



A social norms adherence intervention for adolescents with epilepsy: The Behavioral Economic Adherence for Teens (BEAT) Trial



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Funded by the National Institutes of Health (R21NR017633); Clinicaltrials.gov # NCT03958331

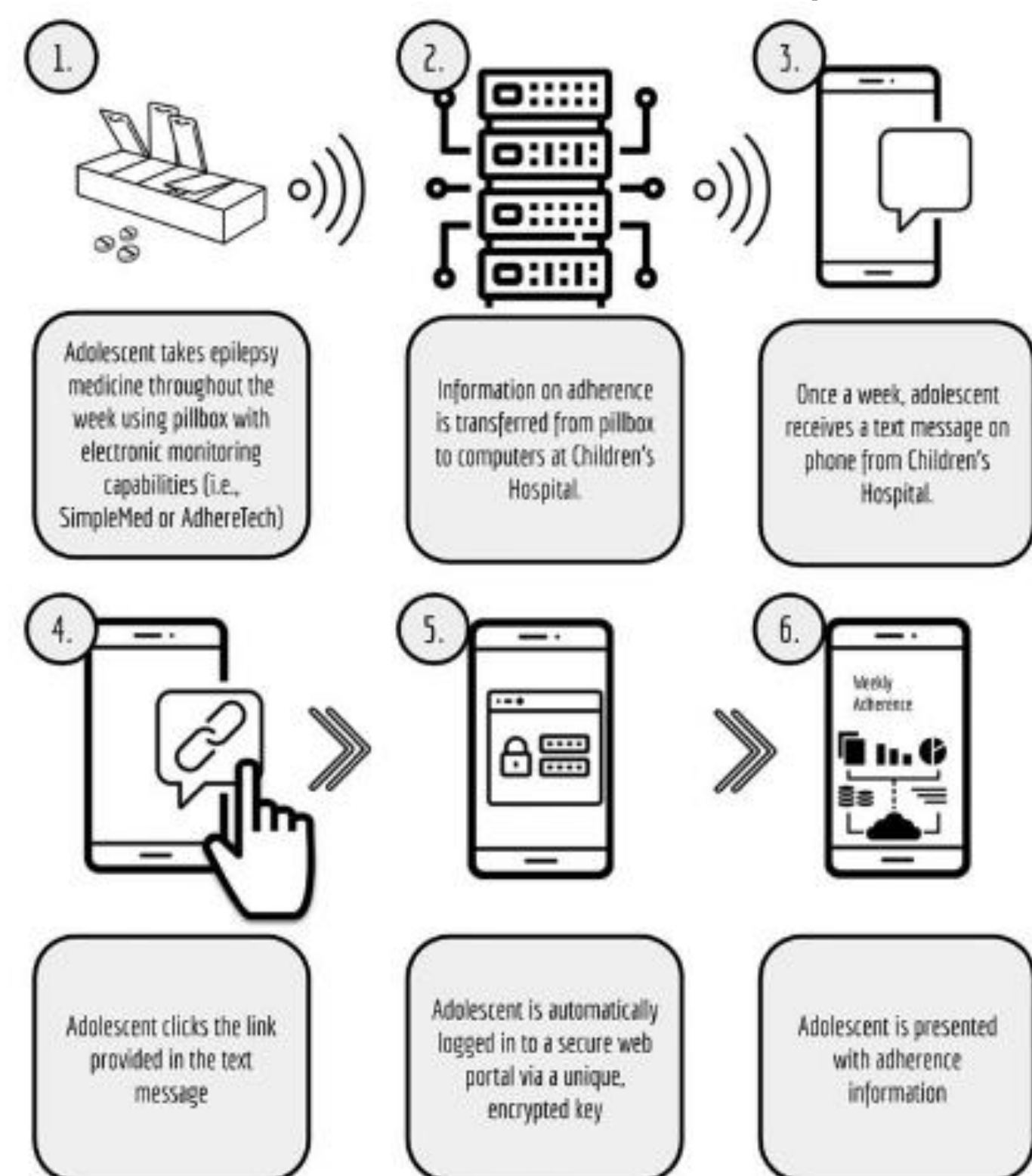
INTRODUCTION

Non-adherence to anti-seizure medications (ASMs) is common for adolescents with epilepsy, with potentially devastating consequences (i.e., seizures, hospitalizations). Existing adherence interventions in epilepsy are not designed to meet the unique challenges faced by adolescents. Leveraging social norms comparison methods (i.e., feedback about similar patients' behavior related to one's own behavior) offers an opportunity to capitalize on the increased importance of peer influence while simultaneously targeting the low motivation level of many adolescents.

Consistent with the ORBIT model for behavioral intervention development, our aims were to: 1) develop a feasible, accessible, and acceptable mHealth social norms intervention and 2) obtain preliminary effect sizes.

METHODS

- Adolescents and caregivers completed questionnaires and received an electronic pillbox (SimpleMed+) or pillbottle (AdhereTech) to monitor adherence over 30 days.
- Adolescents with epilepsy who demonstrated non-adherence ($\leq 95\%$ adherence) during baseline were randomized to either 1) mHealth social norms (reminders, individualized and social norms adherence feedback) or 2) control (only reminders and individualized adherence feedback).
- Both groups received active intervention for five months and the primary outcome was electronically monitored adherence at post-treatment.
- Questionnaires and adherence data were collected at post-treatment and 3-month follow-up.

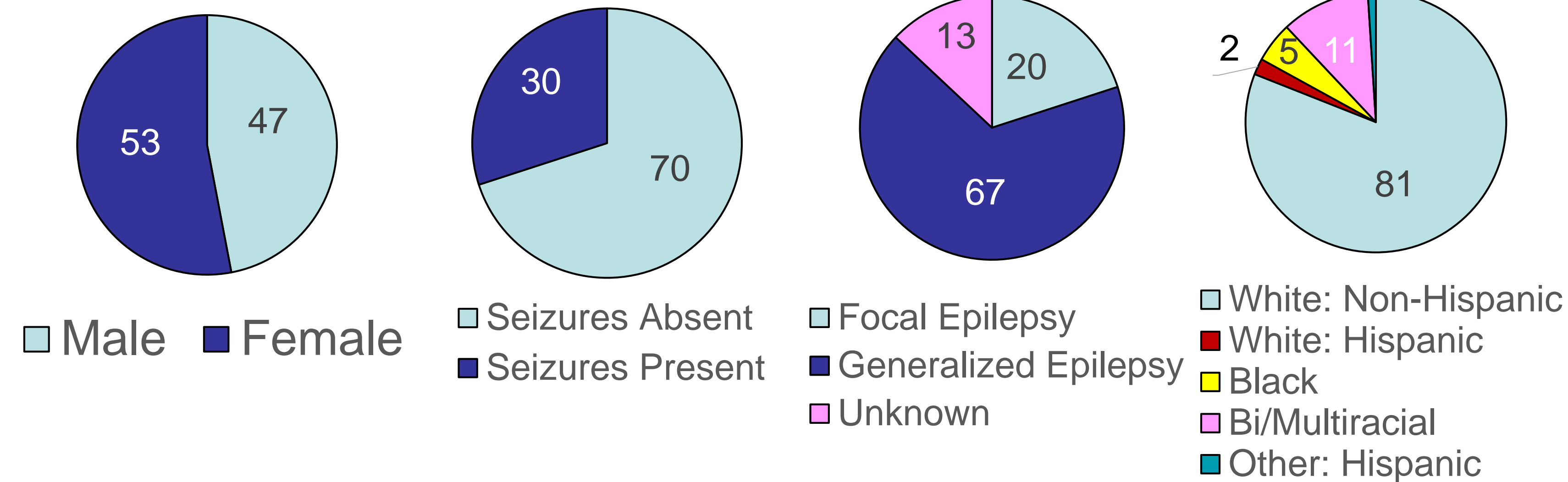


RESULTS

PARTICIPANT DEMOGRAPHIC AND MEDICAL DATA (n=104)

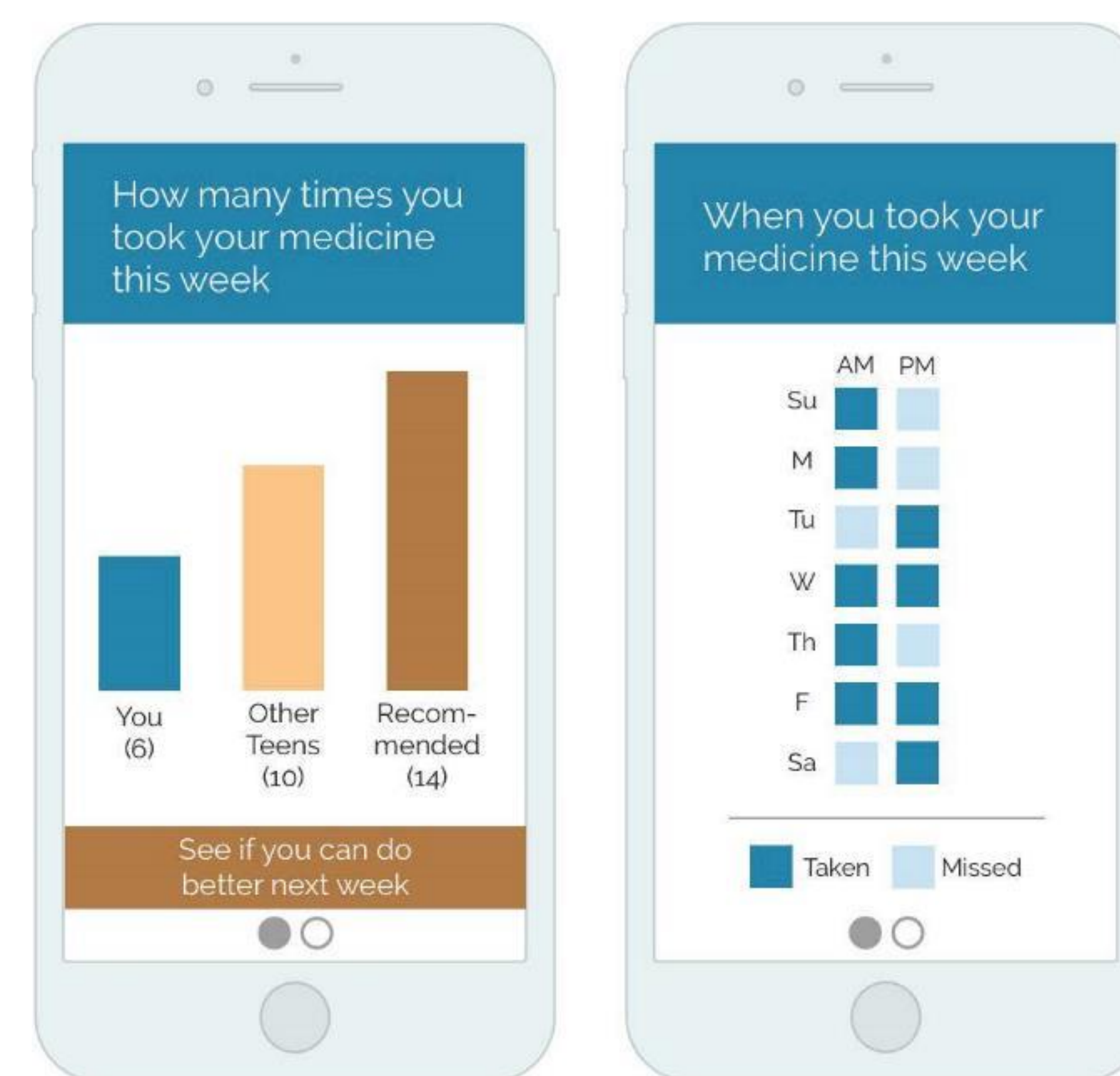
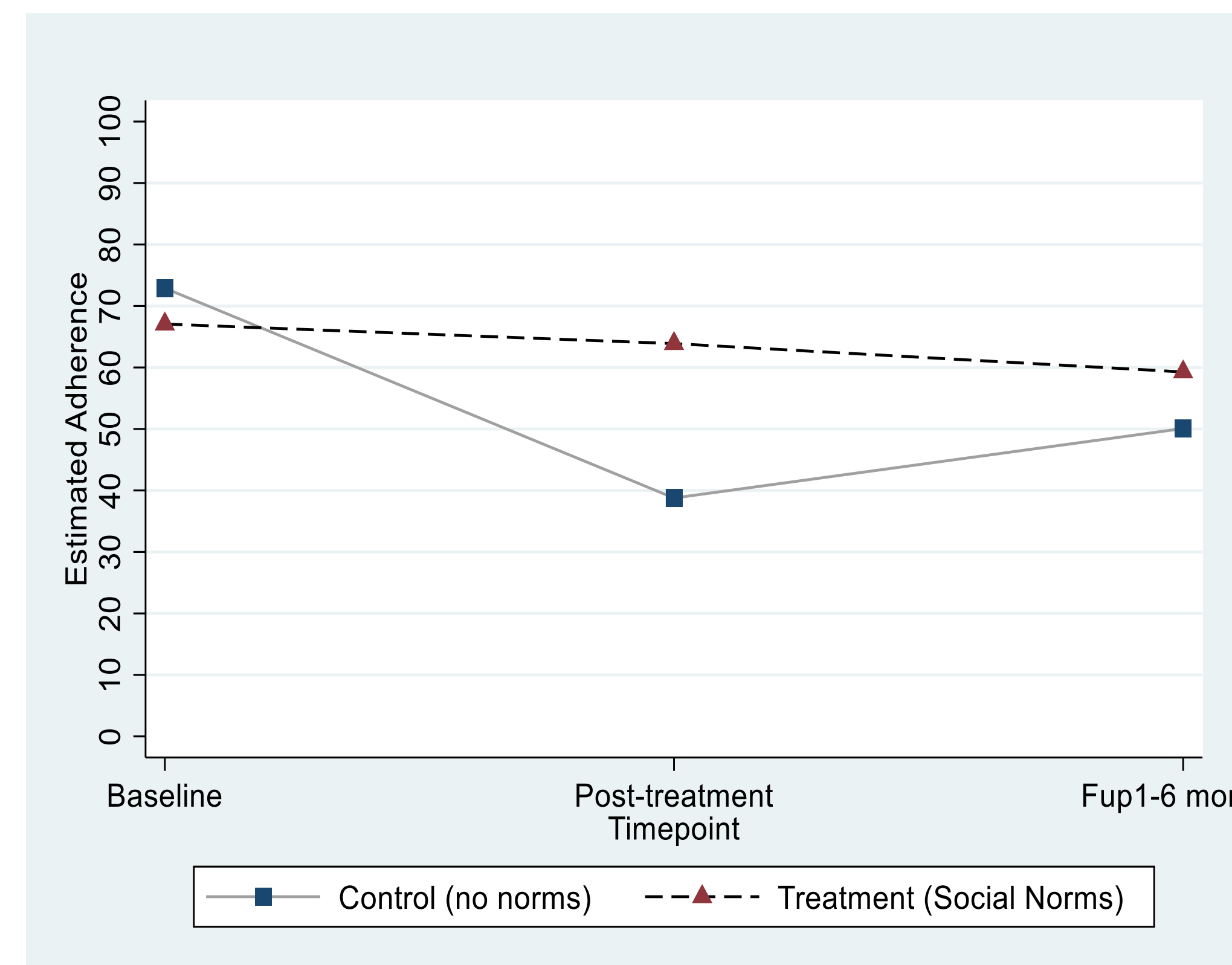
Child Age:
M=15.36±1.4 years old

Years since Dx: M = 3.1±3.1 years

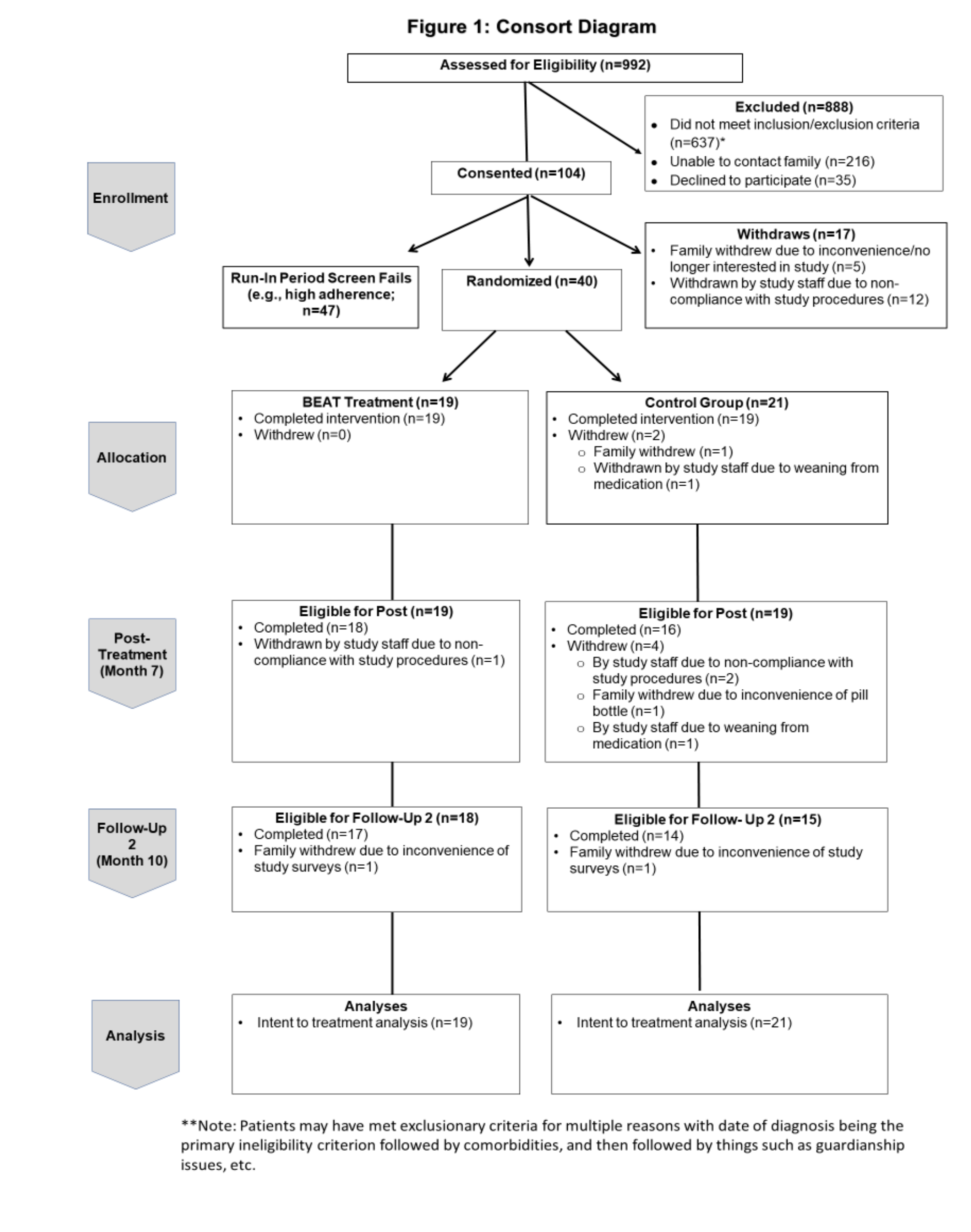


Adherence Over Time Between Control and Treatment Arms

	Coefficient	Standard Error	p
Time	-102.4	50.6	0.04
Time x time	22.7	11.8	0.054
Group	-83.6	30.9	0.007
Group x time	101.2	19.4	<0.001
Group x time x time	-23.4	6.4	<0.001
Resistance to peer influence	5.8	1.9	0.002
% messages opened	-0.22	0.08	0.006
Seizure control	16.0	2.8	<0.001
Child sex	-26.1	3.6	<0.001
Recruited prior or during COVID-19	16.9	7.3	0.02
COVID4-Ability to get food or resources for family	2.11	5.0	0.67
COVID10-Completing tasks related to your job/school	-3.5	0.24	<0.001
COVID14-Engaging in social activities or time with friends	1.1	4.4	0.80



CONSORT DIAGRAM



CONCLUSION

- After controlling for key known predictors of adherence, as well as the impact of COVID-19 on daily life, a social norms intervention resulted in higher adherence rates for adolescents with epilepsy compared to a feedback and reminder only control group over time.
- These data suggest that social norms may be one way to address adherence difficulties in teens with epilepsy but may need to be part of a larger multi-component adherence intervention.

ACKNOWLEDGEMENTS

We would like to thank the adolescents and families who participated in this study.