

Table 1: Analysis of 2-week average of sleep actigraph data between Non-filter and Filter groups.

		Total Sleep Time (TST)			Sleep Latency (SL)			Wake After Sleep Onset (WASO)			Number of Awakenings (NOA)			Sleep Efficiency (SE)		
Mean±SEM	Non-Filter	363.06	±	8.31	14.05	±	2.55	117.95	±	7.53	15.09	±	0.54	72.36	±	1.46
	Filter	355.50	±	7.31	13.12	±	2.09	128.55	±	7.63	16.10	±	0.60	70.65	±	1.48
p-value	wilcoxon	0.29			0.69			0.11			0.16			0.24		

		Average Awakening Duration			Awakenings Longer Than 8 Minutes			Number of Position Changes			Into-Bed Time			Sleep-Onset Time		
Mean±SEM	Non-Filter	7.71	±	0.31	6.76	±	0.49	25.87	±	1.10	22.10	±	0.10	22.34	±	0.11
	Filter	7.93	±	0.32	7.21	±	0.49	26.32	±	1.31	21.98	±	0.09	22.19	±	0.09
p-value	wilcoxon	0.34			0.31			0.48			0.039*			0.043*		

		Final Wake Time			Out-of-Bed Time			Sleep Period Time (SPT)			Total Time in Bed (TIB)			Bed Out Latency (BOL)		
Mean±SEM	Non-Filter	6.35	±	0.10	6.47	±	0.10	481.01	±	5.45	502.37	±	5.97	7.30	±	0.58
	Filter	6.26	±	0.09	6.39	±	0.09	484.05	±	4.58	504.69	±	5.55	7.53	±	0.80
p-value	wilcoxon	0.23			0.29			0.25			0.35			0.92		

A significant advancement in Into-Bed Time and Sleep-Onset Time was observed between Non-Filter and Filter groups in 2-week average

Table 2: Analysis of 2-week average of sleep questionnaire data between Non-filter and Filter groups.

		JSQC1_1 SLEEPINESS			JSQC1_2 FATIGUE			JSQC1_3 DOZING AT HOME			JSQC1_4 DOZING AT SCHOOL			JSQC1_5 BEDTIME AFTER 11PM			JSQC1_6 WASO >2		
Mean±SEM	N-average	1.7	±	0.1	1.9	±	0.2	1.3	±	0.1	1.1	±	0.0	1.5	±	0.1	1.5	±	0.1
	F-average	1.8	±	0.1	2.0	±	0.2	1.3	±	0.1	1.1	±	0.0	1.5	±	0.1	1.6	±	0.2
p-value	wilcoxon		0.75			0.73			0.58			1.00			0.69			0.37	
		JSQC1_7 REGULAR SLEEP			JSQC2_1 ME RESTLESSNESS			JSQC2_2 CONCENTRATION			JSQC2_3 VIOLENT BEHAVIOR			JSQC2_4 TIME IRRITABILITY			JSQC3_1 TROUBLE AWAKENING		
Mean±SEM	N-average	2.4	±	0.1	2.2	±	0.2	2.5	±	0.2	2.3	±	0.2	2.4	±	0.2	2.7	±	0.2
	F-average	2.3	±	0.1	2.2	±	0.2	2.5	±	0.2	2.1	±	0.2	2.2	±	0.2	2.6	±	0.2
p-value	wilcoxon		0.36			0.44			0.95			0.041*			0.015*			0.78	
		JSQC3_2 TROUBLE GETTING OUT OF BED			JSQC3_3 POOR MOOD UPON AWAKENING			JSQC4_1 UNABLE TO ATTEND SCHOOL			JSQC4_2 LATE FOR SCHOOL			JSQC4_3 DAY AND NIGHT REVERSAL			JSQC5_1 >1 HR LATER SLEEP TIME ON WEEKENDS		
Mean±SEM	N-average	2.6	±	0.2	2.2	±	0.2	1.2	±	0.1	1.2	±	0.1	1.0	±	0.0	3.4	±	0.2
	F-average	2.5	±	0.2	2.1	±	0.2	1.1	±	0.1	1.1	±	0.0	1.1	±	0.0	3.5	±	0.3
p-value	wilcoxon		0.81			0.17			0.31			0.18			0.55			0.81	
		JSQC5_2 >1 HR LATER AROUSAL TIME ON WEEKENDS			C-1 DIFFICULTY WAKING IN MORNING			C-2 ALERTNESS UPON WAKING			C-3 TIME OF INITIAL DROWSINESS			C-4 TIME UNTIL FULL ALERTNESS					
Mean±SEM	N-average	2.9	±	0.2	1.9	±	0.2	2.0	±	0.2	4.1	±	0.1	2.6	±	0.2			
	F-average	2.9	±	0.2	1.8	±	0.2	2.0	±	0.2	4.3	±	0.1	2.7	±	0.2			
p-value	wilcoxon		0.54			0.45			0.58			0.22			0.69				

Significant improvements in Violent Behavior and Daytime irritability were observed in the Filter groups.