Results for Antenatal RCT

Baseline Characteristics

A sample of 60 pregnant women was recruited from the regular clinic patient flow, with 31 randomly assigned to the intervention group and 29 to the control group. Four observations (PMH082AA, 0503AA, 0532AA, and PMH00zAA) had missing R-DAS pre-test scores. To address this, missing values were imputed using a linear regression model, where the pre-test score was predicted based on the post-test score.

At baseline, the intervention and control groups showed similar demographic characteristics. In terms of **nationality**, the majority of participants in both groups were Maltese (86.2% in the control group and 87.1% in the intervention group), with a small proportion of foreign participants (13.8% in the control group and 12.9% in the intervention group). Regarding **relationship status**, most participants in both groups were married or in a registered partnership (58.6% in the control group and 54.8% in the intervention group), followed by those who were cohabiting (24.1% in the control group and 29.0% in the intervention group), and those in a relationship but living apart (17.2% in the control group and 16.1% in the intervention group). For **education level completed**, a majority of participants in both groups had completed tertiary education (51.7% in the control group and 58.1% in the intervention group), followed by post-secondary education (24.1% in the control group and 12.9% in the intervention group). The remaining participants had secondary or no education, with no major differences between groups. In terms of **labour status**, a higher percentage of participants in the intervention group were employed or self-employed (90.3% in the intervention group versus 72.4% in the control group), while a small proportion of both groups were unemployed or taking care of the house and/or family. The **impact of COVID-19 and the distribution of financial impacts were also compared and** it was similar between the two groups, with 41.4% of the control group and 38.7% of the intervention group reporting saving more, and 24.1% of the control group and 22.6% of the intervention group making use of their savings. Lastly, the use of **psychotropic medication** was also similar between the groups, with 17.2% in the control group and 9.7% in the intervention group

reporting taking medication. Overall, the baseline demographic characteristics were comparable between the two groups.

Analysis 1: Differences between pre- and post-measures for the control and intervention groups separately.

This section investigates the differences in scores for the Edinburgh Postnatal Depression Scale (EPDS), Generalized Anxiety Disorder-7 (GAD-7), and Revised Dyadic Adjustment Scale (R-DAS) between pre- and post-intervention assessments, analysed separately for the control and intervention groups. These measures were selected to capture critical aspects of psychological and relational well-being during the study period.

To assess changes within each group over time, the paired t-test was employed. This statistical test evaluates whether the mean difference between pre- and post-measurements within a group is significantly different from zero, assuming the data is approximately normally distributed. By using the paired t-test, this analysis aims to:

- Determine whether significant changes occurred within each group (control and intervention) for EPDS, GAD-7, and R-DAS.
- Highlight the magnitude and direction of changes in mental health and relationship quality scores for each measure.

By analysing the pre- and post-scores separately for the control and intervention groups, this study provides insight into the effectiveness of the intervention and any observed patterns of change within each group.

- **Control Group**

The changes in scores for the **EPDS**, **GAD-7**, and **R-DAS** were analysed separately for the control group using paired t-tests. The table below summarizes the mean pre- and post-intervention scores, the change in scores, and the 95% confidence intervals (CIs) for the change in scores:

	Pre	Post	Change of score	95% CI of Change of Scores
EPDS	14.72 (4.566)	8.55 (4.939)	-6.17 (5.626)	[-8.31, -4.03]
GAD-7	12.31 (3.296)	7.38 (4.716)	-4.93 (5.535)	[-7.04, -2.83]
R-DAS	51.52 (7.385)	53.66 (7.834)	2.14 (6.272)	[-0.25, 4.52]

Table 1: Pre- and Post-Intervention mean scores, Change in Scores, and 95% Confidence Intervals for the control

This table highlights the mean changes in scores for the control group across the three measures, along with the associated variability and confidence intervals. Below are the results of the paired t-tests to assess differences in pre- and post-measurements for the control group across the EPDS, GAD-7, and R-DAS.

- **EPDS**

t(28) = 5.909, p-value < 0.001, Cohen's d = 1.097, 95% CI for Cohen's d [0.628, 1.554]

The t-test result was **t(28) = 5.909, p-value < 0.001**, indicating a statistically significant reduction in depressive symptoms post-intervention. The Cohen's d value of **1.097** suggests a large effect size, meaning the intervention had a substantial impact on reducing depressive symptoms. The **95% CI for Cohen's d** is [0.628, 1.554], further supporting that the effect is large.

- **GAD-7**

t(28) = 4.741, p-value < 0.001, Cohen's d = 0.891, 95% CI for Cohen's d [0.453, 1.317]

The t-test result was t(28) = 4.741, p-value < 0.001, indicating a statistically significant reduction in anxiety symptoms post-intervention. The Cohen's d value of 0.891 suggests a large effect size, meaning the intervention had a substantial impact on reducing anxiety symptoms. The 95% CI for Cohen's d is [0.453, 1.317], indicating the effect size is in the large range.

- **R-DAS**

t(28) = -1.836, p-value = 0.077, Cohen's d = -0.341, 95% CI for Cohen's d [-0.713, 0.037]

The t-test result was t(28) = -1.836, p-value = 0.077, which is marginally above the conventional 0.05 significance level, suggesting that the change in relationship satisfaction was not statistically significant. The Cohen's d value of -0.341 indicates a small effect size, meaning the intervention had a minimal impact on relationship satisfaction. The 95% CI for Cohen's d is [-0.713, 0.037], which further supports that the effect size is small and not statistically significant. Given that RDAS was included as an indicator of the baby's well-being rather than as a criterion for inviting mothers to participate in the RCT (as was the case for EPDS and GAD-7), the majority of mothers in both the Intervention and Control groups were not experiencing couple distress at baseline (75.9% in the control group and 64.5% in the intervention group). Their couple relationships were already very good, potentially reaching a plateau, which may have limited the scope for measurable improvement after the intervention. This ceiling effect might explain the lack of significant difference in RDAS scores between the two groups. Future studies might consider targeting populations with greater variability in relationship quality to explore the potential effects of the intervention on couple distress.

- **Intervention Group**

The changes in scores for the **EPDS, GAD-7**, and **R-DAS** were analysed separately for the intervention group using paired t-tests. The table below summarizes the mean pre- and post-intervention scores, the change in scores, and the 95% confidence intervals (CIs) for the change in scores:

	Pre	Post	Change of score	95% CI of Change of Scores
EPDS	14.45 (4.939)	8.32 (5.344)	-6.13 (6.464)	[-8.50, -3.76]
GAD-7	11.84 (4.940)	6.19 (4.679)	-5.65 (5.030)	[-7.49, -3.80]
R-DAS	47.84 (9.627)	51.45 (8.394)	3.61 (10.522)	[-0.25, 7.47]

Table 2: Pre- and Post-Intervention mean scores, Change in Scores, and 95% Confidence Intervals for the intervention

This table highlights the mean changes in scores for the intervention group across the three measures, along with the associated variability and confidence intervals. Below are the results of the paired t-tests conducted to assess differences in pre- and post-measurements for the intervention group across the EPDS, GAD-7, and R-DAS.

- **EPDS**

t(30) = 5.279, p-value < 0.001, Cohen's d = 0.948, 95% CI for Cohen's d [0.517, 1.368]

The t-test result was t(30) = 5.279, p-value < 0.001, indicating a statistically significant reduction in depressive symptoms in the intervention group. The Cohen's d value of 0.948 suggests a large effect size, indicating that the intervention had a meaningful impact on reducing depressive symptoms. The 95% CI for Cohen's d is [0.517, 1.368], further supporting that the effect was substantial.

- **GAD-7**

t(30) = 6.248, p-value < 0.001, Cohen's d = 1.122, 95% CI for Cohen's d [0.665, 1.568]
The t-test result was t(30) = 6.248, p-value < 0.001, indicating a statistically significant reduction in anxiety symptoms in the intervention group. The Cohen's d value of 1.122 suggests a large effect size, indicating that the intervention had a substantial and meaningful impact on reducing anxiety symptoms. The 95% CI for Cohen's d is [0.665, 1.568], further supporting the substantial effect.

- **R-DAS**

t(30) = -1.912, p-value = 0.065, Cohen's d = -0.343, 95% CI for Cohen's d [-0.703, 0.022]
The t-test result was t(30) = -1.912, p-value = 0.065, which is marginally above the conventional threshold for statistical significance (p = 0.05). This suggests that, while the change in relationship satisfaction shows a trend toward improvement, it does not reach statistical significance. Cohen's d value of -0.343 suggests a small effect size, indicating a modest impact of the intervention on relationship satisfaction. The 95% CI for Cohen's d is [-0.703, 0.022], which includes zero, further suggesting a small or negligible effect. . Given that RDAS was included as an indicator of the baby's well-being rather than as a criterion for inviting mothers to participate in the RCT (as was the case for EPDS and GAD-7), the majority of mothers in both the Intervention and Control groups were not experiencing couple distress at baseline (75.9% in the control group and 64.5% in the intervention group). Their couple relationships were already very good, potentially reaching a plateau, which may have limited the scope for measurable improvement after the intervention. This ceiling effect might explain the lack of significant difference in RDAS scores between the two groups. Future studies might consider targeting populations with greater variability in relationship quality to explore the potential effects of the intervention on couple distress.

Conclusion

Both the control and intervention groups showed significant improvements in depressive symptoms (EPDS) and anxiety symptoms (GAD-7). Relationship satisfaction (R-DAS)

showed a small improvement in both groups, but the change was not statistically significant.

Analysis 2: Differences between the intervention and control groups, controlling for time.

In this analysis, we examine whether there are significant differences in EPDS, GAD-7 and R-DAS scores between the intervention group and control group, while accounting for the effect of time (pre- and post-intervention). A repeated-measures ANOVA is used to control for time and assess group differences in change scores over time.

The primary focus is to determine:

- Whether the intervention group shows greater improvement in EPDS, GAD-7 and R-DAS scores compared to the control group.
- The interaction effect of group (intervention vs. control) and time (pre vs. post), indicating whether the change in scores over time differs significantly between the groups.

The analysis also includes the calculation of effect size (Partial Eta Squared) to quantify the magnitude of the group difference while controlling for time. Confidence intervals for the mean change scores are provided to assess the precision of the observed differences. This approach allows us to evaluate the effectiveness of the intervention while accounting for natural variations over time and the baseline differences between groups.

The table presents the pre- and post-intervention scores for the EPDS, GAD-7, and R-DAS scales in both the control and intervention groups, along with the change in scores and the corresponding 95% confidence intervals (CIs) for these changes.

Control group				
	Pre	**Post**	**Change of score**	**95% CI of Change of Scores**

EPDS	14.72 (4.566)	8.55 (4.939)	-6.17 (5.626)	[-8.31, -4.03]
GAD-7	12.31 (3.296)	7.38 (4.716)	-4.93 (5.535)	[-7.04, -2.83]
R-DAS	51.52 (7.385)	53.66 (7.834)	2.14 (6.272)	[-0.25, 4.52]
Intervention group				
	Pre	**Post**	**Change of score**	**95% CI of Change of Scores**
EPDS	14.45 (4.939)	8.32 (5.344)	-6.13 (6.464)	[-8.50, -3.76]
GAD-7	11.84 (4.940)	6.19 (4.679)	-5.65 (5.030)	[-7.49, -3.80]
R-DAS	47.84 (9.627)	51.45 (8.394)	3.61 (10.522)	[-0.25, 7.47]

Table 3: Pre- and Post- Intervention Scores for EPDS, GAD-7, and R-DAS in Control and Intervention Groups

- EPDS

In the **control** group:

- Pre-Intervention: The mean EPDS score was 14.72, with a standard deviation of 4.566, indicating moderate depressive symptoms with moderate variability among participants.
- Post-Intervention: The mean EPDS score dropped to 8.55, with a standard deviation of 4.939, suggesting a reduction in depressive symptoms, though some variability remains in the outcomes.
- The mean reduction was -6.17, with a standard deviation of 5.626, reflecting considerable variability in how much depressive symptoms improved across participants.
- The 95% Confidence Interval (CI) for the change is [-8.31, -4.03], confirming that the decrease in depressive symptoms is statistically significant, as the CI does not include zero.

In the **intervention** group:

- Pre-Intervention: The mean EPDS score was 14.45, with a standard deviation of 4.939, indicating moderate depressive symptoms with significant variability among participants.
- Post-Intervention: The mean EPDS score dropped to 8.32, with a standard deviation of 5.344, suggesting a reduction in depressive symptoms, although variability in the outcomes still exists.
- The mean reduction was -6.13, with a standard deviation of 6.464, showing a considerable range in how much depressive symptoms improved.
- The 95% Confidence Interval (CI) for the change is [-8.50, -3.76], confirming that the decrease in depressive symptoms is statistically significant, as the CI does not include zero.

Comparison Between Groups

The interaction term "**Time * Treatment Group**" examines whether the change in **EPDS** scores over time (pre- to post-intervention) differs between the control and intervention groups:

F(1, 58) = 0.001, **p = 0.978**, **Partial Eta Squared = 0.000**, **95% CI for Partial Eta Squared [0,0.00016]**

- **F(1, 58) = 0.001**: This F-value suggests that the change in EPDS scores from pre- to post-intervention is nearly identical between the two groups.
- **p = 0.978**: The p-value of 0.978 is much higher than the conventional threshold of 0.05, indicating that the interaction effect is not statistically significant.
- **Partial Eta Squared = 0.000 with 95% CI [0, 0.00016]**: This measure of effect size shows that the proportion of variance explained by the interaction is extremely small (essentially zero), further confirming the lack of a meaningful difference between the groups. The confidence interval for Partial Eta Squared also includes zero, supporting the conclusion that the interaction effect is negligible.

In conclusion, the change in EPDS scores over time does not significantly differ between the control and intervention groups, suggesting that the intervention had no additional impact on depressive symptoms compared to the control group.

- GAD-7

In the **control** group:

- Pre-Intervention: The mean GAD-7 score was 12.31, with a standard deviation of 3.296, indicating moderate to high levels of anxiety, with moderate variability among participants.
- Post-Intervention: The mean GAD-7 score dropped to 7.38, with a standard deviation of 4.716, indicating a reduction in anxiety, though there is still some variability.
- The mean reduction was -4.93, with a standard deviation of 5.535, reflecting considerable variation in the improvement of anxiety symptoms.
- The 95% Confidence Interval (CI) for the change is [-7.04, -2.83], confirming that the decrease in anxiety symptoms is statistically significant, as the CI does not include zero.

In the **intervention** group:

- Pre-Intervention: The mean GAD-7 score was 11.84, with a standard deviation of 4.940, indicating moderate anxiety symptoms with moderate variability among participants.
- Post-Intervention: The mean GAD-7 score dropped to 6.19, with a standard deviation of 4.679, showing a decrease in anxiety symptoms, although some variability remains.
- The mean reduction was -5.65, with a standard deviation of 5.030, indicating considerable variation in the improvement of anxiety levels.
- The 95% Confidence Interval (CI) for the change is [-7.49, -3.80], confirming that the decrease in anxiety symptoms is statistically significant, as the CI does not include zero.

Comparison Between Groups

The interaction term "**Time * Treatment Group**" examines whether the change in **GAD-7** scores over time (pre- to post-intervention) differs between the control and intervention groups:

F(1, 58) = 0.274, **p = 0.603**, **Partial Eta Squared = 0.005**, **95% CI for Partial Eta Squared [0,0.092]**

- **F(1, 58) = 0.274**: The F-value of 0.274 indicates a very small effect.
- **p = 0.603**: The p-value of 0.603 is much higher than 0.05, indicating that the interaction effect is not statistically significant.

- **Partial Eta Squared = 0.005 with 95% CI [0, 0.092]**: This value indicates that only a very small proportion (0.5%) of the variance in GAD-7 score changes can be attributed to the interaction between time and treatment group, further suggesting a negligible impact. The confidence interval for Partial Eta Squared includes zero, which further confirms that the interaction effect is not substantial.

In conclusion, the change in GAD-7 scores over time does not significantly differ between the control and intervention groups, suggesting that the intervention did not have a distinct effect on anxiety levels compared to the control group.

- R-DAS

In the **control** group:

- Pre-Intervention: The mean R-DAS score was 51.52, with a standard deviation of 7.385, indicating moderate relationship distress with considerable variability across participants.
- Post-Intervention: The mean R-DAS score increased to 53.66, with a standard deviation of 7.834, suggesting a slight improvement in relationship distress, but with continued variation.
- The mean change was 2.14, with a standard deviation of 6.272, indicating moderate variability in the improvement of relationship distress.
- The 95% Confidence Interval (CI) for the change is [-0.25, 4.52], indicating that the change may not be statistically significant as the CI includes zero.

In the **intervention** group:

- Pre-Intervention: The mean R-DAS score was 47.84, with a standard deviation of 9.627, suggesting moderate relationship distress with considerable variability among participants.
- Post-Intervention: The mean R-DAS score increased to 51.45, with a standard deviation of 8.394, indicating some improvement in relationship distress, though variability still exists.
- The mean change was 3.61, with a standard deviation of 10.522, showing significant variability in the extent of improvement.
- The 95% Confidence Interval (CI) for the change is [-0.25, 7.47], suggesting the change may not be statistically significant, as the CI includes zero.

Comparison Between Groups

The interaction term "**Time * Treatment Group**" examines whether the change in **R-DAS** scores over time (pre- to post-intervention) differs between the control and intervention groups:

F(1, 58) = 0.427, **p = 0.516**, **Partial Eta Squared = 0.007**, **95% CI for Partial Eta Squared [0,0.102]**

- **F(1, 58) = 0.427**: The F-value of 0.427 indicates a very small effect.
- **p = 0.516**: The p-value is indicating no statistically significant interaction between time (pre- and post-intervention) and treatment group (control vs. intervention) on R-DAS scores.
- **Partial Eta Squared = 0.007 with 95% CI [0, 0.102]**: This value indicates that only 0.7% of the variance in R-DAS score changes can be attributed to the interaction between time and treatment group, which is a very small effect. The confidence interval for Partial Eta Squared includes zero, further supporting the conclusion that the interaction effect is negligible.

In summary, the change in R-DAS scores over time does not significantly differ between the control and intervention groups

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A **Sensitivity analysis** was carried out for the study because some participants in both the Intervention and the Control Group did not adhere to the conditions of the group that they were in. This was carried out by the statistician, who was removed from the results obtained. Because of this in the sensitivity analysis, the following cases were excluded:

Intervention Group (1 out of 31):

- **PMH126AA:** Lost her baby late in pregnancy.

Control Group (3 out of 29):

PMH042AA, **PMH00AA**, and **PMH034AA**: These participants attended therapy, although assigned to the Control group. The therapy they received was not family therapy and therefore conflicted with the group's criteria.

Reallocation of Cases:

- **0725AA**: Reassigned from the Intervention group to the Control group because the participant did not attend any therapy sessions.

Analysis 1: Pre- vs. Post-Measure Comparison: Control vs. Intervention Groups

We then proceeded to see whether there was a difference in the results obtained between the Intention to Treat and the Sensitivity Analyses

In the Sensitivity Analyses ,
The changes in scores for the **EPDS**, **GAD-7**, and **R-DAS** were analysed separately for the **Control Group** using paired t-tests. The table below summarizes the mean pre- and post-intervention scores, the change in scores, and the 95% confidence intervals (CIs) for the change in scores:

	Pre	Post	Change of score	95% CI of Change of Scores
EPDS	14.00 (4.574)	8.15 (4.204)	-5.85 (5.763)	[-8.13, -3.57]
GAD-7	11.93 (3.174)	7.19 (4.608)	-4.74 (5.432)	[-6.89, -2.59]
R-DAS	51.44 (7.738)	53.78 (7.402)	2.33 (6.064)	[-0.07, 4.73]

Sensitivity Analyses *Pre- and Post-Intervention mean scores, Change in Scores, and 95% Confidence Intervals for the control*

The results in both the Intention to Treat Analyses and the Sensitivity Analyses were very similar in terms of significance for the Control Group except in the case of those obtained for the RDAS.

There was a significant reduction in EPDS (-5.85) (instead of -6.17 in the ITT analyses) from pre to post intervention

t(26) = 5.277, p-value < 0.001, Cohen's d = 1.015, 95% CI for Cohen's d [0.542, 1.476]

There was a significant reduction in scores on the GAD7 (-4.74) (instead of -4.93 in the ITT analyses) from pre to post intervention

t(26) = 4.741, p-value < 0.001, Cohen's d = 0.873, 95% CI for Cohen's d [0.422, 1.312]

-and a marginal increase in RDAS (+2.33) (instead of +2.14 in the ITT analyses) with a p value close to the 0.05 treshhold which is somewhat different from the .077 obtained in the ITT analyses.

t(26) = -1.999, p-value = 0.056, Cohen's d = -0.385, 95% CI for Cohen's d [-0.773, 0.010].

The same comparision was made for the **Intervention Group**

	Pre	Post	Change of score	95% CI of Change of Scores
EPDS	15.03 (4.516)	8.34 (5.101)	-6.69 (6.095)	[-9.01, -4.37]
GAD-7	11.93 (5.099)	6.31 (4.774)	-5.62 (5.144)	[-7.58, -3.66]
R-DAS	47.17 (9.389)	51.21 (8.483)	4.03 (10.752)	[-0.06, 8.12]

***Sensitivity Analyses**: Pre- and Post-Intervention mean scores, Change in Scores, and 95% Confidence Intervals for the intervention*

Even for the intervention group, similar results were reported from the Sensitivity Analyses when compared to the Intention to Treat Analyses except for the scores on the RDAS.

-A significant reduction in EPDS (-6.69) (instead of -6.13 in the ITT analyses) from pre to post intervention

t(28) = 5.910, p-value < 0.001, Cohen's d = 1.098, 95% CI for Cohen's d [0.628, 1.554]

-A significant reduction in scores on the GAD7 (-5.62) (instead of -5.65 in the ITT analyses)

t(28) = 5.884, p-value < 0.001, Cohen's d = 1.093, 95% CI for Cohen's d [0.624, 1.549]

-A change and increase of score from pre to post on the RDAS (+4.03) (instead of 3.61in the ITT) with a p value very close to significance of p=.053. This result in terms of value is different from the 0.65 obtained in the ITT analyses

t(28) = -2.021, p-value = 0.053, Cohen's d = -0.375, 95% CI for Cohen's d [-0.749, 0.005]

Conclusion: Both Control and Intervention groups exhibited significant reductions in depressive symptoms (EPDS) and anxiety symptoms (GAD-7), with the intervention group showing slightly greater improvements compared to the control group, particularly in depressive symptoms. The effect on relationship distress remains unclear. Further investigation with a larger sample may be required to explore this aspect more thoroughly. The results of the Sensitivity Analysis shed light on the possibility that with a bigger sample both interventions could have a positive impact on the couple relationship Scale and this is more likely in the case of the Intervention group.

Analysis 2: Differences between the intervention and control groups, controlling for time.

In this analysis, we examine whether there are significant differences in EPDS, GAD-7 and R-DAS scores between the intervention group and control group, while accounting for the effect of time (pre- and post-intervention). A repeated-measures ANOVA is used to control for time and assess group differences in change scores over time.

The primary focus is to determine:

- Whether the intervention group shows greater improvement in EPDS, GAD-7 and R-DAS scores compared to the control group.
- The interaction effect of group (intervention vs. control) and time (pre vs. post), indicating whether the change in scores over time differs significantly between the groups.

The analysis also includes the calculation of effect size (Partial Eta Squared) to quantify the magnitude of the group difference while controlling for time. Confidence intervals for the mean change scores are provided to assess the precision of the observed differences. This approach allows us to evaluate the effectiveness of the intervention

while accounting for natural variations over time and the baseline differences between groups.

This table displays the pre- and post-intervention scores for EPDS, GAD-7, and R-DAS in both the control and intervention groups, along with the change in scores, the corresponding 95% confidence intervals for the changes, and the mean and standard deviation in parentheses.

Control group				
	Pre	**Post**	**Change of score**	**95% CI of Change of Scores**
EPDS	14.00 (4.574)	8.15 (4.204)	-5.85 (5.763)	[-8.13, -3.57]
GAD-7	11.93 (3.174)	7.19 (4.608)	-4.74 (5.432)	[-6.89, -2.59]
R-DAS	51.44 (7.738)	53.78 (7.402)	2.33 (6.064)	[-0.07, 4.73]
Intervention group				
	Pre	**Post**	**Change of score**	**95% CI of Change of Scores**
EPDS	15.03 (4.516)	8.34 (5.101)	-6.69 (6.095)	[-9.01, -4.37]
GAD-7	11.93 (5.099)	6.31 (4.774)	-5.62 (5.144)	[-7.58, -3.66]
R-DAS	47.17 (9.389)	51.21 (8.483)	4.03 (10.752)	[-0.06, 8.12]

Table 1: Pre- and Post- Intervention Scores for EPDS, GAD-7, and R-DAS in Control and Intervention Groups

- EPDS

In the **control** group:

- Pre-Intervention: The mean EPDS score was 14.00, with a standard deviation of 4.574, indicating moderate depressive symptoms with moderate variability among participants.
- Post-Intervention: The mean EPDS score dropped to 8.15, with a slightly lower SD of 4.204, suggesting reduced depressive symptoms but still some variation in individual outcomes.

- The mean reduction was **-5.85**, with a standard deviation of **5.763**, reflecting considerable variability in how much depressive symptoms improved across participants.
- The 95% Confidence Interval (CI) for the change is [-8.13, -3.57], confirming that the decrease in depressive symptoms is statistically significant, as the CI does not include zero.

In the **intervention** group:

- Pre-Intervention: The mean EPDS score was 15.03, with an SD of 4.516, indicating slightly more severe depressive symptoms at baseline compared to the Control group but with similar variability.
- Post-Intervention: The mean EPDS score dropped to 8.34, with an SD of 5.101, suggesting a substantial reduction in depressive symptoms but with slightly more variability compared to the Control group.
- The mean reduction was -6.69, with a standard deviation of 6.095, showing greater variability in symptom improvement compared to the Control group.
- The 95% CI for the change was [-9.01, -4.37], confirming that the reduction was significant for most participants but occurred to varying degrees.

Comparison Between Groups

The interaction term "**Time * Treatment Group**" examines whether the change in **EPDS** scores over time (pre- to post-intervention) differs between the control and intervention groups:

F(1, 54) = 0.278, p = 0.600, Partial Eta Squared = 0.005, 95% CI for Partial Eta Squared [0,0.098]

- **F(1, 54) = 0.278**: The F-statistic indicates that the variation in change scores attributed to the interaction between time and group is very small relative to the residual variance.
- **p = 0.600**: The p-value is not significant ($p > 0.05$), meaning there is no evidence to suggest that the change in EPDS scores differs between the two groups.
- **Partial Eta Squared = 0.005 with 95% CI [0, 0.098]**: This is a measure of effect size, representing the proportion of variance in the change of scores explained by the interaction term. A value of 0.005 indicates a very small effect. The confidence interval includes zero, further confirming that the effect is negligible.

Both the Control and Intervention groups experienced improvements in EPDS scores over time, but the interaction term suggests that the difference in the magnitude of improvement between the groups is not statistically significant.

- GAD-7

In the **control** group:

- Pre-Intervention: The mean GAD-7 score was 10.58, with a standard deviation (SD) of 4.091, indicating moderate anxiety symptoms with moderate variability.
- Post-Intervention: The mean GAD-7 score decreased to 6.00, with an SD of 5.499, showing a reduction in anxiety symptoms but with an increase in variability across participants.
- The mean reduction was -4.58, with an SD of 7.044, reflecting considerable variability in symptom improvement among participants.
- The 95% CI for the change was [-7.42, -1.73], confirming a statistically significant reduction in anxiety symptoms. The CI range suggests that, on average, participants experienced a meaningful decrease, though some individuals showed more improvement than others.

In the **intervention** group:

- Pre-Intervention: The mean GAD-7 score was 12.12, with an SD of 3.734, indicating slightly higher anxiety levels at baseline compared to the Control group but with similar variability.
- Post-Intervention: The mean GAD-7 score dropped to 8.19, with an SD of 5.052, reflecting a reduction in anxiety symptoms.
- The mean reduction was -3.92, with an SD of 6.183, suggesting a somewhat smaller improvement compared to the Control group and with slightly less variability in individual responses.
- The 95% CI for the change was [-6.01, -1.84], confirming a statistically significant reduction in anxiety symptoms.

Comparison Between Groups

The interaction term "**Time * Treatment Group**" examines whether the change in **GAD-7** scores over time (pre- to post-intervention) differs between the control and intervention groups:

F(1, 54) = 0.388, p = 0.536, Partial Eta Squared = 0.007, 95% CI for Partial Eta Squared [0,0.106]

- **F(1, 54) = 0.388**: The F-statistic indicates that the variance in GAD-7 change scores attributable to the interaction of time and group is minimal relative to the residual variance.
- **p = 0.536**: The p-value is not significant ($p > 0.05$), indicating no evidence that the change in GAD-7 scores differs meaningfully between the two groups over time.
- **Partial Eta Squared = 0.007 with 95% CI [0, 0.106]**: This small effect size suggests that the interaction term explains less than 1% of the variance in GAD-7 change scores. The confidence interval includes zero, further reinforcing that the interaction effect is negligible.

Both the Control and Intervention groups experienced reductions in GAD-7 scores over time, but the lack of a significant interaction effect indicates that the degree of reduction in anxiety symptoms is similar for both groups.

- R-DAS

In the **control** group:

- Participants in the control group showed a slight improvement in relationship satisfaction, with R-DAS scores increasing from a pre-intervention mean of 51.44 (SD = 7.738) to a post-intervention mean of 53.78 (SD = 7.402).
- The mean change in scores was +2.33 (SD = 6.064), with a 95% confidence interval of [-0.07, 4.73]. Since the confidence interval includes zero, this suggests the observed improvement might not be statistically significant.

In the **intervention** group:

- Participants in the intervention group also experienced an improvement, with R-DAS scores increasing from a pre-intervention mean of 47.17 (SD = 9.389) to a post-intervention mean of 51.21 (SD = 8.483).
- The mean change in scores was +4.03 (SD = 10.752), with a 95% confidence interval of [-0.06, 8.12]. Similarly, the inclusion of zero in the confidence interval indicates the observed change might not be statistically significant.

Comparison Between Groups

The interaction term "**Time * Treatment Group**" examines whether the change in **R-DAS** scores over time (pre- to post-intervention) differs between the control and intervention groups:

F(1, 54) = 0.521, **p = 0.473**, **Partial Eta Squared = 0.010**, **95% CI for Partial Eta Squared [0,0.113]**

- **F(1, 54) = 0.521**: The F-statistic indicates that the variance in **R-DAS** change scores attributable to the interaction of time and group is minimal relative to the residual variance.
- **p = 0.473**: The p-value is indicating no statistically significant interaction between time (pre- and post-intervention) and treatment group (control vs. intervention) on R-DAS scores.
- **Partial Eta Squared = 0.010 with 95% CI [0, 0.113]**: This small effect size is suggesting a very small proportion of the variance in R-DAS score changes are explained by the interaction between time and treatment group. The confidence interval is showing a wide range of possible effect sizes, including zero, indicating a negligible to small effect.

While both groups showed some improvement in relationship satisfaction, the results do not provide strong evidence of a significant or consistent effect of the intervention on R-DAS scores.

Conclusion: Similar to the results in the ITT Analyses**,** the results indicate that although the difference in the means of the intervention group are higher in at least two of the three measures, they do not reach statistical significance **…** however they all point in the same direction, potential superiority of the intervention in most of the outcomes measured.