

Final Summary of JC Weight Loss and Quality of Life Studies

The goal of our statistical analyses is to assess statistical significance of changes observed in study outcomes specifically for weight, waist circumference, and 9 subscales of quality of life from the beginning to the end of 4 weeks of study. We performed one sample t-test to test the null hypothesis of no change from baseline for weight, waist circumference, and 9 subscales of quality of life. Weight loss at week 4 was also compared with a control group using two sample t-test. We used the week 4 weight loss of a 12-hour time restricted eating intervention in the previous JC study as control. Our key findings can be summarized as follows:

Table 1 shows that current intervention significantly reduced weight and waist circumference at week 4. Most quality of life subscales increased significantly at week 4, except for Physical Functioning which increase is not significantly different from 0.

Table 2 show that, at week 4, intervention significantly reduced weight when compared with a control group with a margin of 6.3 lbs. ($p < .0001$).

Table 3 shows the number and percent of patients (out of 32 total sample size) who have had any improvement in each subscales of quality of life.

Table 4 is the ranking of the 36 individual questions for quality of life.

In addition, we found that:

8 (25.00%) of patients lost over 18 lbs.

5 (15.63%) of patients lost over 19 lbs.

5 (15.63%) of patients lost over 20 lbs.

4 (12.50%) of patients lost over 21 lbs.

6 (18.75%) of patients lost over 5 inches in waist circumference.

We conclude that the Max Life Study offers effective improvement in weight loss compared to 12-hour time restricted eating. We also found significant improvement in waist circumference reduction and quality of life.

Table 1. One Sample T-test of Change and Percent Change of Outcome Variables at 4 Weeks.

<i>Variables (change at 4 week)</i>	<i>Mean</i>	<i>CI</i>	<i>StdDev</i>	<i>tValue</i>	<i>n</i>	<i>P</i>
<i>Weight_Loss (lbs.)</i>	-15.2	(-16.7, -13.6)	4.3	-20.01	32	<.0001
<i>% Weight_Loss</i>	-6.33	(-6.86, -5.80)	1.48	-24.21	32	<.0001
<i>Waist_reduction (inches)</i>	-3.2	(-3.6, -2.7)	1.2	-14.46	31	<.0001
<i>Change_Energy/Fatigue</i>	23.9	(16.3, 31.4)	20.6	6.44	31	<.0001
<i>Change_Emoational Well-being</i>	12.6	(7.7, 17.6)	13.6	5.18	31	<.0001
<i>Change_General Health</i>	10.4	(5.2, 15.7)	14.4	4.04	31	0.0003
<i>Change_Health Change</i>	28.2	(18.5, 37.9)	26.4	5.95	31	<.0001
<i>Change_Physical Functioning</i>	3.4	(-1.1, 7.9)	12.3	1.53	31	0.137
<i>Change_Pain</i>	15.2	(8.1, 22.3)	19.4	4.36	31	0.0001
<i>Change_Role Limitations Due to Emotional Problems</i>	18.3	(7, 29.6)	30.8	3.3	31	0.0025
<i>Change_Role Limitations Due to Physical Health</i>	17.7	(5.2, 30.3)	34.3	2.88	31	0.0072
<i>Change_Social Functioning</i>	18.6	(10.5, 26.8)	22.2	4.67	31	<.0001
<i>% Change_Energy/Fatigue</i>	78.5	(45.4, 111.5)	90.1	4.85	31	<.0001
<i>% Change_Emoational Well-being</i>	23	(12.9, 33.1)	27.5	4.65	31	<.0001
<i>% Change_General Health</i>	21.7	(10.1, 33.3)	31.7	3.81	31	0.0006
<i>% Change_Health Change</i>	80.6	(47, 114.1)	89.8	4.91	30	<.0001
<i>% Change_Physical Functioning</i>	5.4	(-2.1, 13)	20.7	1.46	31	0.1536
<i>% Change_Pain</i>	32.6	(9.8, 55.3)	62.1	2.92	31	0.0065
<i>% Change_Role Limitations Due to Emotional Problems</i>	30.4	(5.4, 55.4)	64.4	2.5	28	0.0189
<i>% Change_Role Limitations Due to Physical Health</i>	33	(0.9, 65.2)	83	2.11	28	0.0446
<i>% Change_Social Functioning</i>	42.5	(17.5, 67.5)	68.2	3.47	31	0.0016

Table 2. Two Sample T Test of the Weight Loss of Intervention versus Control at Week 4

<i>Groups</i>	<i>N</i>	<i>Mean</i>	<i>Confidence Interval</i>	<i>Std Dev</i>	<i>Std Err</i>	<i>P value</i>
<i>Control</i>	30	-8.8	(-10.6, -7.0)	4.8	0.9	.
<i>Intervention</i>	32	-15.2	(-16.7, -13.6)	4.3	0.8	.
<i>Difference</i>	.	6.3	(4.0, 8.7)	4.5	1.2	<.0001

Table 3. Count and percent of patients who had improvement in QoL.

<i>QoL Subscales</i>	<i>Count</i>	<i>Percent</i>
<i>Energy/Fatigue</i>	26	81.25
<i>Emotional Well-being</i>	23	71.88
<i>General Health</i>	22	68.75
<i>Health Change</i>	21	65.63
<i>Physical Functioning</i>	14	43.75
<i>Pain</i>	22	68.75
<i>Role Limitations Due to Emotional Problems</i>	10	31.25
<i>Role Limitations Due to Physical Health</i>	11	34.38
<i>Social Functioning</i>	16	50.00

0	0	0	0	0	0	20	0	0	0	20	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	20	0	0	0	20	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-25	0	0
0	0	0	0	-20	0	0	0	0	0	0	0	0	0	0	0	-25	-25	-25	-25
0	0	0	0	-20	0	0	-20	-20	0	0	-20	0	0	0	0	-25	-50	-25	-25
0	0	0	0	-20	0	0	-20	-40	-20	-20	-20	0	-20	-20	0	-25	-50	-25	-25
0	0	0	0	-40	-25	-20	-20	-60	-20	-20	-20	-40	-20	-20	0	-50	-75	-25	-50
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Table 5. Ranking of 36 Questions for the Quality of Life Based on Change Scores

Question	Change Score
Q14	32.26
Q27	30.32
Q2	28.23
Q23	25.16
Q29	21.94
Q15	19.35
Q17	19.35
Q18	19.35
Q26	19.35
Q31	18.71
Q32	18.71
Q20	18.55
Q6	16.13
Q19	16.13
Q22	16.13

Q30	15.48
Q21	14.19
Q24	14.19
Q34	13.71
Q35	13.71
Q16	12.90
Q36	12.10
Q1	10.00
Q28	9.68
Q4	6.45
Q13	6.45
Q25	5.16
Q9	4.84
Q10	4.84
Q3	3.23
Q33	2.42
Q7	1.61
Q8	1.61
Q5	0.00
Q11	0.00
Q12	-3.23