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A Mental Health and Parenting Intervention for Adolescent and Young Adult Mothers and their Infants

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Abstract

Purpose: Adolescent girls with mental illness are at heightened risk for unplanned pregnancies, which often disrupts typical psychological development, relationship formation, access to support systems, and school performance. Thus, adolescent mothers face many challenges while parenting in addition to coping with mental health concerns. Without interventions, adolescent mothers may put themselves and their children at risk and face further challenges than their non-parent or older counterparts.

Method: The Mom Power program (MP) is a treatment engagement intervention for young mothers and their children, developed through a University-Community Partnership in Michigan. The program is designed to engage young mothers in mental health services, provide developmental and parenting guidance, teach self-care skills, increase social support, and provide hands-on parenting practice.

Results: Preliminary feasibility data support MP as an effective intervention for adolescent mothers by reducing self-reported symptoms of Major Depressive Disorder (MDD) and Post Traumatic Stress Disorder (PTSD). MP is effective at increasing parenting competence, social support and connection to care in a high-risk population of young mothers compared to a demographically similar group of young mothers that did not complete the intervention.

Conclusion: Mom Power is a short-term attachment-based psycho-educational parenting and self-care skills group for adolescent mothers. Comprehensive models like the MP Program are vital in reaching out to the needs of young mothers and their babies in an effort to decrease mental health symptoms and increase positive parenting skills.

Keywords: Mom Power program; Infants; Psychological development; Adolescence

Introduction

Mental health in adolescents and young adults

Most mental disorders begin during adolescence and persist into adulthood. Twenty percent of teens will experience depression before they reach adulthood [1,2]. However, mental illness is quite frequently undetected until later in life, causing complications for the individual, family and society as a whole [2]. Mental illness during adolescence can result in functional impairment, exposure to stigmas and discrimination, increased risk for premature death, and costly medical care overtime [2]. Beyond these challenges, adolescents with mental illness are more likely to unintentionally become pregnant, which may further interfere with normative development [1].

Successful delivery of mental health services to teens is imperative, but can be ineffective at decreasing risk factors [3]. At-risk teens report having no access or not knowing about mental health care services and dissatisfaction with the mental health care they do receive [4]. Due to uniquely adolescent obstacles such as lack of confidentiality and financial difficulties, it is hard enough for teens to receive these services, but being a teen parent may further magnify these challenges, particularly in the first year postpartum [4,5]. Mental health care for this vulnerable group, particularly those who parent, must be widely advertised, easily accessible and contain comprehensive services delivered in familiar locations, such as primary health care settings. Adolescent mothers have been found to be less knowledgeable about child development, more punitive in their attitudes about childrearing and are twice as likely as older mothers to experience depression, placing them at risk for increased interpersonal conflict, and increases the chance of abusing or neglecting their children [6,7]. In general, parental psychopathology, even in less severe cases than reportable neglect or abuse, interferes with effective, stimulating parenting, leading to relational poverty, which may exacerbate or contribute to children's developmental delays and problems in intellectual development and psychosocial functioning [7,8]. Depressed mothers reported more difficulties in caring for their infant and stronger feelings of annoyance associated with their infants than did non-depressed mothers [9]. Additionally, infants of depressed mothers expressed more negative emotions and deteriorated more rapidly during testing, indicating that these infants have a more immediate response to stress [9]. Consequentially, infants of depressed mothers as young as 2 months have decreased cognitive performance, a negative consequence that remains for the children well into their classroom years [8,9]. These early traumas can also disturb attachment between mother and child, heightening risk for child mistreatment or court ordered termination of parental rights [10].

Early attachment patterns and experiences influence the way in which relationships are developed and sustained later in life [11].

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Infants who experience the relationship with their caregiving as warm, nurturing and secure are more likely to develop strong problem solving skills, become more cooperative, get along better with others, are less aggressive and more positive [12]. Infants of traumatized mothers are more susceptible to insecure attachment, are likely to either be victims or victimizers in their future relationships and do not fare as well as their securely attached counterparts [11,13].

Examining protective factors that increase resiliency, such as having strong social supports, the ability to pursue educational goals, a stable relationship with the infant's father, high self-esteem, good problem-solving skills, and an infant with an calm temperament may be useful in targeted effective interventions [14,15]. Teen mothers with more social support are less likely to exhibit outward angry and punitive parenting behaviors toward their infant and in turn, are less likely to have irritable infants [16]. A secure attachment between mother and infant is a strong predictor of more positive outcomes throughout childhood, such as the ability to self-soothe, strong problem-solving skills, less troubles with peers and higher confidence [10,12]. Community parenting supports and positive attachment-based interactive treatments can also benefit the mother-child dyad [13-17].

Effective treatment interventions

There are several intervention models targeted at improving outcomes in adolescent mothers and their children. The Chances for Children: teen parent-infant projects found that targeting mother-infant interaction is critical when depression is being treated [18], while Weinberg and Tronick increased positive parenting skills and subsequent child outcomes using this method [19]. Programs such as the Teen Tot Model and the Steps Toward Effective Enjoyable Parenting Program (STEEP) attempt to shield participants from stress-related negative psychological health by providing social support, based on research suggesting intensive family support for teen mothers can yield positive results nearly a decade after intervention [15].

The Teen Tot program was developed to provide comprehensive services for high-risk teen moms, including health care, family planning, counseling, encouragement for continued education, assistance with obtaining services and social support up to 18 months postpartum [3]. The program yielded promising outcomes including increased compliance with perinatal visits, fewer repeat pregnancies, increased return to school, stronger growth percentiles for the babies, and increased contraceptive use [3]. However, this program did not explicitly address mental health care nor parenting difficulties, suggesting that the model provides suitable groundwork for a comprehensive program, but lacks special attention to the infant and maternal mental health needs [3].

By contrast, the Steps toward Effective Enjoyable Parenting (STEEP), is an intervention for high-risk mothers and their infants that combines personalized, bimonthly prenatal home visits with facilitated group sessions starting after delivery, both of which continue throughout the first year of life [20]. This program was designed to enhance the sensitivity of caregiving interactions between mothers and their infants, with particular focus on infant cues and parental responses [21]. Other aims of this program include nurturing healthy, positive, and realistic ideas about pregnancy, childbirth, child development, child behavior, parenting, and the parent-child relationship. STEEP sought to help mothers create a safe and predictable home setting for their child's development, identify strengths in themselves as mothers, as well as connect to support systems and community resources by focusing on relationship building, not only between mothers and their children, but also between mother-facilitator and peer-to-peer interactions amongst the members of the program. Integrating this type of relationship building is based on previous research showing that an increase in social support is the one of the strongest predictors of change for the parent-child relationship [21]. While STEEP makes use of effective approaches to support adolescent mothers and their children, this model requires intensive staff commitment and resources over more than a year for each family, which impacts both feasibility and sustainability, key components of meeting the complex needs of these at-risk dyads.

Methods

Mom Power (MP) is a short-term (10 week) manualized, psycho-educational parenting and self-care skills group intervention led by two trained master's level facilitators, presenting evidence-based parenting and self-care skills concepts in a friendly, interactive, and accessible format. MP focuses on five key therapeutic "Pillars" (Figure 1): social support, parenting education, self-care practice, guided parent-child interactions, and connection with care. The curriculum utilizes a variety of techniques to engage participants including in-vivo active support for parent-child interactions during natural separations and reunions; games and interactive activities that allow for concrete application of attachment-based concepts such as "secure base – safe haven" [22,23] or balanced and nurturing parenting [24]; opportunities to watch videos of parent-child interactions and engage in playful activities with one's own child both designed to elicit positive emotions regarding the parent-child bond and enhance the experience of shared positive affect, which in turn is known to prime attachment security [25,26]. Furthermore, the curriculum gives a framework for understanding and making sense of children's behaviors in general, yet provision of tailored feedback addressing the unique experiences and challenges of each mother-child dyad makes the program highly personalized.

In addition to comprehensively screening for the teen parents' mental and physical health care needs, the program also provides screening and intervention for the infants and young children who may have already developed clinically significant behavioral or emotional problems. The group aims to provide an environment for mothers that is nurturing, supportive, encouraging and respectful. MP utilizes a metaphor of a "tree" to help illustrate how to understand their child's behavior and find an appropriate response to meet their child's needs using Bowlby's concept of a secure base and safe haven [27]; Bowlby postulated in his attachment theory that learning is only possible when a child feels safe and can rely in times of distress on the parents' emotional and physical comfort. The tree metaphor (Figure 2) illustrates the role of a parent in creating a secure base and safe haven from which children can branch out (explore and learn) and at same time build roots (connect in times of distress), thus supporting children as they thrive and grow into secure and independent adults. The sun in the visual symbolizes the need for the caregivers to delight in the child whether they are serving as a secure base or a safe haven. Using this user-friendly visual, teenage mothers attending MP learn about attachment during group, have the opportunity to practice separations and reunions in a supportive environment that allows them to experiment with new ways of relating to their children and to put into practice the skills they are learning in class. As mothers progress through the curriculum, they are offered the opportunity to develop a skill set to regulate their emotions well enough to feel safe and adequate in parenting, and to be able to think clearly when under stress so that they can prevent, manage, and recover from problems due to mental health issues when engaged in parenting. Finally, MP

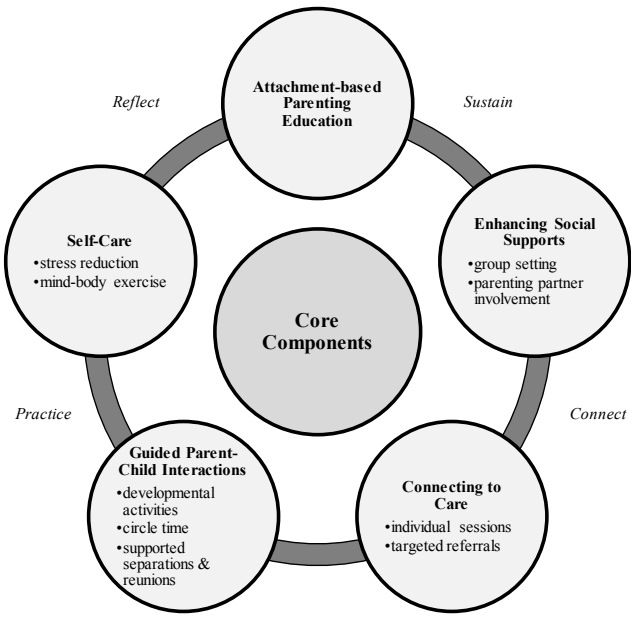

Figure 1: MP core components.

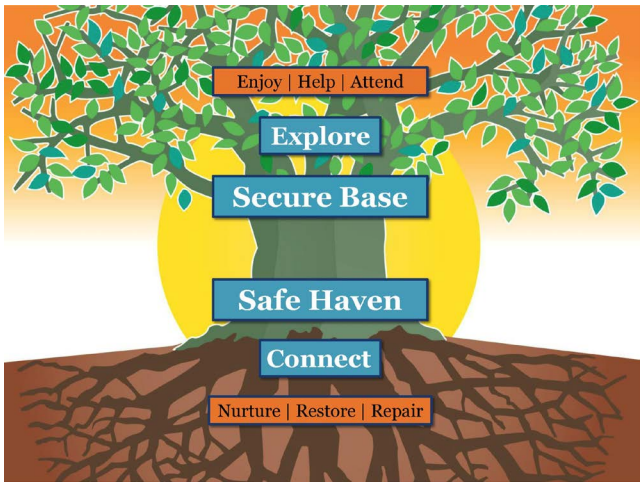

Figure 2: Tree metaphor illustrating the role of a parent in creating a secure base and safe haven.

serves as a treatment engagement tool that reaches out to mothers, providing support for their own experiences while helping to create strong and healthier relationships with their children.

Participants of the MP Group were recruited from an existing patient base at the Corner Health Center, Ypsilanti Health Center, Guidance Center, and the University of Michigan. Women ages 15-22 who were pregnant, postpartum, and with children ages 0-6 were eligible to participate. Additional requirements for enrollment in group included a willingness to participate in home visits, a commitment to the duration of the 10 week group, and an interest to learn about parenting. While not requirements for participation, most participants had a childhood history of trauma or abuse, were living in poverty or parented alone. Data were collected at a home visit, both before and after group. Maternal demographic information was collected at pre-intervention only. The demographic questionnaire yields variables describing yearly household income, maternal/child race, mom/child age, mother's years of education, and marital relationship. Maternal mental health was assessed using the 35-item Postpartum Depression Screening Scale (PDSS) for maternal depressive symptoms [28] and the 15-item National Women's Post Traumatic Stress Disorder Scale for maternal mood related to PTSD symptoms [29]. The PDSS [28] yields a total symptom count and a diagnosis of major depressive disorder (cut-off >80), showing a sensitivity of 0.78, specificity of 0.99 and positive predictive value of 0.93 compared with a SCID diagnosis of depression. The NWS-PTSD [29] yields a dichotomous diagnosis based on DSM-IV criteria, and a dimensional symptom count on a scale of 0 to 17, and has a sensitivity of 0.99 and specificity of 0.79 to detect PTSD diagnosis. In addition, participants completed the 26-item Life Stressors Checklist, indicating their experiences of maternal trauma and stress experiences over the course of their lifetime [30]. Finally, acceptability of the intervention was measured with a 28-item post-group questionnaire composed of 21 statements about the group experience and self-rated changes in regards to parenting (e.g., "Now I feel better able to understand my child's feelings," and "The group facilitators were warm and welcoming"). Participants were asked to respond with "not characteristic at all", "somewhat characteristic" or "very characteristic" using a Likert scale of 1-5, with high scores indicating greater agreement. At the post-group home visit, participants may have been asked to complete a release of information form, to ensure that high-risk mothers can be connected to community providers and linked with services which may occur based on the family's needs [31-33].

Results

We have gathered preliminary feasibility and outcomes data on 34 mother-child pairs who graduated from the MP group as well as 15 mother-child pairs who did not complete the intervention (attending 6 or fewer sessions, M = 3.33, SD = 1.49). Women who dropped out did not significantly differ from graduates in terms of demographic risk (age, marital status, education, household income, race, child age) or mental health (PTSD, MDD. However, completers (M = 6.29, SD = 3.53) experienced significantly more traumatic life events than did non-completers (M = 4.01, SD = 3.35), $t(47) = 2.067$, $p < 0.05$ (Table 1). Demographically, MP graduates were 20.35 years old (SD = 1.37) and ranging from 17 to 22 with 0 to 2 children (M = 1.21, SD = 0.54). These women were ethnically diverse (48.4% Caucasian, 41.9% African American, 9.7% Biracial), had little education (26.7% less than H.S, 30% H.S completion, 36.7% some college), were mostly single (64.5% not partnered, 35.5% partnered) and had limited income (28.6% under $5k, 35.7% made from $5k-10k, and 35.7% above $10k). At the start of group women had experienced a range of 1 to 14 traumatic life events (M = 6.29, SD = 3.53) consisting of having serious money problems (73.5%), having someone close die (65.4%), having someone close die suddenly (50%), themselves being incarcerated or having a close family member incarcerated (46%), being physically attacked by a partner (47.1%) and being neglected (45.5%) or emotionally abused by a parent (44.1%).

Using McNemar's test, we examined differences in mental health diagnoses (PTSD and MDD) pre and post group. We compared program graduates and those that did not complete the program. The number of MP graduates diagnosed with PTSD decreased significantly from 16 women at the pre-assessment to 3 women at the post-assessment, ($p < 0.001$). Non-completers had no change in number of PTSD diagnoses from pre (6) to post (6), (p = ns). Based on the PPDS, MP graduates with MDD decreased significantly from 20 to 11

	MP Graduates (N=34)	Non-Completers (N=15)	X^2 or t score	P value
Ethnicity				
Minority	16	7	0.01	ns
Caucasian	15	7		
Education				
Less than high school	8	2	0.11	ns
High school or more	22	4		
Marital Status				
Single	20	12	2.11	ns
Partnered	11	2		
Income				
Below Poverty (15k)	22	8	1.31	ns
Above 15k	6	5		
PTSD				
PTSD diagnosis	16	6	0.21	ns
No PTSD	18	9		
Depression				
MDD diagnosis	20	7	0.62	ns
No MDD	14	8		
Maternal Age	20.35 (1.37)	19.93 (1.22)	1.02	ns
Traumatic Events	6.29 (3.53)	4.01 (3.35)	2.07	0.04
Child Age (months)	17.77 (18.39)	18.53 (14.14)	-0.14	ns

Table 1: MP graduates vs. non-completers on pre-group demographics.

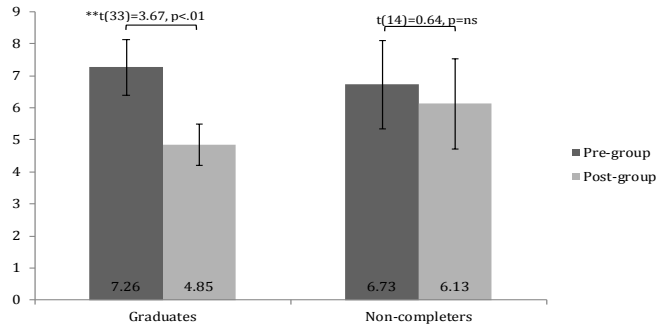

Figure 3a: Change in PTSD symptoms from pre and post group for graduates and non-completers.

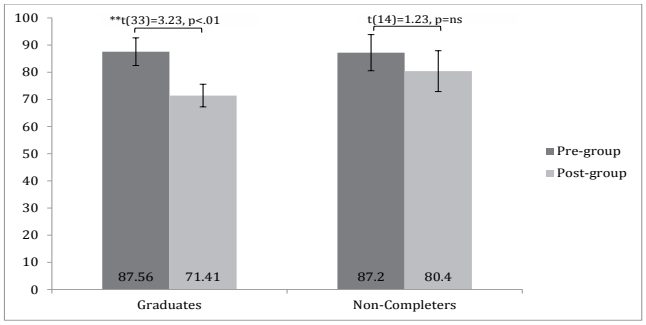

Figure 3b: Change in depression symptoms from pre and post group for graduates and non-completers.

women ($p < 0.05$) while those that did not complete the group did not significantly change in their reported diagnoses (pre (7) to post (6)), (p = ns).

To gain a greater understanding of the change, we also evaluated changes in symptom scores from pre-to post-intervention (Figure 3). For graduates, PTSD symptoms significantly decreased from pre-group ($M = 7.26$, $SD = 5.03$) to post-group ($M = 4.85$, $SD = 3.72$), $t(33) = 3.67$, $p < 0.01$. Depressive symptoms also decreased from pre-group ($M = 87.56$, $SD = 29.91$) to post-group ($M = 71.41$, $SD = 24.74$), $t(33) = 3.23$, $p < 0.01$. However, for non-completers there were no significant changes in PTSD symptoms pre ($M = 6.73$, $SD = 5.35$) to post ($M = 6.13$, $SD = 5.45$), $t(14) = 0.64$, p = ns. Additionally, non-completers showed no significant changes in depressive symptoms pre ($M = 87.2$, $SD = 25.81$) to post ($M = 80.40$, $SD = 29.14$), $t(14) = 1.23$, p = ns.

Based on information collected from a MP evaluation during the post assessment, of the women that completed group, 75% strongly agreed and 25% agreed that they received helpful parenting information from the intervention, 81% strongly agreed and 19% agreed they felt welcomed by the friendly facilitators and 56% strongly agreed and 44% agreed that the felt more supported and made connections with other women in the group as a result of the intervention.

In a retrospective evaluation collected at post-assessment, data analyzed using a paired t-test represents statistically significant improvements in perceived parenting confidence, ($t(19) = -6.05$, $p < 0.01$), perceived social support ($t(19) = -6.17$, $p < 0.01$) and perceived connection to care ($t(19) = -4.16$, $p < 0.01$) (Figure 4). The group of women that did not complete the group did not show statistically significant changes in any of the aforementioned subscales (n=12).

In addition to mental health, changes in parenting beliefs were also analyzed. Maternal report of mother-child bonding, parenting stress, and perception of the mother-child relationship as frightening did not significantly change for either group from pre to post assessment which was defined through self-report questionnaires; the Parenting Bonding (PBQ) and the Parenting Stress Index (PSI) [31-33]. Maternal helplessness was assessed through the Caregiving Helplessness Questionnaire (CHQ). For completers, maternal helplessness decreased significantly from pre- ($M = 10.77$, $SD = 5.79$) to post-group ($M = 8.65$, $SD = 3.55$), $t(30) = 2.55$, $p < 0.05$. Non-completers did not show statistically significant changes (n=15).

Discussion

The present study tested the effectiveness of MP, a manualized, psycho-educational parenting and self-care skills group intervention for young mothers and their young children, in improving mothers' mental health and parenting skills. MP is a theory-driven, time limited (10 group sessions) and manualized intervention that aims for broad reach, easy access, and good acceptance among the target population. The ultimate goal is to promote mothers' mental health and positive parenting, which is assumed to have positive downstream effects on children's

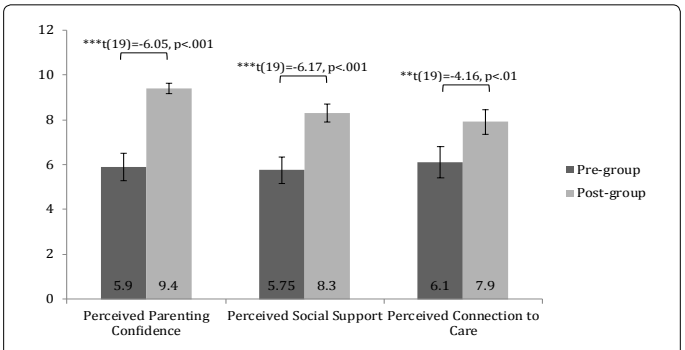

Figure 4: MP Graduates on post group retrospective evaluations.

wellbeing. The study was conducted in partnership with community agencies with the intervention delivered by trained community clinicians, strengthening the ecological validity of the findings.

We found that teenage mothers who completed the MP group (attending at least 7 sessions) significantly improved in in their reported mental health (PTSD and MDD) symptoms pre to post intervention. Women who did not complete the intervention (less than 7 sessions) had no change in their reported PTSD and depression symptoms from pre to post group. These findings suggest that participation in MP can significantly reduce MDD and PTSD symptoms in high-risk teen mothers. Mothers in the groups reported feeling more connected with other moms that could relate to their current situation, showed more positive interactions with their children during their time in group and felt more connected to resources upon their completion of MP. Moreover, mothers who completed the group intervention improved in their self-rated parenting competence and parenting helplessness, their self-rated social support and perception that they can connect to additional resources.

Conclusion

Results from this community-based pilot study suggest that participation in MP was associated with improvements in mental health and parenting for these young mothers, and that engagement and satisfaction was high. This is important, as the risk status for these mothers was remarkable, with high levels of economic and trauma-exposure risk. Too often mothers with histories of trauma do not engage in interventions, and thus our findings underscore the value of Mom Power as treatment-engagement intervention, functioning as a "safe soft" entry to treatment for those who otherwise might not receive relevant treatment.

Limitations

Limitations of the study include the use of subjective measures and the lack of longitudinal data to determine the long term effectiveness of the MP intervention at reducing PTSD and depression scores over the course of the life of the mother. Although the non-completer group and the graduate group were not demographically different, the non-completers were not true controls, and further research needs to be done using a randomized controlled trial design for the use with teen and young adult mothers. Despite these limitations, we believe that this MP intervention may have promise as an engagement intervention tool for high-risk young mothers and their young children to improve maternal and child outcomes.

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