trimmed mean	.336	1	210	.563
NHPfup_S	Based on Mean	45.896	1	210	.000
	Based on Median	9.537	1	210	.002
	Based on Median and with adjusted df	9.537	1	178.182	.002
	Based on trimmed mean	41.885	1	210	.000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	249372.289	1	249372.289	349.243	.000	.624
Randomization	5537.740	1	5537.740	7.756	.006	.036
Error	149947.851	210	714.037			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	16.851	1.498	13.897	19.805
Placebo	22.752	1.498	19.798	25.706

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence [b]...
					Lower Bound
Tocotrienol	Placebo	-5.902*	2.119	.006	-10.079
Placebo	Tocotrienol	5.902*	2.119	.006	1.724

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [b]...
		Upper Bound
Tocotrienol	Placebo	-1.724
Placebo	Tocotrienol	10.079

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	1845.913	1	1845.913	7.756	.006	.036
Error	49982.617	210	238.012			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	13.286	1.029	11.258	15.315
2	29.710	1.971	25.824	33.595
3	16.408	1.842	12.778	20.039

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-16.423*	2.043	.000	-21.355	-11.492
	3	-3.122	2.041	.383	-8.047	1.803
2	1	16.423*	2.043	.000	11.492	21.355
	3	13.301*	2.561	.000	7.121	19.482
3	1	3.122	2.041	.383	-1.803	8.047
	2	-13.301*	2.561	.000	-19.482	-7.121

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.235	32.162[a]	2.000	209.000	.000	.235
Wilks' lambda	.765	32.162[a]	2.000	209.000	.000	.235
Hotelling's trace	.308	32.162[a]	2.000	209.000	.000	.235
Roy's largest root	.308	32.162[a]	2.000	209.000	.000	.235

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

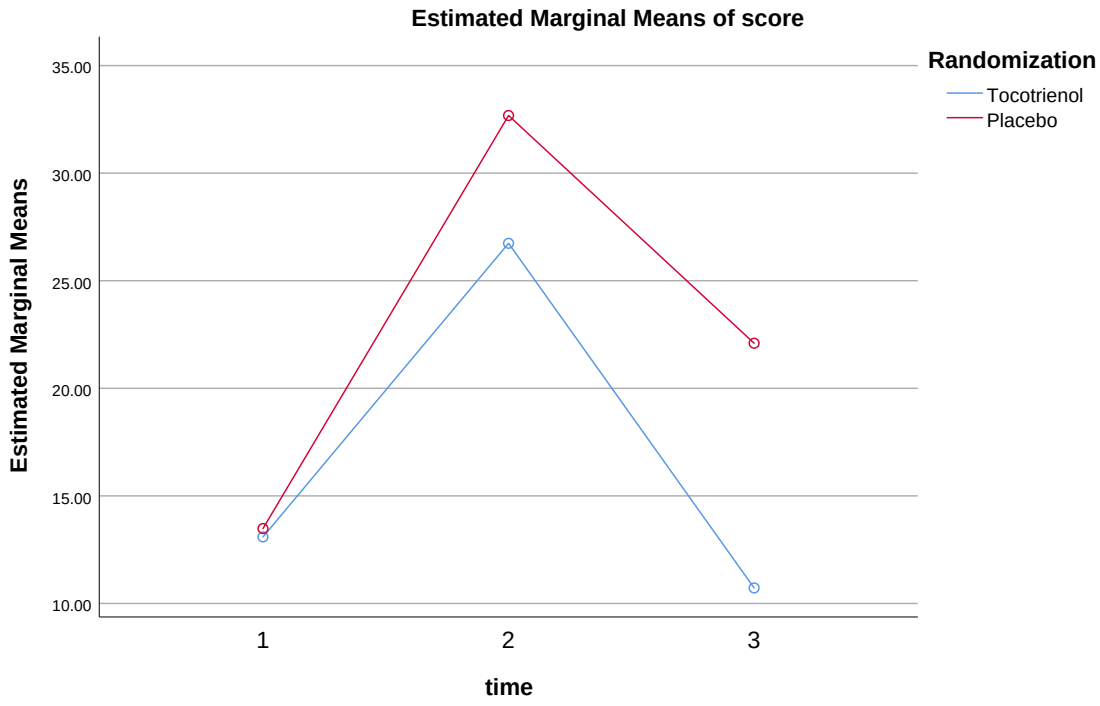
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	13.091	1.455	10.222	15.960
	2	26.740	2.787	21.246	32.235
	3	10.721	2.604	5.587	15.855
Placebo	1	13.482	1.455	10.613	16.351
	2	32.679	2.787	27.185	38.173
	3	22.096	2.604	16.961	27.230

Profile Plots




```
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  /MEASURE=score
  /METHOD=SSTYPE(3)
  /SAVE=SRESID
  /POSTHOC=Randomization(TUKEY GH)
  /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 15:52:19
Comments		
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM NHPpreop_SI NHPdiscaj_SI NHPfup_SI BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.20
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Variables Created or Modified	SRE_52	Studentized Residual for NHPpreop_SI
	SRE_53	Studentized Residual for NHPdiscaj_SI
	SRE_54	Studentized Residual for NHPfup_SI

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	NHPpreop_SI
2	NHPdiscaj_SI
3	NHPfup_SI

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	106
	2	Placebo	105

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
NHPpreop_SI	Tocotrienol	1.1142	5.16513	106
	Placebo	.8434	4.25873	105
	Total	.9794	4.72649	211
NHPdiscaj_SI	Tocotrienol	2.2407	10.79691	106
	Placebo	.6159	3.61278	105
	Total	1.4321	8.08787	211
NHPfup_SI	Tocotrienol	.7883	4.03788	106
	Placebo	1.8187	9.55360	105
	Total	1.3010	7.32256	211

Box's Test of Equality of Covariance Matrices[a]

Box's M	205.110
F	33.653
df1	6
df2	316403.576
Sig.	.000

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.004	.393[b]	2.000	208.000
	Wilks' Lambda	.996	.393[b]	2.000	208.000
	Hotelling's Trace	.004	.393[b]	2.000	208.000
	Roy's Largest Root	.004	.393[b]	2.000	208.000
time * Randomization	Pillai's Trace	.017	1.813[b]	2.000	208.000
	Wilks' Lambda	.983	1.813[b]	2.000	208.000
	Hotelling's Trace	.017	1.813[b]	2.000	208.000
	Roy's Largest Root	.017	1.813[b]	2.000	208.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.676	.004
	Wilks' Lambda	.676	.004
	Hotelling's Trace	.676	.004
	Roy's Largest Root	.676	.004
time * Randomization	Pillai's Trace	.166	.017
	Wilks' Lambda	.166	.017
	Hotelling's Trace	.166	.017
	Roy's Largest Root	.166	.017

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.879	26.751	2	.000	.892

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.904	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	22.720	2	11.360	.289
	Greenhouse-Geisser	22.720	1.785	12.731	.289
	Huynh-Feldt	22.720	1.808	12.570	.289
	Lower-bound	22.720	1.000	22.720	.289
time * Randomization	Sphericity Assumed	185.955	2	92.978	2.363
	Greenhouse-Geisser	185.955	1.785	104.198	2.363
	Huynh-Feldt	185.955	1.808	102.876	2.363
	Lower-bound	185.955	1.000	185.955	2.363
Error(time)	Sphericity Assumed	16445.196	418	39.343	
	Greenhouse-Geisser	16445.196	372.987	44.091	
	Huynh-Feldt	16445.196	377.782	43.531	
	Lower-bound	16445.196	209.000	78.685	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.749	.001
	Greenhouse-Geisser	.724	.001
	Huynh-Feldt	.727	.001
	Lower-bound	.592	.001
time * Randomization	Sphericity Assumed	.095	.011
	Greenhouse-Geisser	.102	.011
	Huynh-Feldt	.101	.011
	Lower-bound	.126	.011
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	11.122	1	11.122	.392	.532
	Quadratic	11.598	1	11.598	.231	.632
time * Randomization	Linear	44.647	1	44.647	1.573	.211
	Quadratic	141.308	1	141.308	2.809	.095
Error(time)	Linear	5933.025	209	28.388		
	Quadratic	10512.170	209	50.297		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.002
	Quadratic	.001
time * Randomization	Linear	.007
	Quadratic	.013
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
NHPpreop_SI	Based on Mean	.702	1	209	.403
	Based on Median	.172	1	209	.678
	Based on Median and with adjusted df	.172	1	201.687	.678
	Based on trimmed mean	.172	1	209	.678
NHPdiscaj_SI	Based on Mean	8.231	1	209	.005
	Based on Median	2.140	1	209	.145
	Based on Median and with adjusted df	2.140	1	127.991	.146
	Based on trimmed mean	3.368	1	209	.068
NHPfup_SI	Based on Mean	4.308	1	209	.039
	Based on Median	1.045	1	209	.308
	Based on Median and with adjusted df	1.045	1	140.374	.309
	Based on trimmed mean	1.045	1	209	.308

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	968.344	1	968.344	15.515	.000	.069
Randomization	13.159	1	13.159	.211	.647	.001
Error	13044.086	209	62.412			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	1.381	.443	.508	2.254
Placebo	1.093	.445	.215	1.970

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	.288	.628	.647	-.950
Placebo	Tocotrienol	-.288	.628	.647	-1.526

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	1.526
Placebo	Tocotrienol	.950

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	4.386	1	4.386	.211	.647	.001
Error	4348.029	209	20.804			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	.979	.326	.336	1.622
2	1.428	.555	.334	2.523
3	1.303	.504	.310	2.297

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
1	2	-.449	.598	1.000	-1.893	.994
	3	-.325	.519	1.000	-1.577	.927
2	1	.449	.598	1.000	-.994	1.893
	3	.125	.701	1.000	-1.568	1.818
3	1	.325	.519	1.000	-.927	1.577
	2	-.125	.701	1.000	-1.818	1.568

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.004	.393[a]	2.000	208.000	.676	.004
Wilks' lambda	.996	.393[a]	2.000	208.000	.676	.004
Hotelling's trace	.004	.393[a]	2.000	208.000	.676	.004
Roy's largest root	.004	.393[a]	2.000	208.000	.676	.004

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

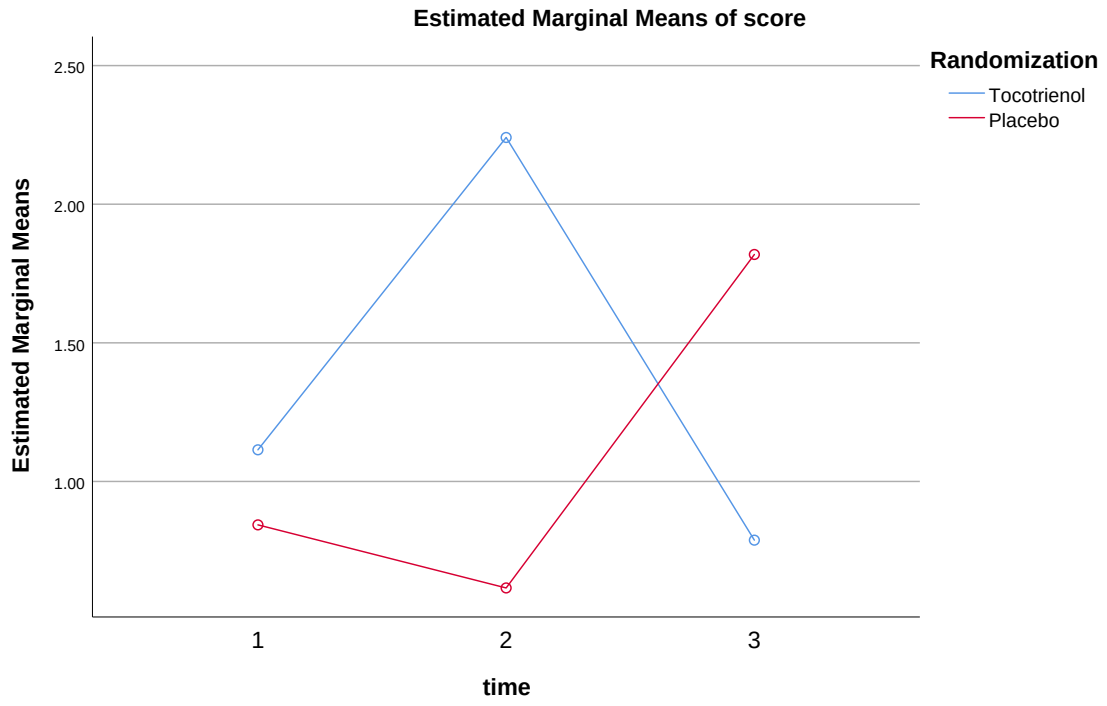
a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	1.114	.460	.207	2.021
	2	2.241	.783	.696	3.785
	3	.788	.711	-.614	2.190
Placebo	1	.843	.462	-.068	1.755
	2	.616	.787	-.936	2.168
	3	1.819	.715	.410	3.227

Profile Plots




```
GLM NHPpreop_PA NHPdiscaj_PA NHPfup_PA BY Randomization
 /WSFACTOR=time 3 Polynomial
 /MEASURE=score
 /METHOD=SSTYPE(3)
 /SAVE=SRESID
 /POSTHOC=Randomization(TUKEY GH)
 /PLOT=PROFILE(time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAX
```

```
IS=AUTO
  /EMMEANS=TABLES(Randomization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Randomization*time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Randomization.
```

General Linear Model

Notes

Output Created		14-OCT-2022 15:54:51
Comments		
Input	Data	C:\Users\LENOVO\Documents\ImAnisah\Statistics\TOCO T3\SF36 NHP\SF36 and NHP scores.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	250
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM NHPpreop_PA NHPdiscaj_PA NHPfup_PA BY Randomization /WSFACTOR=time 3 Polynomial /MEASURE=score /METHOD=SSTYPE(3) /SAVE=SRESID /POSTHOC=Randomization(TUKEY GH) /PLOT=PROFILE (time*Randomization) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (Randomization) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Randomization*time) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Randomization.
Resources	Processor Time	00:00:00.17
	Elapsed Time	00:00:00.16
Variables Created or Modified	SRE_55	Studentized Residual for NHPpreop_PA
	SRE_56	Studentized Residual for NHPdiscaj_PA
	SRE_57	Studentized Residual for NHPfup_PA

Warnings

Post hoc tests are not performed for Randomization because there are fewer than three groups.

Within-Subjects Factors

Measure: score

time	Dependent Variable
1	NHPpreop_PA
2	NHPdiscaj_PA
3	NHPfup_PA

Between-Subjects Factors

		Value Label	N
Randomization	1	Tocotrienol	106
	2	Placebo	105

Descriptive Statistics

	Randomization	Mean	Std. Deviation	N
NHPpreop_PA	Tocotrienol	1.7476	7.25875	106
	Placebo	3.1211	9.09400	105
	Total	2.4311	8.23256	211
NHPdiscaj_PA	Tocotrienol	18.2479	20.84040	106
	Placebo	17.2406	18.03491	105
	Total	17.7466	19.45498	211
NHPfup_PA	Tocotrienol	12.3278	19.61556	106
	Placebo	10.7082	18.59693	105
	Total	11.5218	19.08717	211

Box's Test of Equality of Covariance Matrices[a]

Box's M	21.759
F	3.570
df1	6
df2	316403.576
Sig.	.002

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
time	Pillai's Trace	.429	78.285[b]	2.000	208.000
	Wilks' Lambda	.571	78.285[b]	2.000	208.000
	Hotelling's Trace	.753	78.285[b]	2.000	208.000
	Roy's Largest Root	.753	78.285[b]	2.000	208.000
time * Randomization	Pillai's Trace	.008	.855[b]	2.000	208.000
	Wilks' Lambda	.992	.855[b]	2.000	208.000
	Hotelling's Trace	.008	.855[b]	2.000	208.000
	Roy's Largest Root	.008	.855[b]	2.000	208.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
time	Pillai's Trace	.000	.429
	Wilks' Lambda	.000	.429
	Hotelling's Trace	.000	.429
	Roy's Largest Root	.000	.429
time * Randomization	Pillai's Trace	.427	.008
	Wilks' Lambda	.427	.008
	Hotelling's Trace	.427	.008
	Roy's Largest Root	.427	.008

a. Design: Intercept + Randomization
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	.871	28.613	2	.000	.886

Mauchly's Test of Sphericity[a]

Measure: score

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	.897	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Randomization
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: score

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	25014.883	2	12507.442	53.997
	Greenhouse-Geisser	25014.883	1.772	14114.885	53.997
	Huynh-Feldt	25014.883	1.795	13937.082	53.997
	Lower-bound	25014.883	1.000	25014.883	53.997
time * Randomization	Sphericity Assumed	263.784	2	131.892	.569
	Greenhouse-Geisser	263.784	1.772	148.842	.569
	Huynh-Feldt	263.784	1.795	146.968	.569
	Lower-bound	263.784	1.000	263.784	.569
Error(time)	Sphericity Assumed	96821.517	418	231.630	
	Greenhouse-Geisser	96821.517	370.397	261.399	
	Huynh-Feldt	96821.517	375.122	258.107	
	Lower-bound	96821.517	209.000	463.261	

Tests of Within-Subjects Effects

Measure: score

Source		Sig.	Partial Eta Squared
time	Sphericity Assumed	.000	.205
	Greenhouse-Geisser	.000	.205
	Huynh-Feldt	.000	.205
	Lower-bound	.000	.205
time * Randomization	Sphericity Assumed	.566	.003
	Greenhouse-Geisser	.546	.003
	Huynh-Feldt	.548	.003
	Lower-bound	.451	.003
Error(time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	8704.833	1	8704.833	43.863	.000
	Quadratic	16310.050	1	16310.050	61.593	.000
time * Randomization	Linear	236.286	1	236.286	1.191	.276
	Quadratic	27.498	1	27.498	.104	.748
Error(time)	Linear	41477.126	209	198.455		
	Quadratic	55344.391	209	264.806		

Tests of Within-Subjects Contrasts

Measure: score

Source	time	Partial Eta Squared
time	Linear	.173
	Quadratic	.228
time * Randomization	Linear	.006
	Quadratic	.000
Error(time)	Linear	
	Quadratic	

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

		Levene Statistic	df1	df2	Sig.
NHPpreop_PA	Based on Mean	4.775	1	209	.030
	Based on Median	1.472	1	209	.226
	Based on Median and with adjusted df	1.472	1	199.192	.227
	Based on trimmed mean	3.974	1	209	.048
NHPdiscaj_PA	Based on Mean	3.047	1	209	.082
	Based on Median	1.044	1	209	.308
	Based on Median and with adjusted df	1.044	1	205.067	.308
	Based on trimmed mean	2.346	1	209	.127
NHPfup_PA	Based on Mean	.297	1	209	.586
	Based on Median	.379	1	209	.539
	Based on Median and with adjusted df	.379	1	208.409	.539
	Based on trimmed mean	.128	1	209	.721

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Randomization
Within Subjects Design: time

Tests of Between-Subjects Effects

Measure: score

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	70660.741	1	70660.741	201.995	.000	.491
Randomization	27.627	1	27.627	.079	.779	.000
Error	73111.242	209	349.815			

Estimated Marginal Means

1. Randomization

Estimates

Measure: score

Randomization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Tocotrienol	10.774	1.049	8.707	12.842
Placebo	10.357	1.054	8.279	12.434

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
Tocotrienol	Placebo	.418	1.487	.779	-2.513
Placebo	Tocotrienol	-.418	1.487	.779	-3.349

Pairwise Comparisons

Measure: score

(I) Randomization	(J) Randomization	95% Confidence Interval for [a]...
		Upper Bound
Tocotrienol	Placebo	3.349
Placebo	Tocotrienol	2.513

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: score

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	9.209	1	9.209	.079	.779	.000
Error	24370.414	209	116.605			

The F tests the effect of Randomization. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

2. time

Estimates

Measure: score

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	2.434	.566	1.318	3.550
2	17.744	1.342	15.098	20.390
3	11.518	1.316	8.924	14.112

Pairwise Comparisons

Measure: score

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-15.310*	1.315	.000	-18.482	-12.137
	3	-9.084*	1.372	.000	-12.394	-5.774
2	1	15.310*	1.315	.000	12.137	18.482
	3	6.226*	1.726	.001	2.062	10.391
3	1	9.084*	1.372	.000	5.774	12.394
	2	-6.226*	1.726	.001	-10.391	-2.062

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

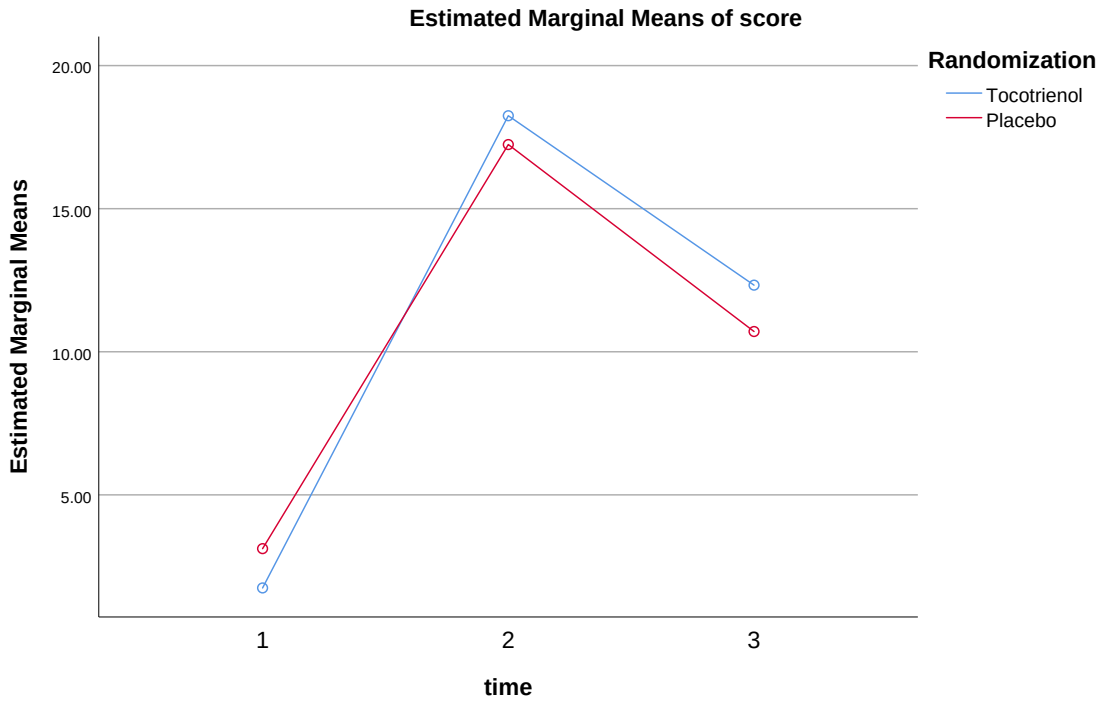
	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.429	78.285[a]	2.000	208.000	.000	.429
Wilks' lambda	.571	78.285[a]	2.000	208.000	.000	.429
Hotelling's trace	.753	78.285[a]	2.000	208.000	.000	.429
Roy's largest root	.753	78.285[a]	2.000	208.000	.000	.429

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

3. Randomization * time

Measure: score

Randomization	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Tocotrienol	1	1.748	.799	.173	3.322
	2	18.248	1.894	14.515	21.981
	3	12.328	1.857	8.668	15.988
Placebo	1	3.121	.803	1.539	4.703
	2	17.241	1.903	13.490	20.991
	3	10.708	1.865	7.031	14.386

Profile Plots