

## Methodological Appendix

Mixed-effect regression models investigate changes in THI-total, DHI-total, THI-functional, THI-emotional, THI-catastrophic, DHI-functional, DHI-emotional, DHI-physical, vertigo duration, vertigo severity, vertigo attack and 25(OH) vitamin D level associated with vitamin D supplementation. The models were estimated with the Stata xtmixed module using restricted maximum likelihood (REML) for generalized linear mixed models. REML provides parameter estimates by maximizing the probability that the predicted values agree with the observed data. The approach is iterative, similar to maximum likelihood (ML) estimation, but provides separate estimation for fixed and random effects.

In other words, mixed models are characterized as containing both fixed effects and random Effects. The fixed effects are analogous to standard regression coefficients and are estimated directly. The random effects are not directly estimated but are summarized according to their estimated variances and covariances. Although random effects are not directly estimated, you can form the best linear unbiased predictions (BLUPs) of them (and standard errors) so estimates obtained in this manner are considered preferable.

The following apply to the two models:

**Dependent variable:** THI-total, DHI-total, THI-functional, THI-emotional, THI-catastrophic, DHI-functional, DHI-emotional, DHI-physical, vertigo duration, vertigo severity, vertigo attack, 25(OH) vitamin D

**Independent variables:** sex, age, smoking, Betahistine, Triamterene/Hydrochlorothiazide, Corticosteroid, Cinnarizine

**Table A-1: Model 1: Change Over Time by THI.total**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	32.44	26.44	1.23	0.220
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	6.22	7.65	0.81	0.416
<b>Age</b>	.60	.24	2.43	0.015
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-13.07	12.74	-1.03	0.305
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-11.54	15.08	-0.77	0.444
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	16.27	8.74	1.86	0.063
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	11.09	15.17	0.73	0.465
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-4.02	9.04	-0.45	0.656
<b>Vitamin D. baseline</b>				
	-1.17	.62	-0.28	0.776
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-6.26	2.61	-2.39	0.017
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-6.31	6.93	-0.91	0.363

**Table A-2: Model 2: Change Over Time Moderated by THI.total**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	31.81	26.47	1.20	0.229
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	6.22	7.65	0.81	0.416
<b>Age</b>	0.60	0.24	2.43	0.015
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-13.07	12.74	-1.03	0.305
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-11.54	15.08	-0.77	0.444
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	16.27	8.74	1.86	0.063
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	11.09	15.17	0.73	0.465
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-4.02	9.04	-0.45	0.65
<b>Vitamin D. baseline</b>	-0.17	0.62	-0.28	0.776
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-5	3.72	-1.34	0.180
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-5.04	7.42	-0.68	0.497
<b>Time * group</b>	-2.53	5.26	-0.48	0.631

**Table A-3: Model 1: Change Over Time by DHI.total**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	57.49	13.79	4.17	0
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	1.22	3.98	0.31	0.758
<b>Age</b>	0.07	0.12	0.57	0.567
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-7.12	6.63	-1.08	0.282
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.75	7.84	0.22	0.823
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	10.39	4.55	2.28	0.022
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	5.123	7.89	0.65	0.517
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-0.28	4.70	-0.06	0.952
<b>Vitamin D. baseline</b>	-0.27	0.32	-0.86	0.392
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-34.73	2.43	-14.24	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	0.62	3.61	0.17	0.864

**Table A-4: Model 2: Change Over Time Moderated by DHI.total**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	58.39	13.85	4.22	0
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	1.22	3.98	0.31	0.758
<b>Age</b>	0.07	0.12	0.57	0.567
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-7.12	6.63	-1.08	0.282
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.75	7.84	0.22	0.823
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	10.39	4.55	2.28	0.022
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	5.12	7.89	0.65	0.517
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-0.28	4.70	-0.06	0.952
<b>Vitamin D. baseline</b>	-0.27	0.32	-0.86	0.392
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-36.53	3.46	-10.55	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-1.17	4.36	-0.27	0.787
<b>Time * group</b>	3.6	4.89	0.74	0.462

**Table A-5: Model 1: Change Over Time by THI.functional**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	22.03	27.94	0.79	0.430
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	7.12	8.08	0.88	0.378
<b>Age</b>	0.73	0.26	2.79	0.005
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-15.78	13.46	-1.17	0.241
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-10.76	15.94	-0.68	0.500
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	18.39	9.24	1.99	0.047
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	13.13	16.04	0.82	0.413
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	0.12	9.56	0.01	0.989
<b>Vitamin D. baseline</b>	-0.07	0.66	-0.12	0.908
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-5.45	2.70	-2.02	0.044
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-3.77	7.33	-0.52	0.606

**Table A-6: Model 2: Change Over Time Moderated by THI.functional**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	21.49	27.97	0.77	0.442
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	7.12	8.08	0.88	0.378
<b>Age</b>	0.73	0.26	2.79	0.005
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-15.78	13.46	-1.17	0.241
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-10.76	15.94	-0.68	0.500
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	18.39	9.24	1.99	0.047
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	13.13	16.04	0.82	0.413
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	0.12	9.56	0.01	0.989
<b>Vitamin D. baseline</b>	-0.07	0.66	-0.12	0.908
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-4.38	3.85	-1.14	0.256
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-2.70	7.82	-0.35	0.729
<b>Time * group</b>	-2.14	5.45	-0.39	0.694

**A-7: Model 1: Change Over Time by THI.emotional**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	50.04	25.89	1.93	0.053
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	3.67	7.49	0.49	0.624
<b>Age</b>	0.40	0.24	1.65	0.098
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-5.49	12.47	-0.44	0.660
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-14.89	14.76	-1.01	0.313
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	13.69	8.56	1.60	0.110
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	2.17	14.86	0.15	0.884
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-9.18	8.86	-1.04	0.300
<b>Vitamin D. baseline</b>	-0.27	0.61	-0.45	0.652
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-9.69	2.59	-3.73	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-8.37	6.79	-1.23	0.053



**Table A-8: Model 2: Change Over Time Moderated by THI.emotional**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	50.09	25.92	1.93	0.053
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	3.67	7.49	0.49	0.624
<b>Age</b>	0.40	0.24	1.65	0.098
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-5.49	12.47	-0.44	0.660
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-14.89	14.76	-1.01	0.313
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	13.69	8.56	1.60	0.110
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	2.17	14.86	0.15	0.884
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-9.18	8.86	-1.04	0.300
<b>Vitamin D. baseline</b>	-0.27	0.61	-0.45	0.652
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-9.79	3.70	-2.65	0.008
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-8.48	7.28	-1.17	0.244
<b>Time * group</b>	0.21	5.23	0.04	0.968

**A-9: Model 1: Change over time by THI.catastrophic**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	29.38	31.56	0.93	0.352
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	8.13	9.12	0.89	0.373
<b>Age</b>	0.62	0.29	2.08	0.037
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-18.71	15.20	-1.23	0.218
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-8.09	17.99	-0.45	0.653
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	15.31	10.43	1.47	0.142
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	20.47	18.10	1.13	0.258
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-5.75	10.79	-0.53	0.594
<b>Vitamin D. baseline</b>	-0.26	0.74	-0.36	0.721
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-2.75	3.90	-0.70	0.481
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-9.10	8.27	-1.10	0.271

**Table A-10: Model 2: Change Over Time Moderated by THI.catastrophic**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	27.42	31.62	0.87	0.386
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	8.13	9.12	0.89	0.373
<b>Age</b>	0.62	0.29	2.08	0.037
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-18.71	15.20	-1.23	0.28
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-8.09	17.99	-0.45	0.653
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	15.31	10.43	1.47	0.142
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	20.47	18.10	1.13	0.258
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-5.75	10.79	-0.53	0.594
<b>Vitamin D. baseline</b>	-0.26	0.74	-0.36	0.721
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	1.16	5.15	0.21	0.833
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-5.18	9.15	-0.57	0.571
<b>Time * group</b>	-7.83	7.80	-1.00	0.315

**A-11: Model 1: Change Over Time by DHI.emotional**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	53.78	14.52	3.70	0
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	2.91	4.19	0.70	0.487
<b>Age</b>	0.62	0.29	2.08	0.037
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-4.70	6.98	-0.67	0.501
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-2.96	8.26	-0.36	0.720
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	10.75	4.79	2.24	0.025
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	8.28	8.32	1.00	0.320
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-3.15	4.96	-0.64	0.525
<b>Vitamin D. baseline</b>	-0.40	0.34	-1.18	0.239
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-29.33	2.35	-12.44	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	1.65	3.80	0.43	0.664

**Table A-12: Model 2: Change Over Time Moderated by DHI.emotional**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	54.53	14.57	3.74	0
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	2.91	4.19	0.70	0.487
<b>Age</b>	0.07	0.13	0.51	0.608
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-4.70	6.98	-0.67	0.501
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-2.96	8.26	-0.36	0.720
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	10.75	4.79	2.24	0.025
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	8.28	8.32	1.00	0.320
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-3.15	4.96	-0.64	0.525
<b>Vitamin D. baseline</b>	-0.40	0.34	-1.18	0.239
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-30.83	3.35	-9.20	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	0.15	4.48	0.03	0.972
<b>Time * group</b>	3	4.73	0.63	0.527

**A-13: Model 1: Change Over Time by DHI.functional**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	63.07	17.50	3.60	0
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	2.39	5.04	0.47	0.635
<b>Age</b>	0.09	0.16	0.56	0.578
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-13.41	8.40	-1.60	0.111
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	2.31	9.95	0.23	0.816
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	11.63	5.77	2.02	0.044
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-1.97	10.01	-0.20	0.844
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	3.56	5.97	0.60	0.550
<b>Vitamin D. baseline</b>	-0.11	0.41	-0.27	0.784
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-40.41	3.28	-12.30	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-0.46	4.57	-0.10	0.918

**Table A-14: Model 2: Change Over Time Moderated by DHI.functional**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	64.32	17.58	3.66	0
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	2.39	5.04	0.47	0.635
<b>Age</b>	0.09	0.16	0.56	0.578
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-13.41	8.40	-1.60	0.111
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	2.31	9.95	0.23	0.816
<b>Triamterene/Hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	11.63	5.77	2.02	0.044
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-1.97	10.01	-0.20	0.844
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	3.56	5.97	0.60	0.550
<b>Vitamin D. baseline</b>	-0.11	0.41	-0.27	0.784
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-42.91	4.66	-9.20	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-2.97	5.64	-0.53	0.598
<b>Time * group</b>	5.01	6.59	0.76	0.447

**A-15: Model 1: Change Over Time by DHI.physical**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	56.42	14.42	3.91	0
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	-2.52	4.15	-0.61	0.543
<b>Age</b>	.06	0.13	0.45	0.656
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-3.40	6.92	-0.49	0.623
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	7.86	8.19	0.96	0.338
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	8.47	4.75	1.78	0.075
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	8.70	8.25	1.05	0.292
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-0.60	4.91	-0.12	0.902
<b>Vitamin D. baseline</b>	-0.11	0.41	-0.27	0.784
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-35.95	2.74	-13.08	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	0.39	3.77	0.10	0.916



**Table A-16: Model 2: Change Over Time Moderated by DHI.physical**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	57.14	14.48	3.94	0
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	-2.52	4.15	-0.61	0.543
<b>Age</b>	0.09	0.16	0.56	0.578
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-3.40	6.92	-0.49	0.623
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	7.86	8.19	0.96	0.338
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	8.47	4.75	1.78	0.075
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	8.70	8.25	1.05	0.292
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-0.60	4.91	-0.12	0.902
<b>Vitamin D. baseline</b>	-0.28	0.34	-0.85	0.395
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-37.38	3.91	-9.56	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-1.02	4.67	-0.22	0.826
<b>Time * group</b>	2.84	5.53	0.51	0.607

**A-17: Model 1: Change Over Time by Vertigo Duration**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	468.87	218.30	2.15	0.032
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	118.98	62.88	1.89	0.058
<b>Age</b>	1.86	2.05	0.91	0.364
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-45.83	104.73	-0.44	0.662
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-121.02	123.95	-0.98	0.329
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-117.100	71.86	-1.63	0.103
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-200.44	124.74	-1.61	0.103
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-141.96	74.36	-1.91	0.056
<b>Vitamin D. baseline</b>	-9.59	5.14	-1.87	0.062
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-189.65	46.85	-4.05	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	46.64	57.02	0.82	0.413

**Table A-18: Model 2: Change Over Time Moderated by Vertigo Duration**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	457.13	219.59	2.08	0.037
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	118.98	62.88	1.89	0.058
<b>Age</b>	1.86	2.05	0.91	0.364
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-45.83	104.73	-0.44	0.662
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-121.02	123.95	-0.98	0.329
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-117.10	71.86	-1.63	0.103
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-200.44	124.74	-1.61	0.108
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-141.96	74.36	-1.91	0.056
<b>Vitamin D. baseline</b>	-9.59	5.14	-1.87	0.062
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-166.16	66.69	-2.49	0.013
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	70.12	74.00	0.95	0.343
<b>Time * group</b>	-46.96	94.31	-0.50	0.619

**A-19: Model 1: Change Over Time by Vertigo Severity**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	8.40	1.60	5.24	0
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	0.55	0.46	1.20	0.229
<b>Age</b>	-0.002	0.01	-0.15	0.883
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-1.49	0.76	-1.95	0.052
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-0.05	0.90	-0.06	0.951
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.42	0.52	2.70	0.007
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-0.50	0.91	-0.55	0.584
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.23	0.54	2.26	0.024
<b>Vitamin D. baseline</b>	0 .01	0.03	0.44	0.663
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-5.11	0.39	-12.83	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-0.18	0.41	-0.45	0.651

**Table A-20: Model 2: Change Over Time Moderated by Vertigo Severity**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	8.25	1.62	5.10	0
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	0.55	0.46	1.20	0.230
<b>Age</b>	-0.02	.01	-0.15	0.883
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-1.49	.77	-1.94	0.052
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-0.05	0.91	-0.06	0.951
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.42	.52	2.69	0.007
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-0.50	0.91	-0.55	0.584
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.23	0.54	2.25	0.024
<b>Vitamin D. baseline</b>	0.01	0.03	0.44	0.663
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-4.83	0.56	-8.55	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	0.09	0.57	0.16	0.871
<b>Time * group</b>	-0.56	0.79	-0.71	0.478

**A-21: Model 1: Change Over Time by Vertigo Attack**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	3.26	3.79	0.86	0.389
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	-1.35	1.09	-1.23	0.219
<b>Age</b>	-0.01	0.03	-0.53	0.596
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.25	1.82	0.69	0.492
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	2.53	2.16	1.17	0.241
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-1.03	1.25	-0.83	0.409
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	0.87	2.17	0.40	0.686
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	0.88	1.29	0.68	0.494
<b>Vitamin D. baseline</b>	-0.003	0.08	-0.04	0.967
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-2.56	0.49	-5.20	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	0.18	0.99	0.19	0.850

**Table A-22: Model 2: Change Over Time Moderated by Vertigo Attack**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	3.21	3.80	0.85	0.398
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	-1.35	1.09	-1.23	0.219
<b>Age</b>	-0.01	0.03	-0.53	0.596
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.25	1.82	0.69	0.492
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	2.53	2.16	1.17	0.241
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-1.03	1.25	-0.83	0.409
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	0.87	2.17	0.40	0.686
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	1.23	0.54	2.25	0.024
<b>Vitamin D. baseline</b>	-0.003	0.08	-0.04	0.967
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-2.46	0.70	-3.50	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	0.28	1.11	0.26	0.796
<b>Time * group</b>	-0.2	0.99	-0.20	0.841

**A-23: Model 1: Change Over Time by Vitamin D**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	24.36	4.86	5.01	0
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	-1.73	1.88	-0.92	0.359
<b>Age</b>	0.08	0.06	1.30	0.194
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	.27	3.16	0.09	0.932
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-7.93	3.63	-2.18	0.029
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-4.75	2.04	-2.33	0.020
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-7.97	3.75	-2.13	0.033
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-2.25	2.22	-1.01	0.311
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	6.78	1.46	4.64	0
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	8.04	1.73	4.63	0



**Table A-24: Model 2: Change Over Time Moderated by Vitamin D**

<b>Variable</b>	<b>Coefficient</b>	<b>Std Error</b>	<b>Z-Value</b>	<b>Pr &gt;  Z </b>
<b>Intercept</b>	28.51	4.86	5.86	0
<b>Sex</b>				
Female	Ref.	Ref.	Ref.	Ref.
Male	-1.73	1.88	-0.92	0.359
<b>Age</b>	0.08	0.06	1.30	0.194
<b>Smoking</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	.27	3.16	0.09	0.932
<b>Betahistine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-7.93	3.63	-2.18	0.029
<b>Triamterene/hydrochlorothiazide</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-4.75	2.04	-2.33	0.020
<b>Corticosteroid</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-7.97	3.75	-2.13	0.033
<b>Cinnarizine</b>				
No	Ref.	Ref.	Ref.	Ref.
Yes	-2.25	2.22	-1.01	0.311
<b>Time</b>				
Before intervention	Ref.	Ref.	Ref.	Ref.
After intervention	-1.51	1.40	-1.08	0.279
<b>Group</b>				
Placebo	Ref.	Ref.	Ref.	Ref.
Vitamin D	-.26	1.99	-0.13	0.896
<b>Time * group</b>	16.60	1.98	8.37	0