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Strong Therapeutic Relationships Boost Engagement and Retention in Home Visiting Model for Families Affected by Maternal Substance Use

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Introduction

The Team for Infants Exposed to Substance use (TIES) Program is a long-standing home-based family support program in the Social Work Department that provides a holistic, multi-disciplinary, community-based model to address the unique needs of families affected by maternal substance use. The TIES model is delivered by masters-prepared social workers and endorsed infant family specialists to provide intensive, home-based services to promote child development and healthy family functioning. Families enroll in TIES prenatally or up to six months postpartum, and graduate when the focus child reaches 24 months of age.

The model design has allowed program participants to achieve statistically significant positive outcomes in the domains of maternal substance use, parenting skills, child and maternal health, and income and housing stability. This study posits that these positive outcomes are attributed in part to the therapeutic relationship between the mothers and their specialists which fosters family engagement and retention through the duration of an intensive, long-term program.

Methods

Analysis included 319 participants from August 2011 to November 2022, among which, 54% of the participants successfully completed the TIES Program, and 46% were discharged early. The average length of participation was 18.4 months in a program ranging from 18-33 months depending on the age of the focus child at enrollment.

Measures:
Working Alliance Inventory (WAI): A validated 7-point Likert scale measuring therapeutic alliance was adapted to assess the relationship between staff and participants. Administered to staff and participants at six months after enrollment, and at discharge.
Engagement Ratings: A 5-point Likert scale to assess participant engagement, ranging from limited contact to client-initiated weekly or greater contact. Assessed at 3, 13, and 20 months from enrollment.

Analysis:
Logistic regression was conducted to examine the impact of relationship on program completion, and linear regression and survival analysis were used to examine the impact of relationship on retention.
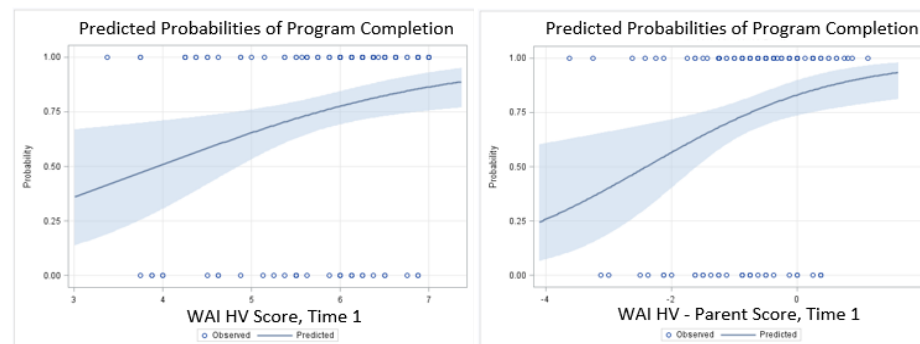
Results

Demographics and Parent WAI scores (WAI PAR) did not significantly impact program completion.

Home Visitor WAI scores (WAI HV) and the difference between WAI HV and WAI PAR were significant predictors.
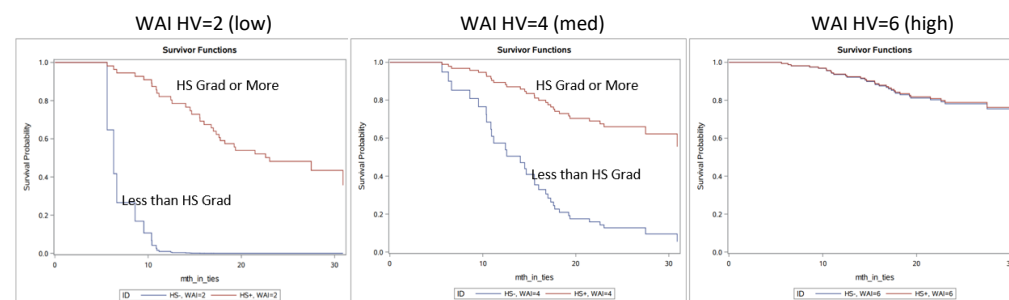
A 1-unit increase in WAI HV score at Time 1 is associated with 83% greater odds of program completion.

A 1-unit increase in engagement at Time 1 is associated with 51% greater odds of program completion.

Predictor	Odds Ratio	p
Maternal Age	1.00	0.94
# of Additional Children	0.96	0.70
Maternal Race		
Black/African American (vs Other)	0.58	0.46
White (vs Other)	0.79	0.74
Maternal Ethnicity (Hispanic)	1.29	0.59
State (KS)	0.92	0.78
Employment Status (Employed)	1.08	0.85
Insurance Status (Insured)	1.75	0.16
Educational Status (High School or More)	1.15	0.63
Marital Status (Not Single)	1.22	0.62
Housing Status (Stable Housing)	1.35	0.35
Enrollment Type (Prenatal)	1.38	0.29
WAI (PAR, Time 1)	0.74	0.47
WAI (HV, Time 1)	1.83	0.01
WAI HV - PAR, Time 1	1.94	0.00
Engagement Score, Time 1	1.51	0.00
Engagement Score, Time 2	1.73	0.00
Engagement Score, Time 3	2.50	0.00
Engagement Score, Time 2-1	1.67	0.00
Engagement Score, Time 3-1	1.84	0.02
Engagement Score, Time 3-2	1.20	0.53

Predicted Probabilities of Program Completion — WAI HV Score, Time 1

Predicted Probabilities of Program Completion — WAI HV - Parent Score, Time 1

Survival analysis shows that for postnatal enrollees, a 1-unit increase in WAI HV (Time 1) is associated with 45% lower odds of dropout. A 1-unit increase in engagement (Time 1) is associated with 36% lower odds of dropout. The only significant interaction was between WAI HV score (Time 1) * educational status. Low WAI HV (Time 1) combined with lower educational status is associated with less time in TIES, but as WAI HV (Time 1) increases the effect vanishes.

WAI HV=2 (low) — Survivor Functions — HS Grad or More / Less than HS Grad

WAI HV=4 (med) — Survivor Functions — HS Grad or More / Less than HS Grad

WAI HV=6 (high) — Survivor Functions

Results (cont.)

For prenatal enrollees, an additional 1-unit of engagement is associated with 1.28 more months in TIES.
For postnatal enrollees, an additional 1-unit of WAI HV (Time 1) is associated with 2.1 more months in TIES and an additional 1-unit of engagement is associated with 2.4 more months in TIES

OLS Output - Single Predictors
Dependent Variable: Months in Program
Months in Program Defined as (Dismissal Date - Enrollment Date)/30

Variable	Prenatal Enrollees Estimate	p	Postnatal Enrollees Estimate	p
Maternal age	-0.21	0.23	0.09	0.51
# of Additional Children	-0.36	0.52	0.25	0.54
Maternal Race (Black/African American)	0.22	0.91	0.17	0.90
Maternal Ethnicity (Hispanic)	3.33	0.34	1.13	0.64
State (KS)	4.97	0.01	1.63	0.23
Employment Status (Employed)	1.68	0.42	-1.65	0.39
Insurance Status (Insured)	-0.74	0.77	2.72	0.25
Educational Status (High School or More)	0.94	0.57	1.00	0.45
Marital Status (Not Single)	-2.21	0.29	0.22	0.91
Housing Status (Stable Housing)	2.66	0.15	2.63	0.09
WAI (HV, Time 1)	0.94	0.33	2.10	0.01
WAI (PAR, Time 1)	0.69	0.66	-2.78	0.01
WAI HV - PAR, Time 1	0.76	0.41	2.93	<.0001
Engagement, Time 1	1.28	0.08	2.40	<.0001
Engagement, Time 2	0.70	0.25	0.70	0.05
Engagement, Time 3	0.41	0.31	-0.72	0.05
Engagement, Time 2-1	1.12	0.02	0.69	0.04
Engagement, Time 3-1	0.48	0.06	-0.24	0.34
Engagement, Time 3-2	0.39	0.22	-0.14	0.61

Conclusions

Early engagement and a strong therapeutic bond have significant impacts on TIES program retention and completion. The stronger the home visitor-participant relationship is early on, the longer a participant will stay in the program and the more likely that participant is to successfully complete. These results hold true regardless of participant demographics and maximize potential for positive program outcomes. The TIES Program provides culturally congruent, trauma-informed, and family-centered care, and is a replicable harm-reduction model.

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