Family Intervention for Adolescents With Suicidal Behavior: A Randomized Controlled Trial and Mediation Analysis

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Objective: Family processes are a risk factor for suicide but few studies target this domain. We evaluated the effectiveness of a family intervention, the Resourceful Adolescent Parent Program (RAP-P) in reducing adolescent suicidal behavior and associated psychiatric symptoms. **Method:** A preliminary randomized controlled trial compared RAP-P plus Routine Care (RC) to RC only, in an outpatient psychiatric clinic for N = 48 suicidal adolescents and their parents. Key outcome measures of adolescent suicidality, psychiatric disability, and family functioning were completed at pre-treatment, 3-month, and 6-month follow-up. **Results:** RAP-P was associated with high recruitment and retention, greater improvement in family functioning, and greater reductions in adolescents' suicidal behavior and psychiatric disability, compared to RC alone. Benefits were maintained at follow-up with a strong overall effect size. Changes in adolescent's suicidality were largely mediated by changes in family functioning. **Conclusion:** The study provides preliminary evidence for the use of family-focused treatments for adolescent suicidal behavior in outpatient settings. Clinical trial registration information—Family intervention for adolescents with suicidal behaviour: A randomized controlled trial and mediation analysis; http://anzctr.org/; ACTRN12613000668707. J. Am. Acad. Child Adolesc. Psychiatry, 2013; 52(8):851–862. **Key Words:** family therapy, randomized controlled trial, suicidal behavior

Suicide ranks as the fourth leading cause of death in the world for persons aged 15–29 years.[1] In Western countries, it ranks higher; for example, it is the third leading cause of death for 10–19 year olds in the US[2] and second in Australia.[3] Furthermore, self-harm in young people accounts for a significant proportion of presentations to emergency departments across most developed countries.[3] Thus, the search for effective treatments for suicidal and self-harm behaviors in young people is an important goal for mental health research. A promising area of focus concerns the role of the family.

Family climate is an important consideration in suicide risk; family factors such as conflict and poor communication, loss of caregiver to separation or death, and psychopathology in first-degree relatives are risk factors for adolescent suicide; and adolescents' self-injurious behaviors are often precipitated by conflicts related to family relationships.[4-7] Poor relationships with parents were shown to be more powerfully associated with suicidal ideation than peer relationships in a nationally representative sample of boys and girls aged 12 to 13 years,[8] and factors such as parental expressed emotion, that is, the extent to which parents express critical or hostile remarks and display emotional overinvolvement, is reliable predictor of patient relapse in young people with a range of mental disorders.[9]

Given the mixed results associated with individual psychotherapy and medication for suicidal adolescents,[10,11] treatment indications for suicidal adolescents are emphasising the systematic involvement of family members, and family-centered treatment programs such as Successful Negotiation Acting Positively,[12] Dialectical Behavior Therapy–Adolescents,[13] and Multisystemic Therapy[14] have shown promising results.

Randomized controlled trials (RCTs) of family interventions targeting suicidal behavior in adolescents are sparse, however, making it difficult to draw clear conclusions about family treatments for suicidal behavior in youth. Harrington *et al.*[15] evaluated a brief home-based intervention involving 162 adolescents (aged 10–16 years) who had deliberately poisoned themselves and had

been referred to child mental health teams located in 4 hospitals in Manchester, England. They did not find significant differences between a family intervention and control groups; however, routine care plus family intervention effectively reduced suicidal ideation in a post hoc subset of nondepressed adolescents at 6-month follow-up.

In contrast, Diamond *et al.*[16] reported on 66 adolescents (aged 12–17 years) identified as suicidal in emergency and primary care departments with eligible parents/guardians recruited from the Children's Hospital of Philadelphia who were randomly allocated to either Attachment-Based Family Therapy (ABFT) or Enhanced Usual Care (EUC) and received 3 months of treatment. ABFT (n = 35) was found to be significantly more effective than EUC (n = 31) in reducing suicidal ideation and depressive symptoms in adolescents, with large effect sizes of the order ES = 0.97. A subsequent analysis showed that changes in parenting behaviors and attachment mediated the positive improvements in adolescent suicidal ideation.[17] This trial appears to have produced the most promising results so far and augurs well for the use of family treatment models for suicidal adolescents.

This study evaluated the benefits of combining a strengths-based family education program called Resourceful Adolescent Parent Program (RAP-P) with Routine Care, and comparing this to the Routine Care program (control group) for suicidal adolescents in an outpatient mental health setting. RAP was developed to build resilience and promote positive mental health in adolescents, and consists of 3 components aimed at the individual, family, and school levels: the RAP for Adolescents (RAP-A), RAP for parents (RAP-P), and RAP for teachers (RAP-T). RAP-P has been evaluated with parents of an adolescent school-based sample in an initial efficacy trial[18] and a large multisite effectiveness trial.[19] Both quantitative and qualitative evaluations indicate that parents find RAP-P to be valuable, and the intervention has clear potential in improving family climate in the context of adolescent mood problems.

We tested the effectiveness of RAP in reducing suicidality in adolescents. Following Diamond *et al.*[16] we recruited suicidal adolescents from emergency and primary settings and randomized into RAP versus routine care. We hypothesized that RAP-P would be acceptable to parents indexed by high recruitment and retention rates, and that, compared to routine care, it would be associated with clinically significant improvements in the primary outcome measures of adolescent suicide-self harm risk and psychiatric impairment, and the secondary outcome of family adjustment. Finally, we tested a mediational model that changes in adolescent's suicide-self harm risk would be attributable to changes in family function resulting from participation in RAP.

METHOD

Participants included all eligible suicidal adolescents aged 12 to 17 years who presented to the emergency departments of 2 local hospitals, and to the government-funded community mental health service (BEAT) providing services for young people in the Blacktown–Mount Druitt Local Government Area (LGA) of Sydney, Australia, from March 2005 to the end of 2008. BEAT is a tertiary public community mental health service providing care to adolescents with severe mental health issues who live in this area of Western Sydney. The area is the second most disadvantaged LGA in the Greater Sydney Metropolitan area[20]; weekly income is below the poverty line for 38% of its population; 45% to 50% is public housing occupancy; ranked second highest in domestic assault incidents and child protection notifications,[21] low education levels, high levels of drug and alcohol issues, and crime levels (especially juvenile crime) also characterize the area. [22]

Adolescents were eligible if they met the following criteria: they were between 12 and 17 years of age; had engaged in at least 1 episode of suicidal behavior (includes suicidal ideation, intent, or attempt, deliberate self-inflicted injurious behavior) within the last 2 months before their referral to the local hospital/health service using the Mental Health Outcomes and Assessment Tools (MH-OAT, see below); were residing with at least 1 parent (biological or adoptive); their primary diagnosis included any of the following: major depression, posttraumatic stress disorder, or anxiety disorder (based on *DSM-IV* classification)[23]; individuals with psychoses and developmental disorders were excluded. Suicidal behavior was conceptualized along a spectrum that included verbalized threats and thoughts of suicide (ideation or cognition), deliberate self-injurious behavior (e.g., cutting) and "parasuicide" or nonfatal suicidal behaviors. Deliberate self-injurious behavior was defined as any intentional self-inflicted injury, irrespective of the apparent purpose of the act.[24] Participants who presented with poisoning from excessive use of recreational drugs were excluded. Parents were eligible if they met the following criteria: they were the primary caregiver of a suicidal adolescent; they had an average or above-average intellectual level; they had basic English language abilities; and they consented to the research and intervention.