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Timing of clinical improvement in assertive community treatment for adolescents: A pilot naturalistic observational study

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Abstract

Aim: This study examines the timing of clinical changes during assertive community treatment (ACT) for adolescents. **Method:** 47 youths were assessed each 3 months using the HoNOSCA. **Results:** Decreases in difficulties were observed on the Total score (between admission and discharge) and in particular on Impairment (e.g., language impairment and physical illness; between admission and discharge), Symptoms (e.g., hallucinations, emotional problems; between 3-month and discharge) and Social scores (e.g., peer relationships, independence, family relationships and school attendance; between admission and discharge). **Conclusions:** This study reveals a specific pattern of improvements related to the different domains of difficulties, giving relevant clinical information.

Assertive community treatment (ACT) reduces symptoms and enhances social integration for adolescents with severe psychiatric disorders (Baier, Favrod, Ferrari, Koch, & Holzer, 2013; Rowland et al., 2005; Schley et al., 2008). In our practice, the duration of ACT rarely exceeds 12 months. However, the question of the necessary timing to draw therapeutic benefits is largely unanswered. Therefore, the purpose of this pilot study is to provide foundational guidance about the necessary duration of ACT to achieve therapeutic benefit.

Method

Sample

The sample included 47 adolescents (aged from 13 to 18 years, 38.3% girls) suffering from depression (29.8%), anxiety (19.1%), conduct disorders (17.0%), psychosis (10.6%), or personality disorders (4.3%).

Intervention

ACT is provided by a multidisciplinary care team and is intended for adolescents suffering from severe psychiatric disorders. The model of care is based on assertive flexible meetings often taking place in the adolescents' environment and with direct involvement of their family (Baier et al., 2013; Graap et al., 2014).

Measures

Adolescents' functioning was assessed with the French version of the Health of the Nation Outcome Scales Child and Adolescent (HoNOSCA; Holzer et al., 2006). The scale includes (Gowers et al., 1999; Pirkis et al., 2005): a behaviour score (i.e., aggression, concentration, self-injury and substance abuse), an impairment score (i.e., language impairment and physical illness), a symptom score (i.e., hallucinations, problems with non-organic somatic symptoms, emotional problems), a social score (i.e., peer relationships, independence, family

relationships and school attendance) and a total score (sum of all items). A higher score refers to more difficulties. Additionally, the proportion of adolescents with a score of 3 or 4 was computed for each item since these scores refer to severe difficulties requiring psychiatric care (Hanssen-Bauer et al., 2011).

Assessments were carried out at admission (T1), at 3-month (T2), at 6-month (T3) and upon discharge (T4) (at about 9-month). The mean duration of treatment was: 276.96 days (*SD* = 83.05, ranging from 181 to 518 days) between admission and discharge; 90.90 days (*SD* = 17.88, ranging from 53 to 124 days) between admission and 3-month assessment; and 172.52 days (*SD* = 34.21, 114 to 251 days) between admission and 6-month assessment.

Findings

Analysis of variance revealed a significant effect of time on the total score of the HoNOSCA ($F(3, 103) = 3.99$, $p < .01$) and in particular on the impairment ($F(3, 103) = 2.92$, $p < .05$), symptom ($F(3, 103) = 4.72$, $p < .01$) and social ($F(3, 103) = 4.95$, $p < .01$) scores.

Tukey post hoc tests on the symptom score showed a significant decrease in the shortest amount of time (between 3 months and discharge, $p = .008$), and also on the long-range impact (between admission and discharge, $p = .01$). The social and impairment scores were significantly decreased between admission and discharge ($p = .001$ and $p = .03$, respectively). Finally, the total score was significantly decreased between admission and discharge, $p = .006$.

On admission, a high proportion of patients followed by ACT teams scored high on emotions (78.7%), trouble with family relationships (70.2%) and school attendance (70.2%). McNemar tests revealed a decrease between admission and discharge in the proportion of adolescents with a score between 3 and 4 on emotion ($p = .004$) and school attendance ($p = .001$). More specifically, emotion showed a decrease between 3-month assessment and discharge (*p*

=.039) whereas school attendance difficulties decreased from admission to the 6-month assessment (p =.013).

Discussion

Consistent with literature, ACT was observed to be an efficient intervention to alleviate the difficulties of adolescents with severe psychiatric disorders (e.g., Baier et al., 2013; Rowland et al., 2005; Schley et al., 2008). Symptoms (i.e., hallucinations, somatic disturbances and emotional difficulties) were reduced between 3-month assessment and discharge. Additionally, an admission-discharge linear decrease occurred in the impairment, social, and total scores. Based on the findings of this pilot study, we may state that, to achieve maximum benefit, the minimal duration of ACT should be nine months. Furthermore, percentages of patients suffering from severe difficulties indicated that alleviation in symptoms may have been driven by reduction of emotional difficulties. Further studies are recommended to affirm these findings.

The linear decrease in difficulties encompassing language and physical illness (impairment score) as well as relationships with peers, family, or school attendance (social score) may be linked to the global apprehension approach provided by ACT (Graap et al., 2014). Social scores (e.g., peer and family relationships) capture the main focus of the work of ACT therapists. This finding is in keeping with literature noting the numerous social skills and conflict management skills that youth have to learn in order to improve the quality of their relationships (Greene, 2003; Greene, Sassi, Malek-Madani, & Edwards, 1997). Results on the percentage of adolescent suffering from severe difficulties indicated that social score improvement may be related to school attendance improvement between admission and discharge, and from admission to the 6-months assessment. This finding may be accounted for by specific tools provided through ACT when adolescents dropped out of school (Graap et al., 2014).

Some limitations of the study have to be raised. The conclusions are limited by the absence of a randomized control group design. Further studies could benefit from adopting a multiple informant point of view, such as the self-report form of the HoNOSCA (Gowers, Levine, Bailey-Rogers, Shore, & Burhouse, 2002; Urben et al., 2014).

In conclusion, this study was conducted in a real-life clinical setting, which is of importance in the context of evidence-based practice (Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald, 2001). Therefore, the results may help define more efficient therapeutic strategies and provide foundational guidance about the time needed for improvement when using ACT. Refining timing specificities could strengthen the beneficial long term effects of ACT.

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