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Examining an in-home behavioral parent training protocol among substance using parents in child welfare: Effectiveness of SafeCare

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Abstract

Given the detrimental impact of substance use (SU) on both parent and child outcomes including child maltreatment, research and service efforts have focused on incorporating parenting resources into integrated SU treatment programs. While promising, it is imperative to examine and test parenting programs in a variety of settings. This study examined whether SU moderated the relationship between treatment condition and parenting outcomes among parents who participated in SafeCare, and parent ratings of engagement, service satisfaction, and perceived cultural competency of services. Results indicated that SU did not moderate the relationship between treatment condition and abuse potential, but did moderate this relationship for depression and parental distress such that parents with higher levels of SU reported less improvement in depression and parental distress. Results underscore that SU problems may impact the effectiveness of SC on specific risk factors, such as depression and parental distress, potentially indicating unique treatment needs and the need to adapt interventions to ensure treatment success. In addition, this study found that SafeCare was not found to be beneficial for parents with SU problems above and beyond the treatment as usual condition. Finally, results indicated that parents with SU concerns and without SU concerns engaged very similarly in SafeCare.

Introduction

An estimated 50–80% of cases in the child welfare system involve caregiver substance use (SU), highlighting the critical importance of understanding factors that decrease risk for negative child and family outcomes among caregivers with substance use concerns (Marsh & Smith, 2011). Individuals with substance use (SU) problems have a high prevalence of co-occurring negative mental health outcomes, including anxiety, depression, PTSD, and

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histories of physical or sexual abuse (Niccols et al., 2010; Sword et al., 2009), as well as severe psychopathology and personality disorders that can significantly impact their emotional and cognitive ability to serve as effective parents (Najavits et al., 2003). Beyond negative outcomes for parents, literature supports an association between parental SU and negative child outcomes, including child maltreatment (Barth et al., 2006).

Due to the significant needs identified in parents with SU problems and potential for harm to children, strong recommendations have been made by policymakers, clinicians, and researchers for services to address the parenting difficulties faced by this population (Calhoun et al., 2015; Neger & Prinz, 2015; Spehr et al., 2017). Specifically, research has demonstrated the importance of promoting positive parent-child relationships among families with SU concerns, and the positive impact of these outcomes on parent recovery from SU as well as other parenting and mental health outcomes (Moreland & McRae-Clark, 2018). Qualitative interviews with parents with SU concerns have highlighted the significance of addressing parenting components due to the lack of parenting knowledge and accompanying parenting stress that serves as a risk factor for relapse (Moreland et al., 2016). For parents with SU concerns, a significant proporation of daily stress revolves around the child and/or parent-child relationship, highlighting the importance of addressing parenting needs among parents who use substances (Moreland et al., 2016).

Behavioral parent training among substance using parents

Decades of research has demonstrated that behavioral parent training programs are effective in decreasing parenting stress, improving parent-child relationships, and increasing overall positive outcomes *for parents in general* (Johnson et al., 2018; van Aar et al., 2017). Given unique needs of parents with SU concerns, implementation efforts over the past decade have focused on incorporating parenting resources into settings that may reach substance-using parents, such as integrated SU treatment programs (Jansson et al., 2003; Sword et al., 2009). Recent systematic reviews have found positive parental outcomes of incorporating parenting interventions into SU treatment programs, including improved parenting practices (Milligan et al., 2011), reduction in parental SU (Neger & Prinz, 2015), and improvement in parent mental health outcomes including anxiety and depression (Moreland & McRae-Clark, 2018).

While these results provide promise for addressing parent training among parents with SU concerns, significant limitations exist. First, not all parents with SU concerns are involved in treatment programs. Specifically, individuals with substance use disorders (SUDs) often do not present for treatment (Compton et al., 2007; Hasin et al., 2007) and underutilization of treatment is even higher among individuals with co-occurring mental health concerns and among traditionally underserved populations including racial/ethnic minorities, those with low-incomes, the underinsured, sexual minorities, and people residing in rural areas (Jeong et al., 2016; Priester et al., 2016). Second, the majority of programs have taken parent training programs (only some of which are evidence-based) developed for general populations of parents and simply implemented them with parents with SU concerns, without examining effectiveness specifically within this unique population. In addition, in both prevention and child welfare systems, caseworkers are often unable to detect parents'

SU problems (Seay, 2018) and those parents may receive parenting services. Thus, it is imperative to examine and test parent training programs offered within a variety of settings outside of integrated SU treatment programs, to determine general effectiveness of parent training for this population and whether the need for adaptations is necessary to address the unique concerns among this population.

SafeCare Implementation in At-Risk Parents

SafeCare is an evidence-based behavioral parent training intervention that has been integrated into various settiungs and shown to be effective in reducing child maltreatment recidivism (Chaffin et al., 2012). Specifically, the primary goals of SafeCare is to improve parent-child/infant relationships, reduce home safety hazards, promote parent supervision, and improve parents' knowledge and skills to care for sick children, which are all seen as risk factors for child maltreatment (Lutzker & Bigelow, 2002). SafeCare has been tested via randomized controlled trials in multiple populations of at-risk parents, including parents involved in child protective services and other agencies that serve disadvantaged families, and research has found that SafeCare significantly reduced child maltreatment recidivism (Chaffin et al., 2012b; Carta et al., 2013), improved parent engagement and child adaptive behaviors (Carta et al., 2013), and decreased parent depression (Romano et al., 2020) in these popluations (Chaffin et al., 2012b; Carta et al., 2013). SafeCare has been disseminated and utilized in at least 27 states, as well as internationally in six other countries (Rostad et al., 2016; Shanley, et al., 2013). Although parents with SUDs have not been specifically targeted by Safcare and were not the initial focus of the SafeCare intervention, parents with SUD have many of the same risk factors for detrimental outcomes as other parents involved in the child welfare system, and parental SU may not be detected by caseworkers (Seay, 2018). However, because parents with SU concerns were not targeted in previous SafeCare implementation studies, research has not investigated intervention effectiveness among parents with SU concerns compared to non-substance users. Given the high need for parenting services among parents that misuse substances (Moreland et al., 2016) and importance of examining the role of SU in service and goal completion, this examination is critical.

Although this study is not a clinical trial testing the efficacy of a parenting intervention for parents with SUD, SafeCare may be particularly well-suited to meet the needs of parents with SUD, warranting investigation of its effectiveness in this population. First, SafeCare is delivered in parents' homes, which could reduce barriers that parents with SUD often face when enrolling in and attending services, as parents with SU problems are less likely to present to office-based treatment and often respond well to outreach services (Schaeffer et al., 2013). Second, SafeCare is an inclusive intervention that can involve multiple caregivers within the home, which is particularly important for parents with SUD, who often share parenting responsibilities with other caregivers due to involvement with child protective services or other agencies (Moreland et al., 2016). Further, SafeCare provides skills-based training in ways to interact verbally with infants, display positive and affectionate behavior towards infants and children, respond to infant and child behavior, and respond to infant and child health care needs—skills that parents with SU concerns tend to lack (Dunn et al., 2002; Testa & Smith, 2009).

To our knowledge, no studies to date have investigated outcomes in parents with SU problems compared to parents that do not use substances involved in the child welfare system but not enrolled in a SU treatment program. Addressing this knowledge gap is crucial given that the majority of parents with SU problems are not involved in SU treatment programs (Choi & Ryan, 2006), and that parents with SUD are most likely to be present in the child welfare system either for neglect or another type of maltreatment (Barth et al., 2006; McGlade et al., 2009; Yampolskaya & Banks, 2006). Hence, there is pressing need to understand whether SafeCare is effective among this subpopulation of parents in the child welfare system.

The purpose of this study was to examine whether SU moderated the relationship between treatment condition and parenting outcomes among parents who participated in SafeCare, and parent ratings of engagement, service satisfaction, and perceived cultural competency of services. Specifically, the goal of the current study (Aim 1) was to examine whether the presence of a SUD moderated the relationship between treatment condition and parenting outcomes among parents who participated in a statewide randomized controlled trial of the SafeCare intervention completed in Oklahoma (Chaffin, et al., 2012b). Specifically, we examined changes in known risk factors for child maltreatment, including child abuse potential, parental distress, and parental depression, as these risk factors often decrease when parents participate in home-based interventions designed to target maltreatment and are indicators of parental well-being (Chaffin & Bard, 2011).

Given that SafeCare may not be effective for parents with SUD, a secondary aim (Aim 2) was to utilize moderation analyses to examine parent ratings of program engagement (i.e., quality of working alliance or collaborative relationship with home visitor), service satisfaction, and perceived cultural competency of services among parents with SU concerns. These are important contributors to program effectiveness, as parents must be engaged in the program to fully benefit from knowledge received. Findings from previous SafeCare trials demonstrated that participants in SafeCare (versus usual care) reported higher levels of working alliance, service satisfaction, and cultural competency, both in an overall sample of parents (Damashek et al., 2011), and in a subsample of American Indian parents (Chaffin et al., 2012), as well as in fathers (Self-Brown et al., 2017). Results clarifying the moderating role of SU disorders will highlight whether SafeCare is well suited for, and will be well received by, parents with SU problems involved in the child welfare system.

Methods

Participants

Participants (n = 2,175) were drawn from a statewide controlled trial of the SafeCare home visiting model in Oklahoma (Chaffin et al., 2012b). Parents were eligible for the trial if they were referred to community-based agencies for substantiated cases of child maltreatment by the child welfare system for physical abuse or neglect (but not sexual abuse). Parents were determined to have a SUD if their provider reported a current untreated alcohol/drug disorder or if they were classified as currently having an alcohol/drug disorder according to questions adapted from the Drug and Alcohol Disorders Module of the Diagnostic Interview

Schedule (APA, 2013). Parents with complete SUD data were included in the current study. Of the larger sample, 2,149 parents met the inclusion criteria. Table 1 provides demographic information on the current study sample. The average age of participants was 29.3 (SD = 7.98) years; all were the primary caregiver of child under 12, and most were women (91.4%) and non-Hispanic White (66.7%). Of the 91.16% of participants who provided information, most were below the poverty line (82.0%). Of participants with complete SUD data, 22.9% met criteria for a SUD. The project was approved by the IRB and received privacy assurances via Privacy Certificate.

Design and Procedure

From September 30, 2003 to October 1, 2006, participants engaged in home-based services delivered by community-based providers or agencies under contract with child protective services (CPS). Non-sexual-abusing parents reported to the CPS for child abuse or neglect were referred for services, and one caregiver per household (preferably the primary caregiver) was enrolled in the program. A study team member then visited the household to explain the study to caregivers and discuss confidentiality and limits, then answered any questions from the family. In the overall sample, 72% of approached families enrolled in the overall study.

Agencies/regions in Oklahoma were randomly assigned to deliver SafeCare (SC) or home-based services as usual (SAU) according to a cluster-randomized design. Thus, each home visitor in a given region delivered either SC or SAU to their enrolled families, with care taken to prevent cross-contamination of SC and SAU. Details of randomization and conditions are described in Chaffin et al. (2012b). The details in implementation SC and SAU were comparable, including the home-based format, caseloads, service duration (6 months), frequency of sessions (weekly), goals, workforce qualifications, case management procedures, reporting requirements, assessment tools, and funding. All home visitors (SC and SAU) were trained in motivational interviewing and safety planning, and had resources available to assist families in crises that arose during the assigned intervention. The major differences between SC and SAU were SC’s module content (parent-child interaction, home safety, child health) and materials, structure, and behavioral components (e.g., home visitor modeling and in-session parent practice).

Treatments

SafeCare.—SC is a manualized, structured, behavioral parent training intervention that is organized into three modules: parental knowledge of healthy child development and identification of children’s illnesses and symptoms to differentiate whether professional healthcare is necessary (child health component); parent/child or parent/infant interactions, basic caregiving structure, and parenting routines (parenting component); and identifying safety hazards in the home that may place children at risk of injury, as well as improving parental supervision (home safety component) (Lutzker & Bigelow, 2002). Each SafeCare module contains 6 sessions: session 1 is assessment, sessions 2–5 are training, and session 6 is reassessment. During the training modules, the therapist completes several activities drawn from social learning theory: Explain (explaining the skills and why they are important), Model (demonstrating how to do each skill), Practice (having parents practice the skills), and Feedback (providing positive and corrective feedback to parents skill use). SafeCare sessions last approximately 60 to 90 minutes and typically occur weekly. The SafeCare provider and the client both receive written manuals to use in following along with the intervention. SafeCare can be implemented as a component of a home visiting service (as in this study) or as a stand-alone intervention. SafeCare providers attended a one-week training workshop that contained live demonstration and role-plays, as well as one field session of direct observation. Providers received ongoing clinical supervision and ongoing fidelity monitoring.

Services as Usual.—Providers of parents assigned to the services as usual (SAU) condition were observed by study investigators in the field to obtain descriptive information regarding type and dose of home-based services, to assure that comparable goals and issues were included. SAU were delivered in a less structured manner and did not include SafeCare content on parent-child interactions, home safety, and child health. Instead, services did not include the behavioral components of SafeCare and instead revolved around discussion.

Measures

Participant self-report and administrative data were used to assess study constructs. Self-report measures were administered and completed by a trained study member utilizing computer-assisted touch screen interviewing devices. Measures gathered information from participants about child abuse potential, depressive symptoms, SUD, and program engagement and satisfaction. Assessments were administered at pre-treatment; post-treatment (3 months from baseline); and follow-up (6 months from baseline). Results were kept confidential and were not shared with service providers or CPS. Participants completed a survey assessing demographic information, the parent-child relationship, and their experience using services.

Child Abuse Potential.—Potential for child abuse and parenting distress were assessed with the abuse and distress subscales of the Child Abuse Potential Inventory (CAPI; Milner, 1994), which are typically used in research studies. The CAPI is a self-report, standardized assessment of attitudes and behaviors related to child maltreatment. Example items include “Spanking that only bruises a child is okay” and “I often feel worried.” Participants report whether they agree or disagree with each statement. The CAPI is a widely-used measure with high internal consistency (KR-20 = .92 to .95).

Depressive symptoms.—The Beck Depression Inventory (BDI; Beck et al., 1988), which contains 21 items, was utilized to measure depression. Participants chose which statement out of a group most accurately reflects their feelings in the past two weeks (e.g., “I do not feel sad,” “I feel sad much of the time,” “I am sad all the time,” and “I am so sad or unhappy that I can’t stand it”). The BDI has demonstrated excellent internal consistency, test-retest reliability, and convergent validity (Beck et al., 1996) and has been utilized with samples undergoing treatment for SU (e.g., Hesse, 2006). The BDI showed high internal reliability at .95 in the current subsample.

Program engagement.—The study examined whether SafeCare services were more effective than SAU in program engagement and satisfaction. Upon completion of the program, the Working Alliance Inventory was utilized to measure service engagement (WAI; Horvath & Greenberg, 1989). The WAI is a 36-item scale that assesses three aspects of the therapeutic relationship, including therapeutic task agreement, emotional bond, and therapeutic goal agreement. Internal consistency has been reported in the literature between .68 and .87.

Program satisfaction.—Two surveys were utilized to measure program satisfaction, which were both collected during the post-assessment phase. The Client Satisfaction Survey (CSS; Chaffin, et al., 2012a), which was developed to assess whether parents perceived home-based services to be helpful, was used to assess participant satisfaction with services. The survey contains items that assess the process and outcome goals of home visiting services. Another measurement of client satisfaction was the Client Cultural Competence Inventory (CCCI; Switzer et al., 1998), a self-report tool that measures perceptions about cultural competence of services. The CCCI was developed to measure competency across diverse cultures and has a Cronbach's alpha of .76.

Substance Use Disorder.—At baseline (the pre-treatment time point), parents were determined to have a SUD if their provider reported a current untreated alcohol/drug disorder or if they were classified as currently having an alcohol/drug disorder according to questions adapted from the Drug and Alcohol Disorders Module of the Diagnostic Interview Schedule. Based on available data, 24.2% were determined to have a SUD.

Statistical approach

Aim 1.—Our primary aim was to examine whether SUD status at baseline moderated the relationship between treatment condition and parenting outcomes (child abuse potential, parental distress, and depression) across three study time points. Growth curve modeling (GCM) was used to address Aim 1. GCM is a longitudinal data analysis method that allows "for the estimation of inter-individual variability in intra-individual patterns of change over time" (Curran et al., 2010). It is used when a research question focuses on change over time, such as evaluation of treatment effects. This technique also allows examination of relationships among multiple variables in the same model, such as treatment condition and SUD status. We used GCM in a multilevel modeling framework to estimate longitudinal trajectories of change, based on repeated measurements of parenting outcomes from study participants across time (i.e., at pre-treatment, post-treatment, and follow-up points in the present study).

Trajectories were based on three predictor variables: treatment condition (SC vs. SAU), SUD status (SUD vs. no SUD at baseline), and their interaction (treatment condition × SUD status). GCM estimates differences in both the initial level at which each trajectory —for example, parents with SUD assigned to SC—begins (the intercept) and the rate of change (the slope) for each trajectory (Curran et al., 2010; Hox & Stoel, 2005). Thus, we captured differences in trajectories as a function of treatment condition, SUD status, and their interaction. Growth curve models had two levels (accounting for home visitor cluster) and included three time points (pre-treatment, post-treatment, and follow-up). Modeling was conducted using maximum likelihood estimation with adjusted standard error estimates (which are robust to minor departures from normality) in MPlus 7.2 software.

First, unconditional growth models estimated trajectories across study time points *without* accounting for treatment condition, SUD status at baseline, and their interaction. This allowed us to examine overall changes in each of the parenting outcomes across time, regardless of treatment condition and SUD. Then, conditional growth models were estimated to examine trajectories across study time points as a function of treatment condition, SUD status, and their interaction. This allowed us to examine main effects of treatment condition and SUD, as well as their interaction, on changes in each of the parent outcomes across time. Separate growth curve models were conducted for each of the three parenting outcomes.

Aim 2.—Our secondary aim was to examine whether SUD status at baseline moderated relationships between treatment condition and program engagement, satisfaction, and perceived cultural competence. Hierarchical linear modeling was used to address Aim 2. Two-level models (accounting for home visitor cluster) were tested by regressing outcome variables on treatment condition, SUD status at baseline, and the interaction between these two variables (treatment condition × SUD status). Separate hierarchical linear models were conducted for each outcome. Regression models were tested using maximum likelihood estimation in IBM SPSS 27 software.

Results

Aim 1

Three growth curve models examined whether SU moderated the relationship between treatment condition and parenting outcomes. Table 2 presents unconditional growth curve model results for the parenting outcomes. Across all parenting outcomes, a significant decrease was observed over the three time points.

Table 3 presents conditional growth curve model results for parenting outcomes across study time points as a function of SUD, treatment condition, and their interaction. Regarding child abuse potential (Table 3, Section 1), no significant interaction effects were detected. However, SUD significantly moderated the association between treatment condition and depression (Table 3, Section 2) and parental distress (Table 3, Section 3). When treatment condition, SUD, and the interaction term were entered into the conditional model for depression, SUD significantly moderated the relationship between treatment condition and depression over time. Parents with SUD in the SAU group reported decreased depression across study time points,. Parents with SUD in the SC group reported decreased depression from baseline to post-treatment, but increased depression from post-treatment to follow-up. Figure 1 shows the interaction effect of SUD and treatment condition on depression across study time points.

When treatment condition, SUD, and the interaction term were entered into the conditional model for parental distress, SUD significantly moderated the relationship between treatment condition and parental distress over time. Parents with SUD in the SAU group reported decreased distress across study time points. Parents with SUD in the SC group reported decreased distress from baseline to post-treatment, but increased distress from post-treatment to follow-up. Parents with SUD in the SC group reported greater distress at follow-up than at baseline. Figure 2 shows the interaction effect of SUD and treatment condition on parental distress across study time points.

Table 4, Section I. presents parenting outcome means and standard deviations at each time point. *Pre-treatment*, parents with SUD in the SAU and SC groups reported comparable scores across outcomes. All parents met criteria for mild/moderate depression (BDI scores 10–18; Beck et al., 1988). In the SAU group, parents with SUD reported higher abuse potential (p=.002) and distress (p=.003) compared to parents without SUD. In the SC group, parents with and without SUD reported comparable scores across outcomes. *Post-treatment*, parents with SUD in the SAU and SC groups reported comparable scores across outcomes. All parents met criteria for mild/moderate depression, but parents without SUD in the SAU group showed no/minimal depression (BDI scores 0–9; Beck et al., 1988). In the SAU group, parents with SUD reported higher post-treatment abuse potential (p=.019) and distress (p=.023) compared to parents without SUD. At *follow-up*, parents with and without SUD in the SAU and SC groups reported comparable scores across outcomes. All parents met criteria for mild/moderate depression, but parents without SUD in the SAU group showed no/minimal depression.

In community samples, CAPI scores above 215 on the abuse subscale, and 152 on the distress scale, suggest elevated risk for child abuse (Milner, 1994). Averages across treatment condition and SUD groups were below these cutoffs throughout the study. However, parents with SUD reported higher abuse and distress compared to parents without SUD.

Aim 2

Table 5 presents regression model results for post-treatment program engagement indicators (working alliance, satisfaction, and perceived cultural competence) as a function of SUD, treatment condition, and their interaction. No significant interaction effects were detected for the indicators of program engagement (i.e., working alliance, client satisfaction, and perceived cultural competency of services), suggesting that the presence of a parental SUD does not significantly moderate the impact of SafeCare on these outcomes. While group differences did not reach significance in hierarchical linear models, ratings were generally higher for SC compared to SAU across program engagement outcomes. Table 4, Section II. presents process-related outcome means and standard deviations. The WAI items fall on a 0–6 scale, CSS items on a 1–4 scale, and CCCI items on a 1–5 scale. Higher scores on these measures indicated greater working alliance, satisfaction, and perceived cultural competency, respectively. Across groups, services were well-rated. Across treatment conditions, parents with SUD tended to report lower scores on program engagement indicators compared to parents without SUD.

Discussion

Although this was not a clinical trial testing the efficacy of SafeCare for parents with SU concerns, the purpose of this study was to examine how the presence of a parental SU impacted outcomes following the SafeCare (SC) intervention compared to SAU (which included 6 months of service with weekly visits, but did not include the SC curriculum) for parents involved with child welfare in Oklahoma. Findings suggest that parents who have an untreated SU conerns may not benefit from the SC intervention with regard to distress and depressive symptoms. Further adaptation may be needed to meet the needs of parents with SU problems and improve outcomes.

Overall, treatment in general was associated with reductions in risk factors for child maltreatment, including child abuse potential and parental distress and depressive symptoms. Initial analyses on outcomes specific to treatment type showed that reduction in these outcomes was equivalent between SC and SAU, aligning with some existing studies on SC, but not others. An examination of SC in adolescent mothers found that SC did not outperform services as usual in improving outcomes (Hubel et al., 2018), while examinations with the original sample (Chaffin et al., 2012b) and a subpopulation of American Indian caregivers (Chaffin et al., 2012a) found that SC was associated with more favorable outcomes compared to services as usual.

SU problems moderated the effect of treatment on parent functioning. Parents with SU concerns who received SC reported less improvement in depression and distress across time points compared to parents with SU problems who received SAU. Parents with SU concerns who received SAU reported improvements across time points. In contrast, parents with SU concerns receiving SC reported decreased depression and distress from baseline to post-treatment, but inceases in outcomes from post-treatment to follow-up. Parents with SU problems who received SC reported the highest depression and distress at follow-up compared to other groups. This is contrary to findings in studies of parents from a sample of parents referred by child welfare who have received SC, where findings demonstrated decreased depression among parents who engaged in SC (Romano et al., 2020). Parents with SUD who received SC reported greater distress at follow-up than at baseline.

The severity and nature of impairment among parents with an untreated SU problems may have interfered with treatment-related benefits. Individuals with SUD show deficits in executive and cognitive functioning, including response inhibition and impulsivity, processing speed,cognitive efficiency, complex attention and memory (including visual and working memory), verbal and visual learning, and problem-solving (Fernández-Serrano et al., 2012; Ramey & Regier, 2019; Stavro et al., 2012). In turn, deficits in executive and cognitive functioning are associated with poor substance-use treatment retention and outcomes (Carroll et al., 2011; Streeter et al., 2008; Verdejo-García et al., 2012), potentially through difficulties acquiring coping skills (Kiluk et al., 2011). More cognitively demanding parenting-focused services and treatment components may pose particular difficulty for parents with SUD, given studies demonstrating the individuals with SU problems display delayed or negative impacted cognitive functioning (Ramey & Regier, 2019). Perhaps the demand of SC treatment components on substance-using parents' compromised attention, working memory, and other cognitive faculties was associated with increased stress, as reflected by increased self-report of distress and depressive symptoms.

Another explanation includes evidence that parents with SU concerns suffer from multiple comorbid psychiatric concerns, including higher anxiety, depression, suicidal ideation, risky sexual behavior, and mental health concerns (Chawla & Sarker, 2019; McHugh et al., 2020). Symptoms and consequences related to comorbid mental health diagnoses may interfere and contribute to difficulty for patient's to engage or see improvements in parenting skills.

Our findings highlight the unique needs of substance-using caregivers receiving parenting interventions, and suggest that consideration of untreated SU problems should factor into parenting intervention selection for caregivers. Indeed, findings support the need to integrate concomitant treatment for SU when delivering parenting interventions to substance-using caregivers (Neger & Prinz, 2015). To better understand the needs of substance-using parents, and thus inform development of combined interventions, future research would do well to examine whether substance-use severity (in a variety of forms) moderates parenting intervention response among substance-using caregivers, as well as whether substance-use-related executive functioning deficits mediate relationships between parenting intervention characteristics and treatment outcomes. Future research should also examine which components of the intervention might positively or negatively impact program outcomes for parents with SU problems. In addition, given different rates of SU among women and men, it may be important to compare the impact of SafeCare among mothers and fathers.

With regard to indicators of program engagement (i.e., working alliance, client satisfaction, and perceived cultural competency of services), SU problems did not moderate the impact of SC and SAU on these outcomes. This is consistent with parent responses to SC during the original clinical trial and an examination within the American Indian subpopulation (Chaffin et al., 2012a), in which parents rated SC to be higher quality, more beneficial, more culturally competent, and more engaging. Engagement and satisfaction are critically important process factors in treatment effectiveness (Haine-Schlagel et al., 2015). However, parent SU concerns was associated with less client satisfaction across treatment conditions. Further exploration of parenting intervention adaptations with substance-using parents should examine specific components or aspects that are associated with favorable program satisfaction ratings, as well as the associations between identified components/aspects and effectiveness in reducing risk.

Clinical implications

Tailoring parenting interventions to fit the clinical profile of substance-using caregivers appears crucial. For caregivers with untreated SU problems, findings indicate that SC yields similar outcomes to SAU with regard to child abuse potential and program engagement. However, it appears that untreated SU problems may not be associated with benefits in parental depression and distress following the use of SC in its present form. Given cognitive deficits associated with SU, concomitantly providing services to reduce SU may yield better treatment outcomes from parenting interventions among caregivers with SU problems—particularly with regard to depression and parental distress. Finally, this suggests that depression and parental distress should be considered in making parenting-related treatment decisions for substance-using caregivers. Untreated SU concerns are associated with increased depression and parental distress, and SC may increase risk for these difficulties, which in turn are associated with increased risk for future negative child outcomes, such as behavior problems, anxiety, and depression (Brennan et al., 2000).

Limitations

Limitations must be taken into account when interpreting findings. First, untreated SU problems was measured only at baseline, precluding examination of the longitudinal effects of SU concerns on treatment outcomes and risk factors. SU problem presence and severity may have fluctuated throughout treatment and follow-up periods. Relatedly, constructs often unique to parents with SU problems (e.g., coping mechanisms, relapse) were not measured in the overall study and only 22.9% of parents had SU problems, as the aim of the initial study did not revolve around SU. Future studies should measure SU concerns at multiple time points, and examine variables unique to parents with SU problems, as they may contribute to the effectiveness of SafeCare. In addition, the study did not collect information on posential disabilities or cognitive functioning on the parents or children in the study, so conclusions cannot be generalized to children and families with disabilities. Finally, demographic information was not obtained by providers, so we were not able to examine whether there were differences based upon ethnic match. Studies should collect this information to examine associations based upon demographics between the providers and participants.

Conclusions

Findings contribute to the literature by demonstrating that SC, an evidence-based parenting intervention found to reduce risk for child maltreatment among parents referred through child welfare, is associated with differential outcomes compared to SAU when focusing on parents with SU problems. Specifically, an untreated SU problem was not associated with differential outcomes following SC or SAU on child abuse potential, or with differential program engagement. However, an untreated SU problem was associated with exacerbated depression and parenting distress, specifically following the SC intervention. Results underscore that caregivers with SU problems have unique treatment needs, and that adapting interventions to specifically target these needs is essential to ensuring treatment success.

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References

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: American Psychiatric Publishing.

Barth RP, Gibbons C, & Guo S (2006). Substance abuse treatment and the recurrence of maltreatment among caregivers with children living at home: A propensity score analysis. Journal of Substance Abuse Treatment, 30, 93–104. [PubMed: 16490672]

Beck AT, Steer RA, & Carbin MG (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. Clinical Psych Rev, 8(1), 77–100.

Beck AT, Steer RA, & Brown GK (1996). Beck Depression Inventory Manual (2nd ed.). San Antonio, TX: Psychological Corporation.

Brennan PA, Hammen C, Andersen MJ, Bor W, Najman JM, & Williams GM (2000). Chronicity, severity, and timing of maternal depressive symptoms: Relationships with child oucomes at age 5. Developmental Psychology, 36, 759–766. [PubMed: 11081699]

Calhoun S, Conner E, Miller M, & Messina N (2015). Improving the outcomes of children affected by parental substance abuse: A review of randomized controlled trials. Substance Abuse & Rehabilitation, 6, 15–24. doi: 10.2147/SAR.S46439 [PubMed: 25670915]

Carroll KM, Kiluk BD, Nich C, Babuscio TA, Brewer JA, … Lejuez CW (2011). Cognitive function and treatment response in a randomized clinical trial of computer-based training in cognitive-bheavioral therapy. Substance Use & Misuse, 46, 23–34. [PubMed: 21190403]

Carta JJ, Lefever JB, Bigelow K, Borkowski J, & Warren SF (2013). Randomized trial of a cellular phone-enhanced home visitation parenting intervention. Pediatrics, 132(Supplement 2), S167–S173. [PubMed: 24187120]

Chaffin M, & Bard D (2011). Changes in parental depression symptoms during family preservation services. Child abuse & neglect, 35(6), 448–458. [PubMed: 21632109]

Chaffin M, Bard D, Bigfoot DS, & Maher EJ (2012a). Is a structured, manualized, evidence-based treatment protocol culturally competent and equivalently effective among American Indian parents in child welfare? Child maltreatment, 17(3), 242–252. [PubMed: 22927674]

Chaffin M, Hecht D, Bard D, Silovsky JF, & Beasley WH (2012b). A statewide trial of the SafeCare home-based services model with parents in Child Protective Services. Pediatrics, 129(3), 509–515. [PubMed: 22351883]

Chawla N & Sarkar S (2019). Defining "high-risk sexual behavior" in the context of substance use. Journal of Psychosexual Health, 1(1), 26–31.

Choi S, & Ryan JP (2006). Completing substance abuse treatment in child welfare: The role of co-occurring problems and primary drug of choice. Child Maltreat, 11(4), 313–325. [PubMed: 17043316]

Compton WM, Thomas YF, Stinson FS, & Grant BF (2007). Prevalence, correlates, disability, and comorbidity of DSM-IV drug abuse and dependence in the United States: results from the national epidemiologic survey on alcohol and related conditions. Archives of general psychiatry, 64(5), 566–576. [PubMed: 17485608]

Curran PJ, Obeidat K, & Losardo D (2010). Twelve frequently asked questions about growth curve modeling. Journal of Cognition & Development, 11(2), 121–136. [PubMed: 21743795]

Damashek A, Bard D, & Hecht D (2012). Provider cultural competency, client satisfaction, and engagement in home-based programs to treat child abuse and neglect. Child Maltreatment, 17(1), 56–66. [PubMed: 22007034]

Dunn MG, Tarter RE, Mezzich AC, Vanyukov M, Kirisci L, & Kirillova G (2002). Origins and consequences of child neglect in substance abuse families. Clinical Psychology Review, 22(7), 1063–1090. doi: 10.1016/S0272-7358(02)00132-0 [PubMed: 12238246]

Fernández-Serrano MJ, Perales JC, Moreno-López L, Pérez-García M, & Verdejo-García A (2012). Neuropsychological profiling of impulsivity and compulsivity in cocaine dependent individuals. Psychopharmacology, 219(2), 673–683. [PubMed: 21922168]

Haine-Schlagel R & Escobar Walsh N (2015). A review of parent participation engagement in child and family mental health treatment. Clinical Child and Family Psychology Review, 18(2), 133–150. [PubMed: 25726421]

Hasin DS, Stinson FS, Ogburn E, & Grant BF (2007). Prevalence, correlates, disability, and comorbidity of DSM-IV alcohol abuse and dependence in the United States: results from the National Epidemiologic Survey on Alcohol and Related Conditions. Archives of general psychiatry, 64(7), 830–842. [PubMed: 17606817]

Hesse M (2006). The beck depression inventory in patients undergoing opiate agonist maintenance treatment. The British Journal of Clinical Psychology, 45, 417–425. [PubMed: 17147106]

Horvath AO, & Greenberg LS (1989). Development and validation of the Working Alliance Inventory. Journal of Counseling Psychology, 36(2), 223.

Hox J, & Stoel RD (2005). Multilevel and SEM approaches to growth curve modeling. In Everitt BS & Howell DC, Encyclopedia of Statistics in Behavioral Science (Vol. 3, pp. 1296–1305). John Wiley & Sons, Ltd.

Hubel GS, Rostad WL, Self-Brown S, & Moreland AD (2018). Service needs of adolescent parents in child welfare: Is an evidence-based, structured, in-home behavioral parent training protocol effective? Child Abuse & Neglect, 79, 203–212. [PubMed: 29482107]

Jansson LM, Svikis DS, & Beilenson P (2003). Effectiveness of child case management services for offspring of drug-dependent women. Substance Use & Misuse, 38, 1933–52. [PubMed: 14677776]

Jeong YM, Veldhuis CB, Aranda F, & Hughes TL (2016). Racial/ethnic differences in unmet needs for mental health and substance use treatment in community - based a sample of sexual minority women. Journal of clinical nursing, 25(23–24), 3557–3569. [PubMed: 27461857]

Johnson SL, Elam K, Rogers AA, & Hilley C (2018). A meta-analysis of parenting practices and child psychosocial outcomes in trauma-informed parenting interventions after violence exposure. Prevention Science, 19(7), 927–938. [PubMed: 30136246]

Kiluk BD, Nich C, & Carroll KM (2011). Relationship of cognitive function and the acquisition of coping skills in computer assisted treatment for substance use disorders. Drug & Alcohol Dependence, 114(2), 169–176. doi: 10.1016/j.drugalcdep.2010.09.019 [PubMed: 21050679]

Lutzker JR, & Bigelow KM (2002). Reducing child maltreatment: A guidebook for parent services. New York, NY: Guilford Press.

Marsh JC, & Smith BD (2011). Integrated substance abuse and child welfare services for women: A progress review. Child & Youth Services Review, 33(3), 466–472. doi: 10.1016/j.childyouth.2010.06.017

McGlade A, Ware R & Crawford M (2009). Child protection outcomes for infants of substance-using mothers: A matched-cohort study. Pediatrics, 124, 285–293. [PubMed: 19564311]

McHugh R, Sugarman DE, Meyer L, Fitzmaurice GM, & Greenfield SF (2020). The relationship between perceived stress and depression in substance use disorder treatment. Drug and alcohol dependence, 207, 107819. [PubMed: 31918232]

Milligan K, Niccols A, Sword W, Thabane L, Henderson J, & Smith A (2011). Birth outcomes for infants born to women participating in integrated substance abuse treatment programs: A Meta-analytic review. Addiction Research and Theory, 19(6), 542–555.

Milner JS (1994). Assessing physical child abuse risk: The child abuse potential inventory. Clinical Psychology Review, 14(6), 547–583.

Moreland A, Brown D, Baker N, & McRae-Clark A (2016, June). Is parenting really that stressful? Daily behavioral stress in drug using parents compared to non-parents. Poster presented at the 78th Annual Meeting at the CPDD, Palm Springs, CA.

Moreland AD & McRae-Clark A (2016). Is parenting really that stressful? Daily behavioral stress in drug using parents compared to non-parents. Poster presented at the 78th Annual Meeting at the College on Problems of Drug Dependence, Palm Springs, CA.

Moreland AD & McRae-Clark A (2018). Parenting outcomes of parenting interventions in integrated substance-use treatment programs: A systematic review. Journal of Substance Abuse Treatment, 89, 52–59. [PubMed: 29706173]

Najavits LM, Runkel R, Neuner C, Frank A, Thase ME, Crits- Christoph P, … Blaine J (2003). Rates and symptoms of PTSD among cocaine-dependent patients. Journal of Studies on Alcohol, 64, 601–606. [PubMed: 14572180]

Neger EN & Prinz RJ (2015). Interventions to address parenting and parental substance abuse: Conceptual and methodological considerations. Clinical Psych Review, 39, 71–82.

Niccols A, Milligan K, Sword W, Thabane L, et al. (2010) Maternal mental health and integrated programs for mothers with substance abuse issues, Psychology of Addictive Behaviors, 24(3), 466–74. [PubMed: 20853932]

Priester MA, Browne T, Iachini A, Clone S, DeHart D, & Seay KD (2016). Treatment access barriers and disparities among individuals with co-occurring mental health and substance use disorders:

an integrative literature review. Journal of substance abuse treatment, 61, 47–59. [PubMed: 26531892]

Ramey T & Regier PS (2019). Cognitive impairment in substance use disorders. CNS spectrums, 24(1), 102–113. [PubMed: 30591083]

Romano E, Gallitto E, Firth K, & Whitaker D (2020). Does the SafeCare parenting program impact caregiver mental health? Journal of Child and Family Studies, 29(9), 2653–2665.

Rostad WL, Lutzker JR, & Guastaferro KM (2016). Practices targeting child neglect: The use of SafeCare to enhance parenting skills to reduce neglect. In Gardner R (ed.) Tackling Child Neglect: Research, Policy and Evidence-Based Practice. London, UK: Jessica Kingsley Publishers.

Schaeffer CM, Swenson CC, Tuerk EH, & Henggeler SW (2013). Comprehensive treatment for co-occurring child maltreatment and parental substance abuse: Outcomes from a 24-month pilot study of the MST-Building Stronger Families program. Child Abuse & Neglect, 37, 596–607. [PubMed: 23768938]

Seay KD Detection of Problematic Substance Use in the Child Welfare System: A Comparison of Self-Report and Caseworker Report. Child Maltreatment, 0(0), 1077559518815613. doi:10.1177/1077559518815613

Self-Brown S, Osborne MC, Lai BS, Brown NDV, Glasheen TL, & Adams MC (2017). Initial findings from a feasibility trial examining the SafeCare Dad to Kids program with marginalized fathers. Journal of family violence, 32(8), 751–766. [PubMed: 29307956]

Shanley JR, Graham ML, Lutzker JR, Edwards-Gaura A, Whitaker DJ, & Self-Brown S (2013). Lessons learned from national and international implementations of SafeCare®. International Journal of Public Health, 5(1), 31–38.

Spehr MK, Coddington J, Ahmed AH, & Jones E (2017). Parental opioid abuse: Barriers to care, policy, and implications for primary care pediatric providers. Journal of Pediatric Health Care (published online ahead of print). Doi: 10.1016/j.pedhc.2017.05.007

Stavro K, Pelletier J, & Potvin S (2013). Widespread and sustained cognitive deficits in alcoholism: A meta-analysis. Addiction Biology, 18(2), 203–213. [PubMed: 22264351]

Streeter CC, Terhune DB, Whitfield TH, Gruber S, Sarid-Segal O …, & Yurgelun-Todd DA (2008). Perfroamnce on the Stroop predicts treatment complicance in cocain-dependent individuals. Neuropsychopharmacology, 33(4), 827–836. [PubMed: 17568399]

Switzer GE, Scholle SH, Johnson BA, & Kelleher KJ (1998). The Client Cultural Competence Inventory: An instrument for assessing cultural competence in behavioral managed care organizations. Journal of Child and Family Studies, 7(4), 483–491.

Sword W, Jack S, Niccols A, Milligan K, Henderson J, & Thabane L (2009). Integrated programs for women with substance use issues and their children: a qualitative meta-synthesis of processes and outcomes. Harm Reduction Journal, 6(1), 1–32. [PubMed: 19138414]

Testa MF, & Smith B (2009). Prevention and drug treatment. The Future of Children, 19(2), 147–167. [PubMed: 19719026]

van Aar J, Leijten P, de Castro BO, & Overbeek G (2017). Sustained, fade-out or sleeper effects? A systematic review and meta-analysis of parenting interventions for disruptive child behavior. Clinical psychology review, 51, 153–163. [PubMed: 27930935]

Verdejo-García A, Betanzos-Espinosa P, Lozano OM, Vergara-Moragues E, González-Saiz F, Fernández-Calderón F, … Pérez-García M (2012). Self-regulationand treatment retention in cocaine dependent individuals: A longitudinal study. Drug & Alcohol Dependence, 122, 142–148. [PubMed: 22018602]

Wilson D, & Alexandra L (2005). Guide for child welfare administrators on evidence-based practice. Washington, DC: National Association of Public Child Welfare Administrators, American Public Human Services Association.

Yampolskaya S & Banks SM (2006). An assessment of the extent of child maltreatment using administrative databases. Assessment, 13(3), 342–355. [PubMed: 16880284]

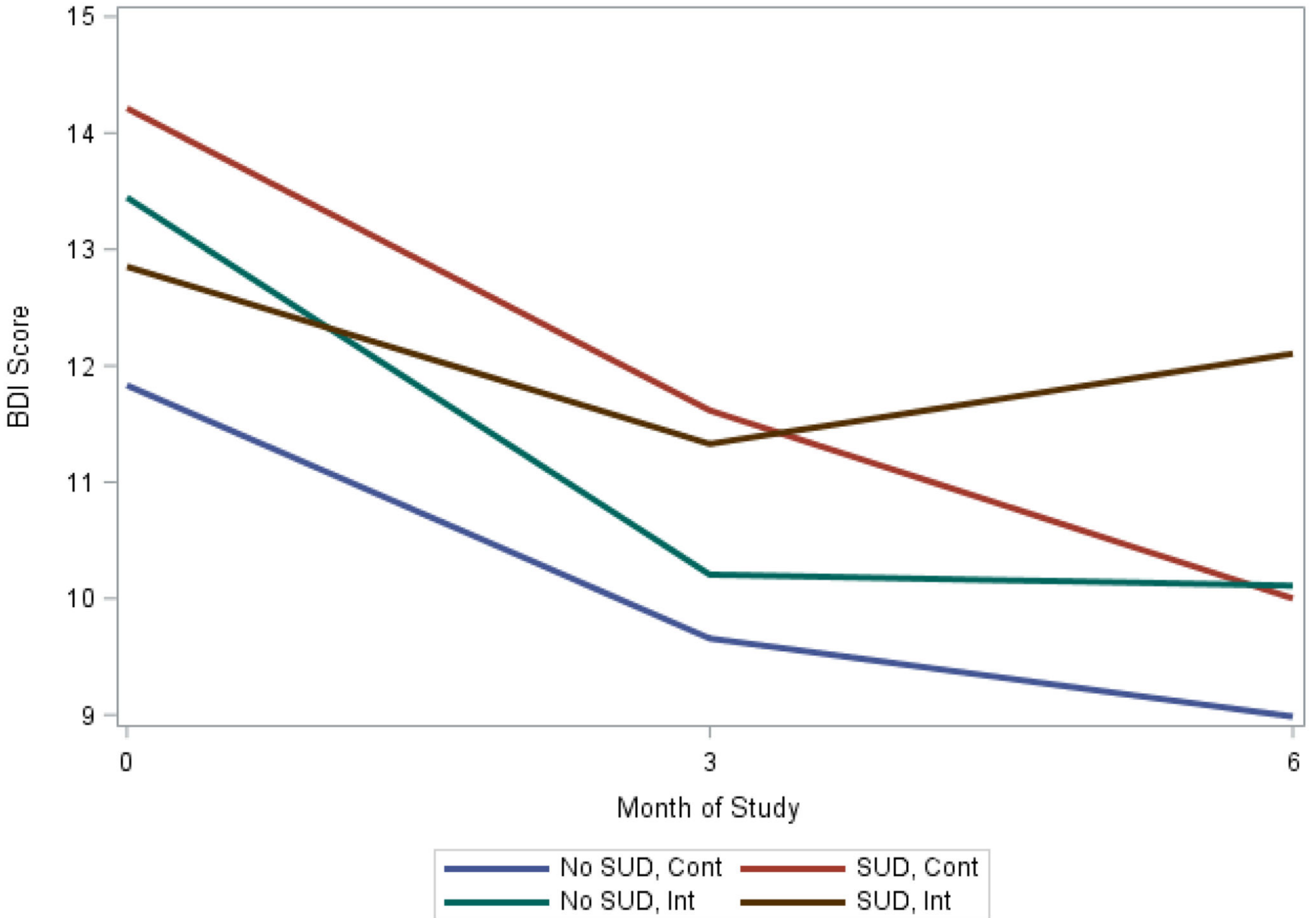

Figure 1.
SUD and Treatment Condition Interaction Effect on Parent Depression Scores
Note: BDI=Beck Depression Inventory; Cont=Control (services as usual); Int=Intervention (SafeCare); SUD=Substance Use Disorder. Scores were reported at baseline, post-treatment (3 months from baseline), and follow-up (6 months from baseline).

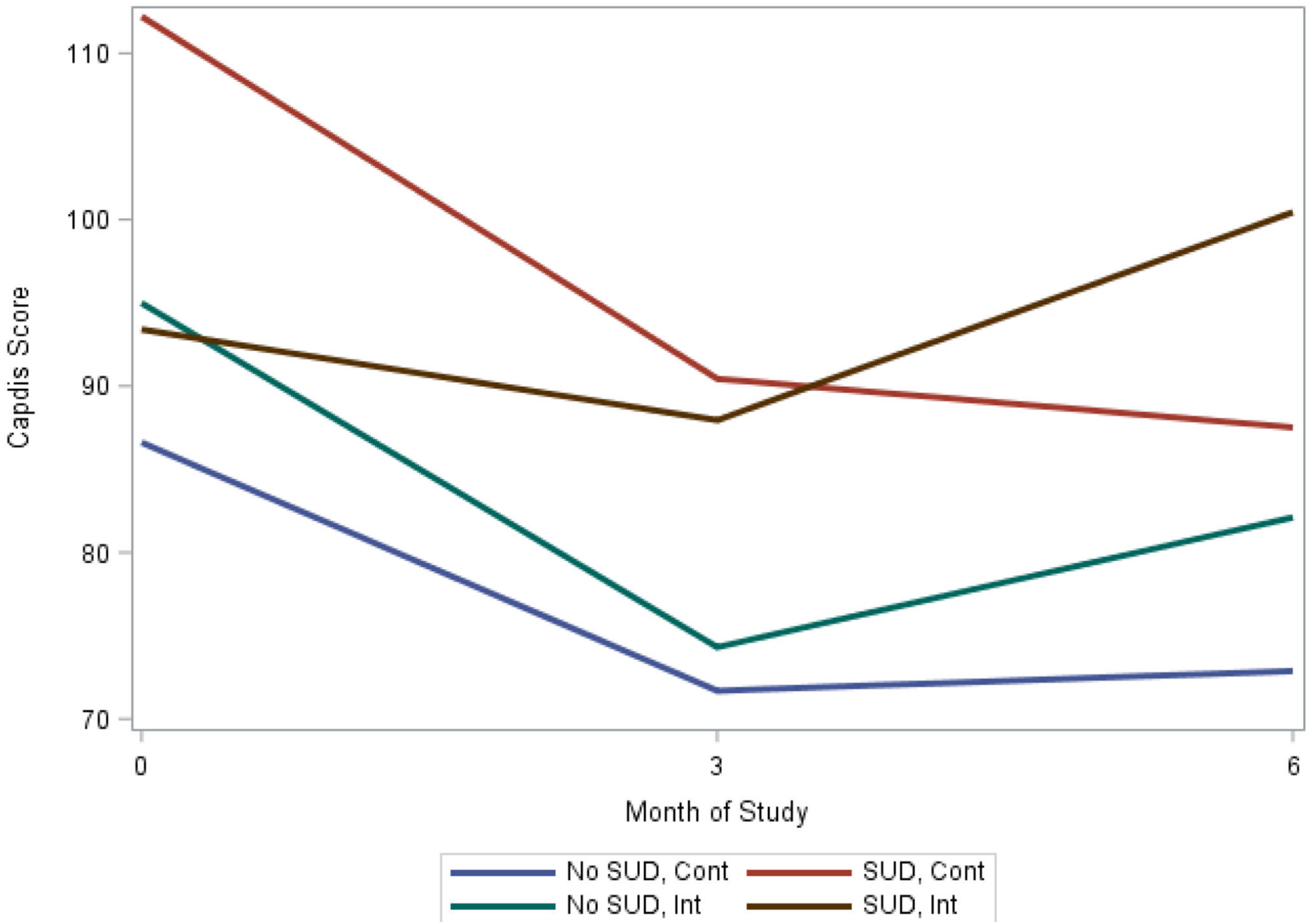

Figure 2.
SUD and Treatment Condition Interaction Effect on Parental Distress Scores
Note: Capdis=Parental Distress subscale of the Child Abuse Potential Inventory; Cont=Control (services as usual); Int=Intervention (SafeCare); SUD=Substance Use Disorder. Scores were reported at baseline, post-treatment (3 months from baseline), and follow-up (6 months from baseline).

Table 1:

Demographics

Variable	Summary
Age [mean ± SD]	29.3 ± 7.98
Sex [n (%)]	
Female	1964 (91.39%)
Male	185 (8.61%)
Number of children in the household [mean ± SD]	2.89 ± 1.79
Age of youngest child in the household [n (%)]	
Preschool	1660 (76.3)
School age	497 (22.9)
Teenager	16 (.7)
Race/Ethnicity [n (%)]	
African American (Non-Hispanic)	201 (9.35%)
American Indian / Native American	350 (16.29%)
Asian American	8 (0.37%)
Hispanic	101 (4.70%)
White (Non-Hispanic)	1433 (66.68%)
Other	49 (2.28%)
Prior reports to child welfare services [mean ± SD]	2.9 ± 2.71
Marital status [n (%)]	
Never married	491 (22.85%)
Married	674 (31.36%)
Living together	314 (14.61%)
Separated	293 (13.63%)
Divorced	333 (15.50%)
Widowed	38 (1.77%)
Education [n (%)]	
Less than 9th grade	161 (7.49%)
9th–12th grade	700 (32.57%)
High school diploma	454 (21.13%)
General Education Development (GED) credential	267 (12.42%)
Some college (no degree)	350 (16.29%)
Vocational/technical school	119 (5.54%)
College degree or higher	96 (4.47%)
Below poverty line [n (%)]	1606 (81.98%)
Substance use disorder [n (%)]	493 (22.94%)

Table 2:

Unconditional Growth Curve Model Results

	n	Beta	SE	*p*-value	LLCI	ULCI
1. CAPI Abuse	2134	−9.431	1.431	<.001*	−12.236	−6.625
2. BDI	2142	−1.485	0.137	<.001*	−1.754	−1.216
3. CAPI Distress	2134	−6.398	1.118	<.001*	−8.589	−4.207

Note: BDI=Beck Depression Inventory; CAPI Abuse=Abuse Potential subscale of the Child Abuse Potential Inventory; CAPI Distress=Parental Distress subscale of the Child Abuse Potential Inventory Parental Distress; LLCI=lower limit of the 95% confidence interval; SE=standard error; ULCI=upper limit of the 95% confidence interval. Significant results are starred (*).

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Table 3:

Conditional Growth Curve Model Results

1. CAPI Abuse	**n=1852**	**Beta**	**SE**	***p*-value**	**LLCI**	**ULCI**
	Treatment condition	2.434	3.211	.448	−3.859	8.727
	SUD	−4.794	5.251	.361	−15.087	5.499
	Treatment condition × SUD	13.595	7.698	.077	−1.494	28.684
2. BDI	**n=1856**					
	Treatment condition	−0.018	0.306	.954	−0.617	0.582
	SUD	−0.788	0.491	.108	−1.749	0.174
	Treatment condition × SUD	2.150	.857	.012*	0.470	3.831
3. CAPI Distress	**n=1852**					
	Treatment condition	2.001	2.466	.417	−2.834	6.835
	SUD	−3.100	3.993	.438	−10.927	4.727
	Treatment condition × SUD	11.519	5.841	.049*	0.071	22.967

Note: BDI=Beck Depression Inventory; CAPI Abuse=Abuse Potential subscale of the Child Abuse Potential Inventory; CAPI Distress=Parental Distress subscale of the Child Abuse Potential Inventory Parental Distress; LLCI=lower limit of the 95% confidence interval; SE=standard error; SUD=Substance Use Disorder; ULCI=upper limit of the 95% confidence interval. Significant results are starred (*).

Table 4.

Outcomes by Condition and SUD

Outcome	Intervention	SUD	Time Point	*M*	*SD*	n
I. Parenting						
1. Abuse Potential	SafeCare	Yes	1	161.80	109.76	81
			2	153.68	105.98	81
			3	162.93	107.80	81
		No	1	162.52	111.47	296
			2	133.97	101.51	296
			3	143.17	108.89	296
	Services As Usual	Yes	1	189.16	115.27	98
			2	158.08	108.82	98
			3	151.61	104.39	98
		No	1	151.43	101.17	386
			2	131.28	98.19	386
			3	132.48	101.87	386
2. Parental Distress	SafeCare	Yes	1	93.40	82.54	81
			2	87.95	77.28	81
			3	100.44	80.60	81
		No	1	94.99	80.38	296
			2	74.31	71.75	296
			3	82.11	79.10	296
	Services As Usual	Yes	1	112.20	84.43	98
			2	90.44	79.43	98
			3	87.52	78.38	98
		No	1	86.61	74.51	386
			2	71.69	71.05	386
			3	72.88	73.20	386
3. Depression	SafeCare	Yes	1	12.85	12.93	82
			2	11.33	12.41	82
			3	12.10	11.87	82
		No	1	13.45	11.94	297
			2	10.21	10.97	297
			3	10.11	10.60	297
	Services As Usual	Yes	1	14.21	12.51	99
			2	11.62	12.40	99
			3	10.00	10.13	99
		No	1	11.83	10.91	387
			2	9.66	10.60	387
			3	8.99	10.07	387
Outcome	**Intervention**	**SUD**	**Time Point**	***M***	***SD***	**N**
II. Process-related						

1. Engagement	SafeCare	Yes	2	4.85	1.21	136
		No	2	4.82	1.27	476
	Services As Usual	Yes	2	4.44	1.50	131
		No	2	4.71	1.41	516
2. Satisfaction	SafeCare	Yes	2	3.45	0.51	137
		No	2	3.46	0.54	476
	Services As Usual	Yes	2	3.29	0.63	131
		No	2	3.40	0.62	519
3. Cultural Competence	SafeCare	Yes	2	4.26	0.69	137
		No	2	4.32	0.65	476
	Services As Usual	Yes	2	4.08	0.88	131
		No	2	4.23	0.81	518

Note: Abuse Potential=Abuse Potential subscale of the Child Abuse Potential Inventory; Cultural Competence=Client Cultural Competence Inventory; Engagement=Working Alliance Inventory; *M*=Mean; N=sample size; Parental Distress=Parental Distress subscale of the Child Abuse Potential Inventory; Satisfaction=Client Satisfaction Survey; *SD*=Standard Deviation; SUD=Substance Use Disorder. Descriptives include individuals with complete data for all three time points.

Table 5:

Hiearchical Linear Model Results

1. Engagement	**n=1256**	**Beta**	**SE**	***p*-value**	**LLCI**	**ULCI**
	Treatment condition	−0.328	.173	.059	−0.667	0.012
	SUD	0.007	0.131	.9608	−0.250	0.263
	Treatment condition × SUD	0.242	0.185	.191	−0.121	0.606
2. Satisfaction	**n=1260**					
	Treatment condition	−0.133	0.074	.071	−0.278	0.011
	SUD	0.013	0.056	.812	−0.097	0.124
	Treatment condition × SUD	0.093	0.080	.242	−0.063	0.250
3. Cultural Competence	**n=1259**					
	Treatment condition	−0.138	0.097	.156	−0.328	0.053
	SUD	0.070	0.072	.333	−0.072	0.212
	Treatment condition × SUD	0.079	0.103	.440	−0.122	0.281

Note: Cultural Competence=Client Cultural Competence Inventory; Engagement=Working Alliance Inventory; LLCI=lower limit of the 95% confidence interval; Satisfaction=Client Satisfaction Survey; SE=standard error; SUD=Substance Use Disorder; ULCI=upper limit of the 95% confidence interval. Significant results are starred (*).