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A Standardized Method of Preventing and Managing Emergencies Within the Context of Evidence-Based Therapy Implementation

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Abstract

Families served within child welfare settings evidence a wide range of emergencies or unexpected crises or circumstances that may lead to danger and make it difficult for them to focus on treatment planning. Mental health treatment providers are often unprepared to effectively manage emergencies during implementation of evidence-based prescribed therapy sessions. In this study, the authors empirically developed a standardized intervention to assist mental health providers in emergency prevention and management (EPM) with their clients. EPM includes assessment of emergent conditions and a self-control procedure that may be utilized by consumers to prevent or resolve emergencies. EPM responses of 26 mothers referred by Child Protective Services for 6 months of evidence-supported treatment were examined. Relevant to clinical utility, the results indicated that providers implemented EPM in a little more than half (56.9%) of their treatment sessions, and all emergencies assessed in EPM were endorsed by at least 8% of the sample throughout their treatment. EPM was implemented with fidelity according to service

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providers, and corroborated by blind raters. Participants were found to be compliant and satisfied with EPM. The average number of emergencies endorsed over the course of EPM administrations was negatively correlated with the frequency of EPM administrations, suggesting that EPM may have helped reduce emergencies. Pretreatment factors (e.g., household income, child abuse potential, family functioning, parental stress, child behavior problems, number of days child removed from home) and hard drug use (but not marijuana or alcohol) during treatment were associated with the number of emergencies reported by participants.

Keywords

emergencies, evidence-based treatment, substance abuse, child maltreatment, family behavior therapy, alcohol abuse, drug abuse, crises

Families who are psychotherapeutically treated within the child welfare system, particularly those referred for child maltreatment and substance abuse, frequently evidence dangerous and unforeseen urgent conditions (Grella, Hser, & Huang, 2006; Lussier, Laventure, & Bertrand, 2010) that demand immediate attention (Chrzanowski, 1977). Emergencies involve unexpected crises or circumstances for which treatment providers are often unprepared to effectively manage, distracting them from implementation of prescribed therapies and interrupting treatment planning (Girvin, DePanfilis, & Daining, 2007; Lutzker, 1990; Navaie-Waliser et al., 2000). Primary emergencies (e.g., physical insults, ingesting poisons, exposure to electrical wires) require immediate action and are easily identified due to their acute onset and negative outcomes, whereas impending emergencies are often overlooked because their dangerous effects are delayed or relatively less severe. Impending emergencies include food shortages (Messer & Ross, 2002), filthy home conditions (Edwards & Lutzker, 2008; Metchikian, Mink, Bigelow, Lutzker, & Doctor, 1999), being unable to pay bills (Beckman, 1994; Clark, 2001; Copeland & Hall, 1992; Rockhill, Green, & Newton-Curtis, 2008), court hearings (Larrieu, Heller, Smyke, & Zeanah, 2008), and moving to new home environments (Davey-Rothwell, Latimore, Hulber, & Latkin, 2011). These impending emergencies may appear stressful but not potentially dangerous. However, in child welfare populations, these circumstances are often associated with trauma. For instance, a court hearing may result in the loss of child custody or incarceration, and moving to

a new home may result in relocation to crime invested, dangerous living conditions, or discontinuance of treatment.

Reactions of family members to emergencies vary, but often include heightened and prolonged levels of stress (Bolen, McWey, & Schlee, 2008; Depanfilis & Zuravin, 1999) and emotional disturbance (Sheppes, Meiran, Spivak, & Shahar, 2010). Poor reactions to emergencies appear to be affected by financial instability (Gapen et al., 2011), lack of social support systems (Kaniasty & Norris, 2008; Untas et al., 2011), anxiety and depression (Leach, Christensen, Mackinnon, Windsor, & Butterworth, 2008), substance abuse, domestic violence (see Kelley et al., 2010), social isolation, and poverty (Smith & Testa, 2002).

Emergencies have been found to perpetuate irrational thoughts that interfere with effective problem-solving strategies (Areán et al., 2010), influence premature treatment termination (Barrett et al., 2008), and lower treatment integrity (Carroll et al., 2000; Perepletchikova & Kazdin, 2005). Therefore, because coping skills are associated with effective reactions to emergencies (Piko, 2001), it is possible that coping skill interventions may be effective in the management of emergencies among mothers in the child welfare system who abuse drugs (see Kelley, 1998). However, prescribed emergency prevention and management interventions have yet to be determined.

Mental health providers customarily address emergencies by first determining the immediacy of potential consequences and, based on informal assessment, attempt to spontaneously resolve emergent conditions (Greenstone & Leviton, 1993). This approach is problematic when treatment providers lack confidence in their ability to spontaneously implement emergency management procedures (Baker & Bissmire, 2000). Furthermore, this method does not teach family members how to prevent, identify, and manage future emergencies (Flannery & Everly, 2000). An alternative strategy is to refer clients to specialized service providers when emergencies are detected. Unfortunately, conflicting schedules, lack of transportation, child care, and other issues relevant to continuity of care are likely obstacles in the referral process (Neale, Tompkins, & Sheard, 2008). Thus, therapeutic management of emergencies can be time-consuming, dangerous, and stressful, and interfere with the amelioration of underlying treatment issues.

Given the absence of standardized emergency management interventions, we decided to (a) empirically develop an instrument to assist therapists in rapidly identifying emergencies and their antecedent conditions and (b) examine the utility of this instrument in conjunction with an empirically validated treatment. To assist in real-world application, we examined this approach within the context of a comprehensive evidence-based treatment

program (i.e., 6 months of family behavior therapy [FBT]). FBT includes multiple directive interventions that are implemented comprehensively and cumulatively based on need, and has demonstrated positive outcomes in adult and adolescent substance abuse up to 9 months of posttreatment (e.g., Azrin, Acierno, et al., 1996; Azrin, Donohue, Besalel, et al., 1994; Azrin, Donohue, Teichner, et al., 2001; Azrin, McMahon, et al., 1994). The study was conducted in a sample of 26 mothers referred from Child Protective Services (CPSs) for child neglect and drug abuse due to their very high risk of experiencing emergencies. We hypothesized that the targeted emergencies would be clinically relevant and that emergency prevention and management (EPM) would demonstrate strong clinical utility. We expected that treatment providers would be able to implement EPM with integrity and that participants would be compliant and satisfied with EPM. To preliminarily examine the efficacy of this intervention approach, we anticipated that the number of EPM administrations throughout treatment would be negatively associated with the average number of emergencies, or potential emergencies, reported during the EPM administrations. The nature of this study also permitted us to test predicted relationships between the number of emergencies reported to occur throughout treatment and various pretreatment factors (e.g., demographic variables, child abuse potential, parenting, family functioning), as well as substance use throughout treatment.

Method

Participants

Participants were mothers referred by Child Protective Services (CPS) caseworkers to a treatment outcome study after having evidenced an incident of child neglect and illicit drug use within the past 4 months. They were required to meet the following inclusionary/exclusionary criteria to be included in this study: diagnosed with substance abuse or dependence according to results obtained from the Structured Clinical Interview for *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association, 1994 [SCID-IV]; First, Spitzer, Gibbon, & Williams, 1996), residing with (or intention to reside with) the child referred for child neglect, household income less than US$5,000 per month (see Bolen et al., 2008), and indication by the caseworker that domestic violence and child victimization of sexual abuse were not the primary reasons for referral. After potential participants were assessed and determined to meet the aforementioned criteria, they were randomly assigned to FBT or treatment as usual (TAU). Those in the

TAU condition were excluded from the current study to assure that participants were prescribed evidence-supported intervention. To assure participants had an opportunity to effect change in the average number of emergencies, they were required to have had at least two administrations of EPM. A total of 32 participants received at least one FBT session, with 5 of these participants being excluded due to having experienced less than two EPM sessions, and an additional participant being excluded due to having a monthly income greater than US$5,000. Thus, 26 participants were included in the study analyses.

The mean age of the participants was 30.12 years (SD = 7.70). The mean highest educational grade completed was 10.54 (SD = 2.10). In all, 10 participants identified as Caucasian (38.5%), 7 as African American (26.9%), 4 as Latina (15.4%), and 5 as other (19.2%). A total of 12 women were single (46.2%), 12 were cohabitating (46.2%), and 2 were married (7.7%). A total of 19 participants were unemployed (73.1%), with 2 participants (11.5%) reporting full-time employment. In all, 15 participants (57.7%) were receiving some form of state or federal assistance (food stamps, social security, or rent assistance). The participants' personal income (M = 175.0, SD = 342.13) and household income (i.e., personal income, income from other family members, state and federal service agencies) during the past month were relatively low (M = 1,471.92, SD = 1,435.51).

Measures

Structured interview. A structured interview was utilized to obtain demographic information about the participants, including the participants' age, ethnicity, personal income, household income, highest grade achieved, number of biological children, number of adult significant others living in the same home who were willing to participate with the participant in treatment, and employment status.

Timeline followback (TLFB). The TLFB (Sobell et al., 1996) was used to assess the participants' number of days of alcohol, marijuana, and "hard" drug use (i.e., illicit drugs other than marijuana). This measure was also used to assess how many days the children of participants were not residing in the participants' home (i.e., in Department of Family Services custody). In doing so, a month-by-month calendar for the 4 months preceding treatment, and last 4 months of treatment, was utilized. Memorable events (e.g., birthdays, holidays) were marked on the calendars to facilitate recall. The TLFB has been psychometrically validated in several studies (e.g., Sobell et al., 1996).

Child Abuse Potential Inventory (CAPI). The CAPI (Milner, 1986) is a 160-item screening instrument used to assess the potential of participants to

neglect and physically abuse their children. In this study, the Abuse, Loneliness, Unhappiness, Problems With Others, and Problems With Child and Self scale scores were derived. Higher scores are indicative of greater likelihood of child maltreatment potential. This scale has demonstrated extensive psychometric support (see Walker & Davies, 2010).

Parenting Stress Index–Short Form (PSI-SF). The PSI-SF (Abidin, 1995) is a 36-item measure that was used in this study to determine the extent of dysfunction in the parent–child system at the initiation of treatment. The Difficult Child, Parent–Child Dysfunctional Interaction, and Total Stress scale scores were derived. Higher scores are indicative of greater parental stress. This instrument has been demonstrated to be a valid measure of parental stress in low-income families (Whiteside-Mansell et al., 2007).

Family Environment Scale (FES). The FES (Moos & Moos, 1981) is an 18-item subscale that may be used to asses dysfunctional family behaviors that are indicative of conflict (Conflict scale) and positive behaviors that are indicative of family cohesion (Cohesion scale). Higher scores suggest more conflict and cohesion, respectively. Psychometric support for this subscale is good (Moos, 1990).

Procedure

On being referred for treatment by the CPS caseworker, participants were contacted by research assistants to complete phone screening relevant to study inclusion/exclusion criteria. If all criteria were met, eligible participants were scheduled for a pretreatment assessment in which they provided informed consent and underwent comprehensive evaluation to ensure they met study criteria. Participants were informed about the nature of the study, including that, with the exception of future harm to themselves or others, all information provided during the study would be kept confidential. A certificate of confidentiality was obtained from the Federal Government to protect disclosure of information associated with this study. Participants randomly assigned into the FBT condition were contacted by their therapists, and in-home sessions were scheduled for up to 6 months. To enhance generalizability of results, treatment providers were graduate students and advanced undergraduate students with no experience implementing FBT interventions prior to this study. The study was approved by the Institutional Review Board for the protection of human participants at the University of Nevada, Las Vegas.

Intervention

FBT. This family-based intervention (Donohue & Allen, 2011) typically includes up to 20 sessions occurring within 6 months. Multiple intervention components may be administered, including (a) treatment planning to assist in determining which interventions to emphasize in therapy, (b) behavioral goals and contingency management to assist in motivation, (c) stimulus control to assist in spending less time with individuals and situations that have involved substance use and other problem behaviors and more time with individuals and situations that have not involved substance use, (d) self-control to assist in decreasing urges to use drugs and other impulsive behavior problems, (e) communication skills training to assist in assertiveness training and establishing social relationships with others, and (f) financial training to assist in gaining employment and managing finances. FBT has demonstrated success in controlled trials (Azrin, Acierno, et al., 1996; Azrin, Donohue, Besalel, et al., 1994; Azrin, Donohue, Teichner, et al., 2001; Azrin, McMahon, et al., 1994; Donohue, Azrin, et al., 1998) and preliminary efficacy in case trials (e.g., Donohue & Azrin, 2002; Donohue, Romero, et al., 2010; LaPota, Donohue, Warren, & Allen, 2011).

EPM. This intervention component is designed to assist mental health treatment providers in teaching participants to (a) monitor antecedent conditions that have been found to increase risk of emergencies, (b) utilize self-control strategies to generate and imaginally practice solutions to emergencies (or potential emergencies), and (c) implement solutions to emergencies: all within the context of evidence-based treatment programs.

The intervention begins with the mental health provider administering the EPM Worksheet (available from the second author). This worksheet underscores a 15-item checklist of common emergencies. Participants are prompted to indicate whether each of the listed emergencies is present or may soon occur. The mental health provider reviews relevant contextual factors for endorsed items to ensure they are indeed emergencies or potential emergencies needing to be managed or prevented. For instance, needing food is only an emergency if the participant does not have the means to obtain it (e.g., money to purchase, transportation to get to the store). Thus, emergencies are complex and context specific, requiring judgment, and interpretation to determine the extent to which they warrant attention in therapy. Participants are then taught to utilize a self-control intervention (Donohue & Allen, 2011; Donohue & Azrin, 2011) that is consistent with problem solving (Dzurilla & Goldfried, 1971) to manage emergencies or prevent potential emergencies. Self-control includes several steps that are taught during imaginal trials. The first steps are recognition of

antecedent stimuli leading to the emergency, thought stopping to engage positive focus, and stating negative consequences associated with the emergency to instill motivation. Thought stopping is utilized to assist participants in abruptly terminating thoughts that often occur when individuals are stressed in response to emergent conditions (e.g., anxious statements). Thought stopping is followed by stating several negative consequences that might result by permitting the emergent condition or impending emergent condition to continue without intervention. Indeed, family members evidencing extreme child neglect are often anxious about their ability to ameliorate emergent conditions, thereby lowering their motivation to prevent emergencies. The negative consequence review helps participants acutely improve motivation. The final steps are reviewing problem-solving steps to generate solutions to the emergent conditions, imagining successful performance of chosen solutions, and reinforcing effort. Participants also are taught to implement the generated solution(s) at home and monitor such implementation during subsequent therapy sessions until remediation.

Construction of the EPM item pool was developed consistent with procedures reported by Eyberg and Ross (1978). Specifically, dangerous and unforeseen urgent conditions that disrupt behavioral treatment planning in child welfare were originated from literature reviews and group discussions with professionals. The response set (i.e., present, may soon occur) was subsequently established to facilitate rapid identification of emergencies, and potential emergencies. Because multiple emergencies are often present in the homes of substance-abusing mothers within child welfare (Grella et al., 2006; Lussier et al., 2010), it was decided that the mothers would be able to prioritize the order and extent to which emergencies (and potential emergencies) were addressed with assistance from mental health providers. This approach is consistent with the work of Metchikian et al. (1999) in the prevention of home accidents.

Treatment sessions lasted between 60 and 90 min. EPM was administered throughout treatment based on mutual agreement between the participant and mental health provider. EPM was administered when emergencies were spontaneously reported by participants or prescribed by mental health providers at the start of therapy sessions consistent with treatment planning. The number of emergencies addressed during EPM was determined based on the number of endorsed emergencies, potential danger of endorsed emergencies, treatment planning, time availability, and consumer interest.

Assessment of EPM protocol adherence. The extent to which providers implemented EPM as prescribed was assessed. For each EPM administration,

service providers were prescribed to implement protocol instructions. Protocol adherence was determined by computing the number of protocol instructions reported to have been implemented during the EPM session, and dividing this number by the total number of prescribed protocol instructions. Therefore, if 13 of the 26 prescribed procedures were reported to have been implemented, 50% of the EPM protocol would have been implemented (i.e., 50% adherence to protocol). If EPM was not implemented during an FBT session, EPM protocol adherence was not assessed. All therapy sessions were audiotape recorded, and approximately 12% of the session audiotapes were assessed for protocol adherence by a blind rater. This method of protocol adherence assessment has been utilized in previous trials (e.g., Azrin et al., 2001), and is a reliable and valid method (Sheidow, Donohue, Hill, Henggeler, & Ford, 2008).

Consumer satisfaction. Consistent with Webster-Stratton (1989), consumer satisfaction was assessed after the each of the EPM administrations utilizing a Likert-type scale. Mental health providers queried participants to provide an "honest assessment of how helpful" EPM was using a 7-point Likert-type scale (7 = *extremely helpful*, 6 = *very helpful*, 5 = *somewhat helpful*, 4 = *not sure*, 3 = *somewhat unhelpful*, 2 = *very unhelpful*, and 1 = *extremely unhelpful*).

Consumer compliance. Consistent with methods utilized to assess therapy assignment completion by Primakoff et al. (1986), the compliance of consumers with attendance, homework completion, and participation in EPM was assessed by therapists after each EPM administration utilizing a 7-point Likert-type scale (7 = *extremely compliant*, 6 = *very compliant*, 5 = *somewhat compliant*, 4 = *neutral*, 3 = *somewhat noncompliant*, 2 = *very noncompliant*, and 1 = *extremely noncompliant*).

Results

Clinical Utility of EPM

Protocol adherence. Overall, protocol adherence for EPM, as rated by the providers, was very high ($M = 0.93$, $SD = 0.15$). Thus, providers indicated that they implemented 93% of the EPM protocol when EPM was attempted. About 12% of the EPM sessions were randomly chosen to be additionally listened to by blind raters to permit examination of interrater reliability between EPM protocol adherence scores of the providers and blind raters. Intraclass correlations were high (all ICCs > .96), indicating substantial agreement between raters

(Barrett, 2001). Correlational analysis indicated that adherence to EPM was not associated with the average number of emergencies, or potential emergencies, reported by participants during EPM ($p > .05$).

Feasibility. EPM was administered 9.12 times per participant ($SD = 6.21$) throughout treatment, which was 56.9% of the total number of FBT sessions received by participants. Overall, EPM required only 21.23 min ($SD = 20.22$) to implement per administration, and participants reported 2.52 ($SD = 1.76$) emergencies, and potential emergencies, each time EPM was administered throughout treatment. A Pearson product–moment correlation was performed to determine whether the number of emergencies/potential emergencies endorsed by participants during EPM increases the amount of time to implement EPM. As expected, the average number of minutes spent administering EPM was positively associated with the average number of emergencies/potential emergencies (present or may soon occur; $r = .55$, $p < .01$). Thus, providers should expect to spend more time administering EPM when the number of emergencies and potential emergencies is determined to be relatively high.

Preliminary efficacy. To preliminarily assess efficacy of EPM, the number of EPM administrations was correlated with the average number of emergencies, or potential emergencies, endorsed by participants during EPM administration. As expected, the number of EPM administrations was negatively correlated with the average number of emergencies/potential emergencies endorsed during administration of EPM ($r = -.33$, $p < .05$), suggesting EPM may have assisted in reducing the number of emergencies and potential emergencies.

Utilizing the 7-point Likert-type scales, participants reported that they were *very satisfied* with EPM ($M = 6.16$, $SD = 0.85$), and providers reported that the participants were *very compliant* with EPM ($M = 5.91$, $SD = 0.83$).

Types of Emergencies Reported

To assist in determining the appropriateness of items listed in the EPM Worksheet, we computed the frequency of items that were either "present" or expected to "soon occur." As can be seen in Table 1, all items on the EPM Worksheet were endorsed by at least two participants (8%) at least once, suggesting EPM is probably relevant to child welfare populations. Plans to move were most commonly endorsed by participants throughout EPM (80.77%), whereas only a few of the participants reported sexual assault, exposure to HIV risk behavior, and aggression to self. EPM sessions primarily addressed court hearings (44.34% of sessions), custody issues (33.91%), plans to move (33.04%), and overdue bills (28.26%).

Table 1. Extent to Which Emergencies/Potential Emergencies (E/PE) Were Addressed in Therapy (n = 26)

EPM item	Number of clients who endorsed (E/PE)	Percentage of clients who endorsed (E/PE)	Percentage of EPM sessions (E/PE)reported
Plans to move	21	80.77	33.04
Court hearing	18	69.23	44.34
Custody issues	17	65.38	33.91
Bills are due	16	61.54	28.26
Need medical attention	15	57.69	17.83
Substance use	10	38.46	6.96
Need food	10	38.46	6.96
Child to child aggression	9	34.63	7.83
Adult to adult aggression	7	26.92	9.57
Unsanitary conditions in the home	5	19.23	6.96
Adult to child aggression	4	15.38	3.04
Sexual assault	2	7.69	0.87
Exposure to HIV risk behavior	2	7.69	0.87
Aggression to self	2	7.69	0.87

Note: EPM = emergency prevention and management.

Relationship Between Reported Emergencies/Potential Emergencies and Participant Factors

Participant responses to demographic variables and factors that have historically been targeted for treatment in child welfare are presented in Table 2. We expected grade level, personal and household income, and FES family cohesion would be negatively associated with reports of emergencies, or potential emergencies, in treatment, whereas the remaining variables would be positively associated with emergencies.

Demographic factors. As hypothesized, the average number of emergencies, or potential emergencies, reported to occur during EPM administrations was negatively correlated with household income, such that a higher number of emergencies/potential emergencies was related to lower household income ($r = -.43$, $p < .05$). No significant relationships were found between the average number of reported emergencies/potential emergencies and the number of adult significant others in the home, number of biological children, or personal income (all ps > .05).

Child abuse potential. As expected, the average number of emergencies/potential emergencies endorsed during EPM administrations was positively

Table 2. Means and Standard Deviations of Pretreatment Participant Factors (n = 26)

Variable	*M*	*SD*
CAPI abuse	180.00	109.70
CAPI loneliness	7.73	4.65
CAPI unhappiness	19.77	14.50
CAPI problems with others	14.58	6.41
CAPI problems with child and self	4.62	7.11
FES cohesion	6.35	2.87
FES conflict	3.08	2.74
TLFB total days child in DFS custody	33.12	46.84
PSI total stress	79.27	21.13
PSI difficult child	26.96	9.62
PSI parent–child dysfunctional interaction	22.92	7.48
TLFB days of hard drug use	13.08	20.10
TLFB days of marijuana use	12.35	28.44
TLFB total alcoholic drinks	8.14	19.85

Note: CAPI = Child Abuse Potential Inventory; FES = Family Environment Scale; TLFB = Timeline Followback; DFS = Division of Family Services; PSI = Parenting Stress Index.

associated with the CAPI Abuse Scale, CAPI Loneliness Scale, and CAPI Problems With Child scores. The correlations for the CAPI Unhappiness Scale and CAPI Problems With Others Scale failed to reach significance (all ps > .05); a summary of these findings can be seen in Table 3.

Family functioning and parenting. As expected, the average number of reported emergencies, or potential emergencies, was negatively associated with FES Cohesion and positively associated with FES Conflict scores. The average number of reported emergencies/potential emergencies also was positively associated with more days in which children were outside the participants' homes (most often due to court mandate). The average number of reported emergencies/potential emergencies was positively correlated with the PSI Difficult Child Scale and Total Stress. Contrary to our expectations, the correlation between the average number of emergencies/potential emergencies and the PSI Parent–Child Dysfunctional Interaction Scale failed to reach significance (p > .05). See Table 3 for a summary of these findings.

Substance use. Correlational analyses were conducted between the average number of emergencies, or potential emergencies, reported during the course of treatment and the total number of days of hard drug use, days of marijuana

Table 3. Correlations Between the Average Number of Emergencies/Potential Emergencies Reported During Treatment and Pretreatment Outcome Measures (n = 26)

Measure	*R*
CAPI abuse	.40*
CAPI loneliness	.47**
CAPI unhappiness	.12
CAPI problems with others	.28
CAPI problems with child	.44*
FES cohesion	−.36*
FES conflict	.56**
TLFB total days child outside the home	.57**
PSI total stress	.44*
PSI difficult child	.40*
PSI parent–child dysfunctional interaction	.29

Note: CAPI = Child Abuse Potential Inventory; FES = Family Environment Scale; TLFB = Timeline Followback; PSI = Parenting Stress Index.
*p < .05. **p < .01.

use, and number of alcoholic drinks during the 4 months prior to treatment. Contrary to our expectations, no significant results were found (all ps > .05). Administration of the TLFB posttreatment permitted us to examine the relationships between emergencies and substance use for a small subset of the study sample (n = 17) during the same time period (i.e., last 4 months of treatment). These correlational analyses indicated that reports of illicit hard drug use during the last 4 months of treatment (but not marijuana or alcohol use) were positively correlated with the average number of emergencies/potential emergencies reported during treatment (r = .52, p < .05).

Discussion

Results of this study preliminarily support the use of EPM with mothers in treatment for substance use and child neglect, and have implications for the implementation of EPM within other evidence-supported therapies serving populations that are prone to evidence emergencies. Overall, strong protocol adherence by providers was maintained for EPM throughout FBT, suggesting that treatment integrity can be maintained when managing emergencies using a prescribed protocol. Protocol adherence for EPM was maintained even when the reported number of emergencies, or potential emergencies, by participants increased. Importantly, protocol adherence was high despite the limited therapeutic experience among treatment providers in this study.

Relevant to clinical utility, the average EPM administration usually required less than 22 min to implement, and EPM was administered in less than half of the FBT sessions for most participants. This finding is encouraging because providers were permitted to spend most of their time implementing other prescribed therapies. Moreover, when emergencies were addressed, they appeared to be relevant to treatment planning. For instance, all items representing emergencies or impending emergencies in the EPM Worksheet were endorsed at least once by at least 8% of the participants, and the number of emergencies, or potential emergencies, reported to occur during EPM administrations was expectedly associated with most of the child welfare relevant issues examined. Specifically, the average number of emergencies, or potential emergencies, reported to occur during EPM was significantly predicted by participants' scores on measures of child abuse potential, behavior problems in their children, number of days children were removed from the home, family functioning (conflict, cohesion), and parenting stress.

Interestingly, substance use frequency assessed at the initiation of treatment was not associated with the number of emergencies, or potential emergencies, that were reported during treatment. However, illicit hard drug use, but not marijuana and alcohol use, during the last 4 months of treatment was significantly positively associated with the extent of emergencies/potential emergencies reported. In trying to interpret these findings, we examined the frequency of drug use during each of the 4 months prior to treatment. These observations indicated that most of the reported substance use occurred during the 3rd and 4th month prior to implementation of treatment. It appears that hard drugs (e.g., cocaine, heroin, methylenedioxymethamphetamine) may have an acute, but not predictive, relationship with emergencies. Therefore, as compared with marijuana and alcohol use, hard drug use may be especially harmful in child welfare when acutely determined. This finding is consistent with our anecdotal conversations with CPS investigators who appear to be especially concerned with the acute detrimental effects of hard drug use when determining removal of children due to child maltreatment.

Along a different line, the mothers' monthly household income was the only demographic variable significantly associated (i.e., negatively) with the average number of reported emergencies or potential emergencies. This finding has considerable clinical relevance, as it suggests state, federal, and family-based financial support may assist in mitigating emergencies above and beyond the mothers' personal monthly income, at least when emergencies are formally addressed in treatment. This finding may assist in explaining how substance-abusing mothers within the child welfare system may feel dependent on outside financial resources (e.g., abusive partners, social

services) in the prevention of dangerous situations. This latter assumption is bolstered by the finding that frequency of emergencies/potential emergencies was positively associated with perceived loneliness, but not unhappiness or number of adult significant others in the home. That is, emotionally supportive systems with adequate financial resources appear to be very important in the prevention and management of emergencies.

Relevant to the type of emergencies that were reported to occur throughout EPM administration, court hearings, custody issues, plans to move, and bill payments were most commonly endorsed, which are all stressors that have been previously identified in mothers who present to CPSs (Bolen et al., 2008). Although court hearings are not typically conceptualized as emergent situations, it warrants mention that many of the participants were visibly anxious about court hearings having the potential to result in loss of the custody of their children. It is also noteworthy that 81% of the participants indicated concern with plans to move from their home during the 6 months of treatment. This finding is particularly relevant to treatment planning, as new home environments may be associated with various factors affecting child welfare, including high levels of stress, reestablishment of social networks, changes in school for children, moving to neighborhoods where drug use is known to occur, and so on. By prescriptively addressing plans to move in therapy, treatment providers may assist in preventing these stressors, and influence the establishment of protective factors (e.g., utilizing the self-control strategy of EPM to reduce stress during the decision-making process and helping clients to find and engage in neighborhoods where drugs are more difficult to obtain and schools are highly regarded).

Limitations

It should be emphasized that the number of participants in this study was relatively small. Therefore, some of the results may have been underpowered in the examination of relationships between variables. For instance, relationships between the average number of emergencies reported during each EPM administration and scores on several measures (CAPI Problems with others scale, $r = .28$; PSI Parent–Child Dysfunctional Interaction scale, $r = .29$; TLFB marijuana use prior to treatment, $r = -.24$, and TLFB marijuana use during treatment, $r = .22$) approached significance. It is also important to emphasize that there was no control group utilized in this study. Finally, generalizability to populations outside of substance abuse and child maltreatment is unclear.

Concluding Remarks

Despite study limitations, EPM appears to be a promising intervention that may be easily implemented within the context of various evidence-based intervention programs. Consumer satisfaction was reflected by participants' reports that EPM was "very" helpful, and providers reported that participants were very "compliant" during EPM. This is important because participants were often distraught and upset during the initiation of EPM administrations due to their exposure to emergent conditions. Perhaps most important to EPM's initial efficacy, the average number of emergencies, or potential emergencies, reported to occur throughout FBT treatment was negatively associated with the number of EPM administrations. Thus, EPM appears to be useful in decreasing the number of reported emergencies/potential emergencies and assisting CPS case management. Although controlled trials are warranted to make definitive conclusions, the self-control intervention within EPM appears to demonstrate good face validity, as it includes evidence-supported intervention components that focus on coping skill development specific to factors that have been shown to exacerbate child welfare outcomes, such as stress. Difficulties managing life emergencies have been described in various patient populations, including schizophrenia (Revheim et al., 2006), depression (Anderson, Goddard, & Powell, 2011), borderline personality disorder (Bray, Barrowclough, & Lobban, 2007), the elderly (Kant, D'Zurilla, & Maydeu-Olivares, 1997), developmental disabilities (Agran, Blanchard, Wehmeyer, & Hughes, 2002), conduct disorder (Waschbusch, Walsh, Andrade, King, & Carrey, 2007), and brain injury (Channon & Crawford, 2010). Therefore, EPM may be a viable treatment component for interventions used in these populations. It is our hope that researchers will further examine EPM within the context of other evidence-based treatment programs in controlled trials. EPM is freely available from the second author to facilitate its research.

Author's Note

The EPM Worksheet and corresponding intervention protocols are currently available from Dr. Donohue free of charge (Bradley.Donohue@unlv.edu).

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