Randomization assessment

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1 Traditional method

Table 1: Differences in means across Maropitant and Metadone

	results		
	Metadone(control)	Maropitant(treatment)	p-value
Age	15.9	16.95	.4321982
weigth	19.95	20.85	.2792915

The table displays the means of two key variables, 'Age' and 'Weight,' stratified by treatment status. The p-values in the last column correspond to the results of t-tests comparing the means of these variables between the treatment and control groups.

Notably, the p-values for both 'Age' and 'Weight' are relatively large, with 'Age' yielding a p-value of approximately 0.4322 and 'Weight' yielding a p-value of around 0.2793. These large p-values are indicative of the success of the randomization process. In the context of this experiment, larger p-values suggest that there are no statistically significant differences in these key characteristics between the treatment and control groups. This reinforces our confidence in the randomization process, indicating that it effectively balanced these variables across the two groups, thereby enhancing the validity of our experimental findings. The results of the probit regression provide important evidence supporting the success of our randomization process. The coefficient estimates for 'Age' and 'Weight,' which represent potential confounding variables, do not show statistically significant relationships with the treatment variable 'Maropitant.' Additionally, the likelihood ratio (LR) chi-squared test, which assesses the overall significance of the covariates, yields a p-value of 0.3549, indicating that these covariates collectively do not significantly predict the treatment assignment. This suggests that the randomization process effectively balanced these characteristics between the treatment and control groups, reinforcing our confidence in the experiment's validity.

Table 2: Regression probit to check randomization

	(1) Maropitant
Maropitant	
età	0.045
	(0.050)
peso	0.094
	(0.080)
Constant	-2.662
	(1.915)
Observations	40

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

2 Plots

3 Thunder method

Table 3: Mean Values by Treatment Group (Thunder Method)

	Metadone (control)	Maropitant (treatment)	p-value
Age	15.05	16.00	0.4516
Weight	19.00	20.00	0.2429

The table presents the means of two key variables, 'Age' and 'Weight,' categorized by treatment group. The p-values in the last column represent the outcomes of t-tests that compare the means of these variables between the treatment and control groups.

Notably, the p-values for both 'Age' and 'Weight' are relatively large, with 'Age' yielding a p-value of approximately 0.4516 and 'Weight' yielding a p-value of approximately 0.2429. These sizable p-values serve as strong evidence in favor of the successful implementation of the randomization process. Within the context of this experiment, larger p-values suggest that there are no statistically significant disparities in these crucial characteristics between the treatment and control groups. This reaffirms our confidence in the effectiveness of the randomization process, as it has effectively balanced these variables between the two groups, thereby bolstering the credibility of our experimental results.

The results of the probit regression provide important evidence supporting the success of our randomization process. The coefficient estimates for 'Age'

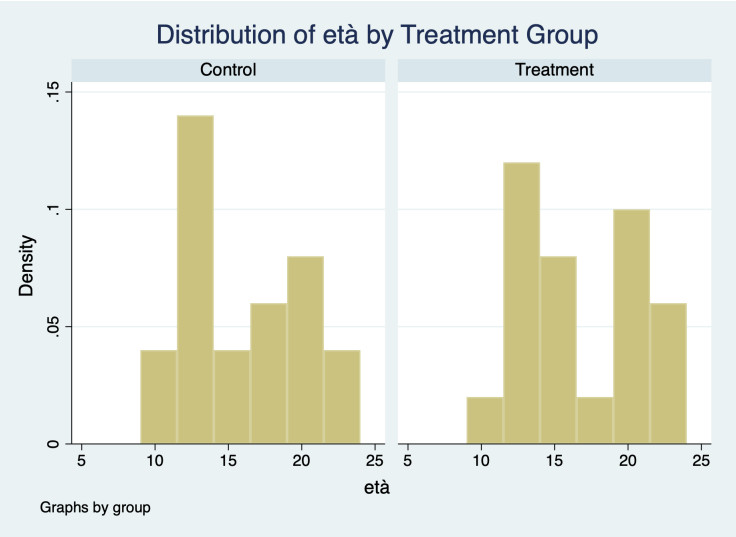

Figure 1: Histogram of age by Treatment Group

and 'Weight,' which represent potential confounding variables, do not show statistically significant relationships with the treatment variable 'Maropitant.' Additionally, the likelihood ratio (LR) chi-squared test, which assesses the overall significance of the covariates, yields a p-value of 0.3549, indicating that these covariates collectively do not significantly predict the treatment assignment. This suggests that the randomization process effectively balanced these characteristics between the treatment and control groups, reinforcing our confidence in the experiment's validity.

4 Plots

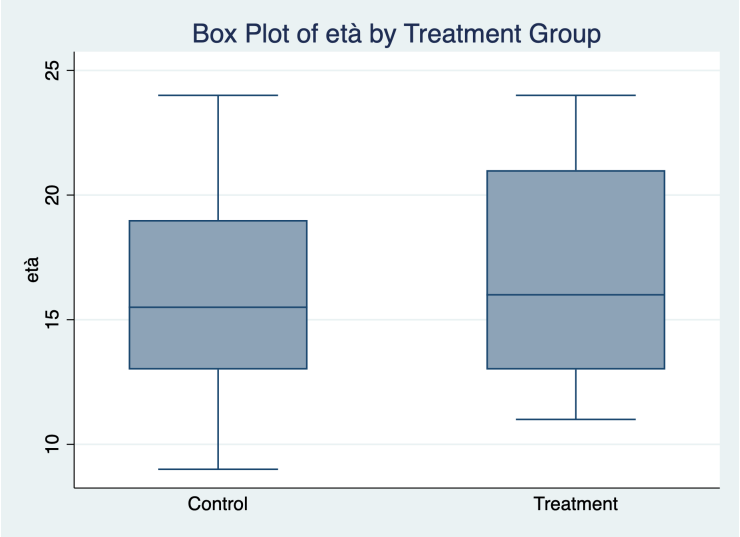

Figure 2: Box Plot of age by Treatment Group

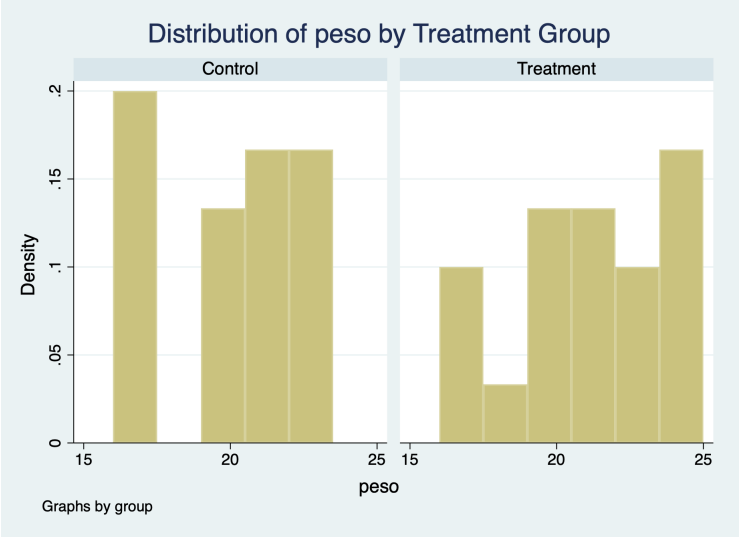

Figure 3: Histogram of weight by Treatment Group

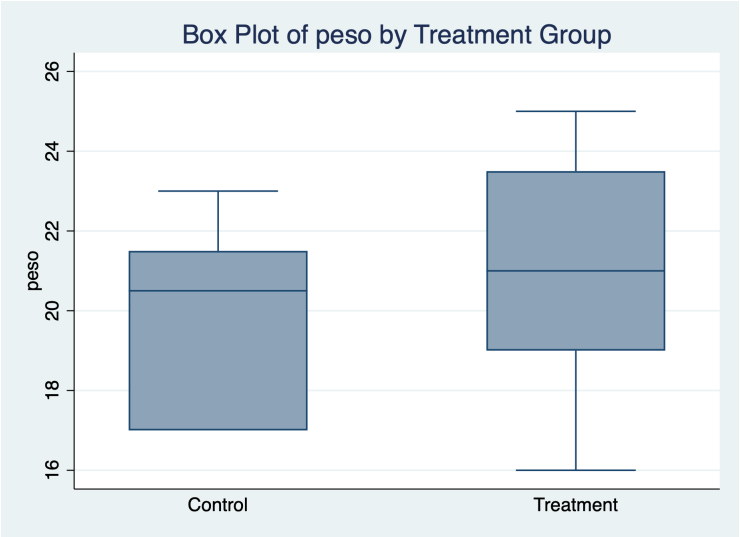

Figure 4: Box Plot of weight by Treatment Group

Table 4: Probit Regression to Check Randomization

	(1) Maropitant
Age	0.048 (0.053)
Weight	0.100 (0.078)
Constant	-2.682 (1.836)
Observations	40

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

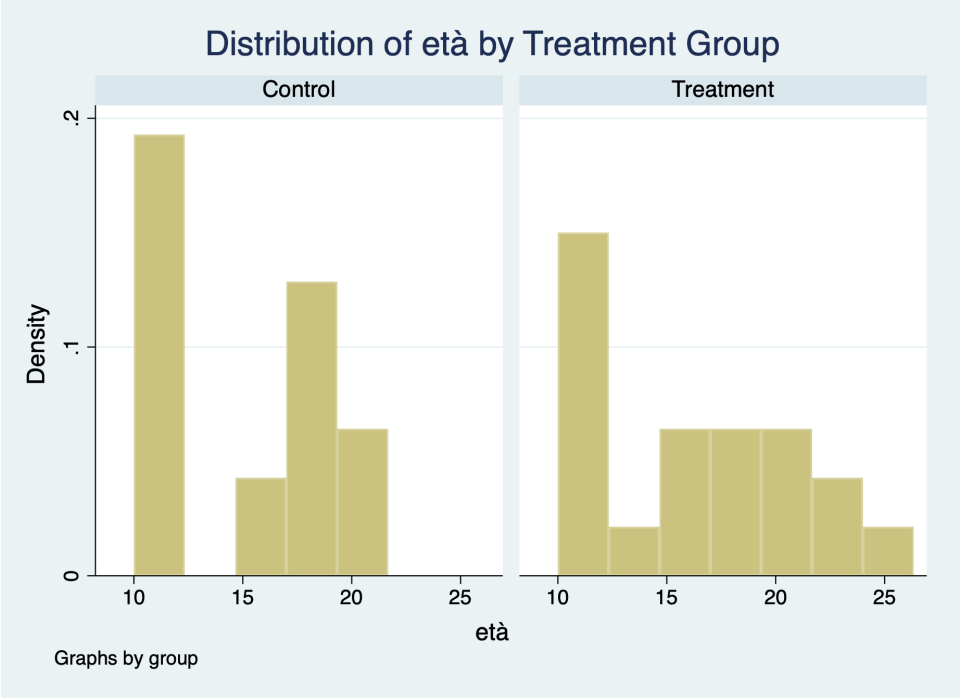

Figure 5: Histogram of age by Treatment Group

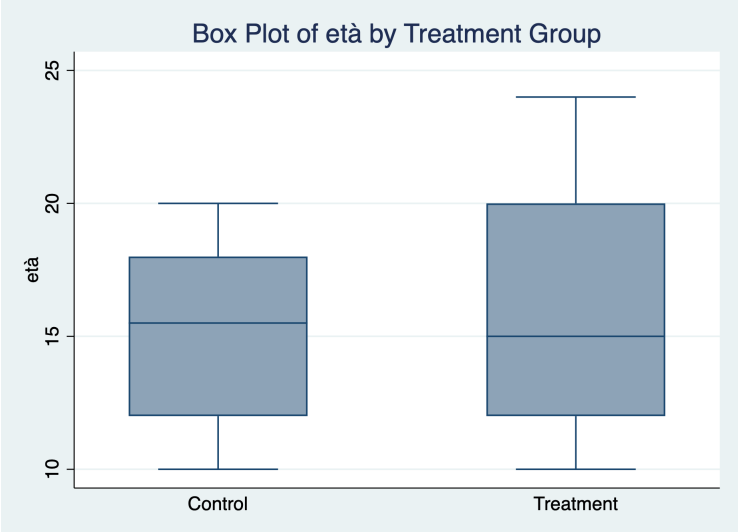

Figure 6: Box Plot of age by Treatment Group

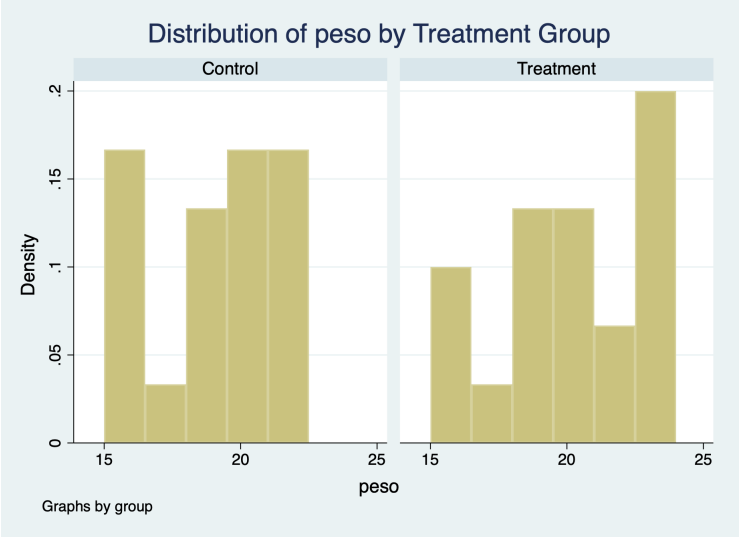

Figure 7: Histogram of age by Treatment Group

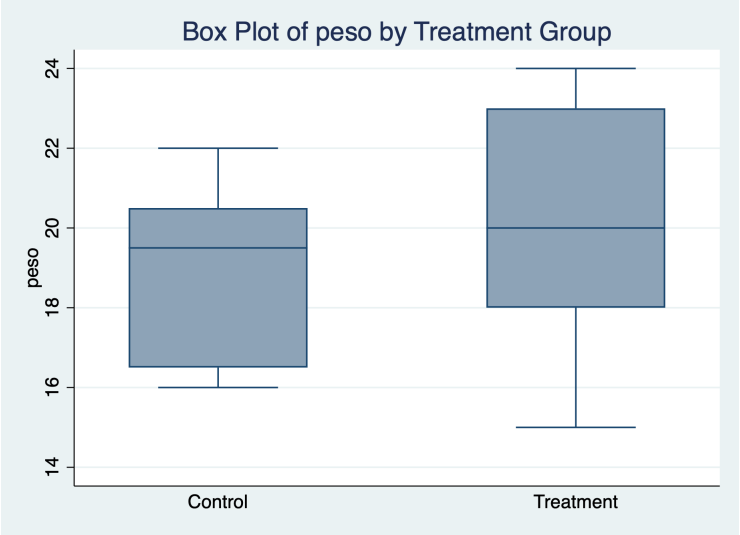

Figure 8: Box Plot of age by Treatment Group