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A Unique Model for Adolescent Addiction Treatment: A Description of the Alberta Adolescent Recovery Centre

Amelia M. Arria, PhD, Jacqueline M. Smith, PhD,† Brittany A. Bugbee, MPH,* Joel Mader, MEd,‡ and Ken C. Winters, PhD§*

Abstract

Objectives:
Substance use disorders among adolescents are a serious concern in both the United States and Canada. In recent years, strides have been made in our understanding of how to effectively treat these disorders. However, there remains a need to understand how successful treatment approaches for adolescents can be integrated into comprehensive treatment models. This article presents a case study of a comprehensive, multidimensional adolescent treatment program, the Alberta Adolescent Recovery Centre (AARC).

Materials and Methods:
Data on treatment completion were obtained by reviewing the records for the 297 adolescents who completed a preintake assessment or who entered treatment at AARC between 2008 and 2012.

Results:
AARC is a comprehensive, long-term, semiresidential treatment program for adolescents with a substance use disorder that integrates 12-step-based individual and group therapy, family-based therapy, the use of peer counselors and family-run recovery homes, and continuing care. During this 5-year period, 149 adolescents entered treatment at AARC, and 120 (80.5%) completed the program. The median length of stay among graduates was 277 days. The most common reasons for leaving before treatment completion were parents choosing to end treatment and the client displaying a level of substance use problems that was not severe enough to warrant treatment at AARC.

Conclusions:
The AARC program is a unique model for comprehensive, long-term adolescent substance use treatment with a high rate of treatment completion. Further research is needed to evaluate the long-term effectiveness of AARC and if successful, how this treatment model can be transferred and adapted to other settings.

Key Words: adolescents, family-involved treatment, substance abuse treatment

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Substance use during adolescence is associated with numerous adverse consequences for adolescents, their families, and the communities in which they live.[1] It is estimated that approximately 5% of adolescents meet criteria for substance use disorder (SUD).[2] Many of these adolescents might benefit from some type of formal treatment; however, based on data from the United States, only about 10% of adolescents who meet criteria for SUD ever receive formal treatment.[3]

Recent research in particular has advanced our understanding of how to effectively treat SUD among adolescents and young adults and how to promote long-term recovery.[1] Whereas the adult research literature consists of a relatively rich body of work of controlled studies on the effectiveness of specific treatment therapies for SUD, by comparison, there are a modest number of controlled evaluations of comprehensive treatment programs, particularly adolescent-focused programs. Nonetheless, the adolescent treatment field has made major advances during the past 25 years in the development of evidence-based practices to address adolescent SUD.[4,5] One major theme is that treatment must take into account the unique developmental needs of adolescents, especially the social context and other features of the adolescent's environment, to effectively promote drug abstinence.[1,4–6] Adolescent SUD treatments that are associated with favorable evidence in efficacy-based clinical controlled trials

From the *Department of Behavioral and Community Health, Center on Young Adult Health and Development, University of Maryland School of Public Health, College Park, MD; ‡Alberta Adolescent Recovery Centre; †Faculty of Nursing, University of Calgary, Calgary, AB, Canada; §Oregon Research Institute, Eugene, OR.

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Reprints: Amelia M. Arria, PhD, Department of Behavioral and Community Health, Center on Young Adult Health and Development, University of Maryland School of Public Health, 1234 School of Public Health Building, College Park, MD 20742 (e-mail: aarria@umd.edu).

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include family-based treatment, motivational enhancement approaches, 12-step facilitation, and cognitive behavioral approaches.[4,7] Another significant component to consider when treating adolescents is the use of medications to address craving and/or cooccurring disorders.[8] Regardless of prominent differences in these treatments in terms of behavior change approaches, the outcome data indicate that no single approach emerges as superior.[4,7,9,10]

Despite these advances in treatment, a sizeable number of adolescents drop out before completing treatment, and abstaining from drugs represents a major challenge for adolescents during and after treatment.[11–13] Research indicates that the relapse rate at 1 year posttreatment among adolescents is around 40% to 60%,[14–16] and that individuals with SUD experience cycles of treatment, recovery, and relapse.[17] The extent to which an adolescent will remain abstinent following formal treatment appears to be related to a combination of preexisting characteristics (eg, extent of cooccurring problems), the characteristics of the treatment approach, and posttreatment experiences (eg, participation in after or continuing care).[4,7,16] However, focusing solely on abstinence as an outcome measure obscures the fact that treatment might not reliably result in reductions in substance use. A recent meta-analysis of treatment outcome studies reported that adolescents exhibited significant decreases in their substance use after entry into treatment.[7] On the basis of the number of substance use days during the past month, the magnitude of pre-post reductions went from 2 to <1 day of alcohol use, from 13 to 6 days of marijuana use, and from 10 to 5 days of polydrug use.

Most substance use treatment programs in the United States offer outpatient treatment, with great variation in the length of treatment.[13] Residential programs are traditionally limited to 30 to 90 days, with a median length of stay of 69 days for 12 to 20 year olds in long-term residential treatment.[13] However, a treatment duration of at least 90 days is associated with better outcomes and is therefore generally recommended for adolescents in treatment for SUD.[1,18,19] Compared with outpatient treatment, residential-based treatment has not received as much attention in the research literature. This gap is significant given that residential programs tend to treat the more severe cases and provide a more intensive treatment experience than outpatient treatment.

Despite the increased understanding of effective treatment approaches, few studies in the literature have described how evidence-based or evidence-informed practices are implemented in real-world adolescent residential-based drug treatment centers. Therefore, the purpose of this study is to describe a comprehensive, long-term treatment program for adolescent addiction.

PROGRAM DESCRIPTION

The Alberta Adolescent Recovery Centre (AARC) is located in Calgary, Alberta, Canada and serves adolescents and young adults ages 12 to 21 with SUD and related problems, including coexisting mental or behavioral disorders. Although the program utilizes abstinence and 12-step orientation as its central therapeutic model, it incorporates other strategies as well, including cognitive behavioral interventions, peer-facilitated groups, and family and individual therapy. An overarching focus of the program is to address any family issues that might be associated with the development of the adolescent's SUD and are important to his or her recovery. Also, given that research supports that individuals who receive continuing care after treatment are more likely to maintain long-term sobriety compared with those who do not,[20,21] AARC places a high priority on continuing care services. An overview of AARC's intake, assessment, and treatment services are provided below.

Intake and Assessment

The majority of referrals to AARC originate from calls to the Centre by parents/guardians who have had multiple difficulties related to their child's SUD. Some referrals come through the criminal justice system and many adolescents have had prior experience with

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other treatment programs. Before intake, a preassessment is completed in person with the parents of the adolescent to determine if there is a significant substance use problem that warrants intervention. During the preassessment, information is collected regarding the adolescent's social functioning, behavior at home, school performance, and possible involvement in illegal behavior. The parents' chronological account of their views of the adolescent's drug and/or alcohol use is also reviewed. If the adolescent's use appears to be persistent despite ongoing deleterious consequences in areas such as school as well as family and social relationships, the family is referred for an in-person intake assessment at AARC. For cases in which the problem does not appear to be severe, parents are referred to an outside counselor, agency, or other community resources.

At the intake assessment, 2 standard measures are used to assess whether the adolescent meets formal criteria for a SUD. First, the Substance Abuse Subtle Screening Inventory (SASSI)[22–24] is administered. The SASSI is a questionnaire that screens for SUD. The adolescent SASSI A-2 is used for clients between the ages of 12 and 17, and the Adult SASSI-3 is used for clients ages 18 or older. Second, the updated Adolescent Diagnostic Interview[25] is administered. This structured interview provides the basis to assess if the adolescent meets DSM-IV criteria for a SUD.[26] Clients are also reassessed within a month of starting treatment by an outside clinician who uses additional assessment tools to confirm appropriateness of fit for the program. Adolescents are discharged from the program if either the initial intake assessment or the reassessment a month later indicates that the adolescent's drug use problem severity falls below the severity that would require the level of treatment provided at AARC. In such instances, community resources are offered to the family.

Within 2 weeks of intake, adolescents have a clinical medical exam by a family physician that includes screening for infectious diseases. The detoxification process is overseen by an on-site registered nurse and consulting family physician. Before entry at AARC, many of the adolescents experience poor nutrition and altered sleep patterns, and overall well-being is often compromised. AARC's family physician and registered nurse help to address these health and well-being needs of the clients. Psychiatric assessments are also conducted by a consulting pediatric psychiatrist in cases where there is a preexisting psychiatric diagnosis or when an adolescent displays or reports coexisting psychiatric symptomatology during or after intake. Psychiatric care is provided throughout treatment for clients with concurrent psychiatric disorders.

General Treatment Principles

AARC is somewhat different from traditional time-limited adolescent programs in that adolescents progress at their own pace. In addition to incorporating AARC's core treatment components, treatment planning is personalized, holistic, and attempts to address multiple problems including dysfunctional familial relations, comorbid psychiatric illnesses, and other problematic behaviors. On the basis of research indicating that individuals with addiction need at least 3 months in treatment to stop or reduce their drug use,[1] AARC is a long-term treatment program.

Treatment at AARC is divided into 4 structured stages that are designed to help clients attain specific milestones. As the client progresses through each stage, they are given more responsibilities and are gradually reintegrated back into the community. The stages correspond to specific Alcoholics Anonymous (AA)/Narcotics Anonymous (NA) steps and aim to promote daily living skills and adaptive coping mechanisms to replace dysfunctional addictive behaviors. Stage 1 (steps 1 to 3) focuses on the client's ability to recognize the need to begin the treatment program. Stage 2 (steps 4 to 7) focuses on family issues and rebuilding family relationships. In Stage 3 (steps 8 to 10) the client returns to work or school. Finally, in Stage 4 (steps 11 to 12), the primary goal is to constructively use leisure time without reliance on drugs. The term ''Newcomer client'' refers to a client

who is in Stage 1 of the program. An ''Oldcomer client'' is someone who has achieved Stage 2 or higher status.

When a client is not progressing in treatment, additional resources are provided on a case-by-case basis. If a client has difficulties that are impeding their progression, they might be returned to an earlier stage of treatment at the discretion of the clinical staff and provided a more individualized treatment plan.

Semiresidential Recovery Homes

A unique feature of treatment at AARC is that adolescents spend nights with select families of a client who is further along in the treatment process. These recovery homes are the private residences of the families who have an adolescent in treatment at AARC. All parents involved with their adolescent's treatment must complete rigorous training as outlined by the Canadian Accreditation Counsel (CAC) before hosting a recovery home. The CAC-accredited recovery home training commences upon client intake and the family begins receiving clients to their home at approximately 3 months later. Host parents provide evening and overnight housing for at least one other client (in addition to their own child) for up to 6 days a week. When clients progress to Oldcomer status, they return to their own families and, in turn, provide a safe and secure recovery home for other clients progressing within the program. While in recovery homes, Newcomer clients have an opportunity to identify with a sober client further along in treatment who has reintegrated into their family system. This also provides the Newcomer client with an opportunity to experience recovery in a healthy family setting and gives them a break from the treatment setting and daily scheduled therapy.

All recovery homes are similar with respect to structure, rules, and accountability. Measures are taken to mitigate risk including alarms on bedroom doors and windows, locks on closets, and ''off-limit'' rooms containing everything from computers to household chemicals. Initially, many new parents to the program express concern about the requirement of being a recovery home. Training, resources, and access to clinical on-call staff (24 h a day, 7 d a week) are provided to help alleviate the stress associated with running a recovery home.

In-program Education

The majority of AARC clients have struggled in an academic setting and have fallen behind in their studies because of their substance use. AARC has a Calgary Board of Education satellite classroom, called the Learning Centre, located within the facility. The teachers in the Learning Centre work to reengage the clients in their academic studies and support them with reintegration back to the educational program of their choice. The Learning Centre has a low student-to-teacher ratio, allowing the teachers in the classroom to provide greater amounts of individual learning time than what would take place in a regular school setting. Teachers help adolescents with learning strategies, work experience opportunities, setting academic and career goals, and the development of time management skills.

Group Sessions

AARC employs multiple group formats including a full group where all clients in treatment are present, Newcomer groups, Oldcomer groups, and gender-specific groups. Full group sessions are preceded by a brief meeting between the group facilitator and Oldcomer clients. During this meeting, the topic of the group session is presented by the facilitator, and feedback is provided by the Oldcomer clients regarding the progress of the Newcomer clients. Client issues are identified with the intention of developing a strategic plan used to direct the subsequent group session. After a brief introduction of the session topic, group participants listen to a musical recording selected by the group facilitator that is relevant to the group topic.

Some of the topics discussed in the sessions include: (a) the importance of using the 12 steps as a recovery roadmap; (b) identification and regulation of negative emotions (eg, shame,

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resentment, loneliness); (c) recognition of past harms to others; (d) acknowledgment of fears (eg, fear of failure, fear of success, fear of not being good enough for parents); (e) recognition of loss of control over drug use despite consequences; (f) identification of selfishness and dishonesty; (g) understanding that a SUD has a neurobiological basis; (h) the role of parents and peers in the adolescent's life; (i) the importance of structure in one's life; (j) the importance of providing and accepting peer support; (k) reconstructing new self-narratives; and (l) commonalities among individuals and families affected by addiction. Interactions between the group facilitator and the adolescents are respectful, focused, and can be, at times, confrontational. The sessions end with closing music, followed by gender-specific group hugs.

Family-based Treatment

AARC places a high priority on family involvement based on the recognition that adolescent SUD can strain family relations, lead to marital conflict and turmoil, create difficulties for siblings, and leave family members with feelings of hopelessness, loss, shame, and anger.[27–29] Research studies have highlighted the importance of family involvement in facilitating the achievement of treatment goals.[1,7] AARC offers group and individual therapy for all members of the family including parents, siblings, and other relatives participating in treatment. The program employs a psychoeducational approach, teaching parents about the role of neurobiology in addiction and how to navigate and identify difficult emotions related to addiction's impact on the family. Shame and guilt are a commonly touched upon themes with parents.[27–29] Parents often ''buy into'' the adolescent's declaration that they are defective parents. The feeling of decreased self-worth and isolation as a parent can lead to increased distance and lack of respect between parent and child. Often parents are left feeling isolated as a result of their child's SUD. AARC's treatment community provides a supportive and safe environment to process these difficult emotions.

The program's strong family component also facilitates the parent's recognition that a SUD during youth can be a chronic disorder and that ongoing participation of each family member in the recovery process is needed. In this way, family members are provided support and insight into how their behavior was influenced by the family member with a SUD. Treating the family fosters the healing and repairing of relationships, ultimately benefiting recovery.[30,31]

Utilization of Peer Counselors

AARC utilizes peer counselors who mentor clients during their treatment by calling upon their own personal recovery experience to provide a positive role model for clients as they progress through treatment.[32,33] At AARC, peer counselors must be 18 years or older and actively involved in their own recovery, with a minimum 2 years of sobriety. The peer counselors receive 57 hours of training annually (in-line with CAC standards) and are supervised by AARC clinical staff. Peer counselors also provide feedback regarding their observations and interactions with the clients to AARC's clinical team at weekly staff meetings. This feedback is ultimately considered by the clinical staff in treatment planning and case management. Peer counselors provide clients with 12-step facilitation in both group and individual settings. Such facilitation includes reviewing the 12-step literature and concepts, and leading a discussion where clients are encouraged to share their personal experiences and understandings. They further support the clinical staff in group counseling sessions where they share their own experiences of addiction and recovery. Such disclosures serve to promote connection and relatability between the peer counselors and the clients, as well as provide the clients with hope that recovery from addiction is possible.

Continuing Care

Upon graduation from AARC, an exit plan is created for the family and the client. The personalized plan outlines a schedule of recovery-oriented activities, identifies specific triggers for the client,

and provides an action plan for dealing with problems that might arise after graduation. AARC supports clients and families in their integration into the broader 12-step community by hosting weekly onsite AA and Al-Anon meetings. Clients are also encouraged to establish AA, NA, and Al-Anon sponsorship by the time they have completed treatment. Weekly aftercare group sessions are available on a continuing basis for clients following discharge and clients are encouraged to attend for a minimum of 6 months. Aftercare helps to foster a supportive peer network by keeping graduates connected with one another.

Recently, monthly aftercare wellness workshops have also been made available to graduate parents to facilitate continuity of care for graduate family members. Aftercare sessions have included workshops on mindfulness, meditation, nutrition and exercise, emotional sobriety, and finding life balance. Aftercare is also a collective space where parents can navigate together the practical issues they confront after treatment has ended. AARC also offers an ''open door'' policy to graduate clients and families to attend group meetings and AARC events. The parents and clients are told that they have a ''lifetime membership'' to AARC contingent on their desire to be involved in active recovery.

Graduates of the program who relapse can access a refresher program provided by AARC. To be eligible for the refresher program, graduates in active addiction must contact AARC's clinical team. The refresher program lasts on average between 6 and 8 weeks and although the family is involved in treatment, they are not required to run a recovery home.

Treatment Cost

The fee for attending AARC's treatment program is based on a sliding scale according to the family's income. The majority of AARC clients receive a subsidy that is covered by donations and fundraising initiatives. For Alberta residents, the maximum fee is $150 per day; for non-Alberta residents, the maximum fee is $160 per day. The minimum fee is $10 per day. Fees cover the treatment for clients and their participating family members, food, housing in a recovery home, recovery home host training, and aftercare services.

MATERIALS AND METHODS

Research staff from the University of Maryland School of Public Health conducted a site visit of AARC with the purpose of tallying deidentified client treatment process information from 2008 to 2012. Information that was abstracted included the number of preassessments, client intakes, departures, and graduations each year. Identifying information was removed so that the identity and privacy of the clients included in the study would be protected. IRB approval was obtained from the University.

RESULTS

Between 2008 and 2012, preassessments were completed for 297 adolescents; of these, 149 adolescents entered treatment at AARC. The mean age at intake was 16.2 years, and the majority of clients were male (61.7%) and white (75.2%; Table 1). The average SASSI score at intake was slightly higher for graduates than nongraduates (22.0 vs. 18.9, respectively, $P<0.05$), but the groups did not differ significantly with regard to sex, race, or age.

Treatment was completed by the vast majority of clients (80.5%). Among graduates, the number of treatment days to graduation ranged from 217 to 400, with a median of 277 days. The graduation rate was similar between males and females (80.4% and 80.7%, respectively). Six clients discharged early from the program against medical advice, but later returned and graduated from the program.

Twenty-nine clients (19.5%) left the program before graduation. The number of treatment days for these early departures ranged from 4 to 449 days, with a median of 64 days. The most common reasons for early discharge were: (1) parents deciding not to continue with treatment (n = 9), and (2) the client did not show signs of an

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addiction problem that was severe enough to warrant treatment at AARC (n = 7; Table 2).

DISCUSSION

Few detailed descriptions of community-based adolescent addiction treatment programs exist in the literature. This paper describes an intensive, comprehensive, abstinence-based, outpatient day/semiresidential program in Calgary, Alberta, Canada. The program is a comprehensive approach to addressing the multiple problems that often cooccur with adolescent substance use, including strained parent-child relationships, academic failure, psychiatric symptoms, and somatic health issues. The program has several unique features. First, clients progress at their own pace through the program, without a set duration for completion. The median length of stay among graduates was 277 days, which is significantly longer than traditional programs in the United States.[13] Second, the adolescents spend nights in recovery homes which are run by parents of adolescents who are clients at AARC. Third, unlike many adolescent addiction treatment programs, treatment at AARC is designed to work through all of the 12 steps, not simply the first few steps, which is often the case with standard programs of shorter duration.[5] This latter feature of AARC facilitates an intensive opportunity for the adolescent to work through the full-range of steps toward recovery, and to permit the promotion of learning recovery and other adaptive life skills, and to engage in prosocial activities with new peer networks.

TABLE 2. Reasons for Discharge, Among Clients Who Left Before Graduation (n = 29)

Reason	n (%)
Parents pulled client out	9 (31.0)
Addiction deemed not severe enough after trial period	7 (24.1)
Went AWOL	5 (17.2)
Client signed self out	3 (10.3)
Terminated by AARC for another reason	3 (10.3)
Other	2 (6.9)
Unknown	1 (3.4)

Note. n = 4 clients had multiple reasons for early discharge.
AARC indicates Alberta Adolescent Recovery Centre.

AARC's emphasis on treating the whole family cannot be underestimated. From a research literature standpoint, this focus is advisable; adolescent treatment approaches that include family therapy show superior results compared with programs that do not.[7] This general research finding is not surprising, given that parent participation not only promotes their ability to work through their own issues such as guilt and shame, but also assists them in learning new parenting skills to help them better manage their child's relapse situations.

The high proportion of adolescent clients who complete the program (80.5%) is noteworthy. Because the extant literature on retention of adolescents in substance treatment programs is based on programs with much shorter duration than AARC, it is problematic to make comparisons. Nonetheless, treatment completion is an important predictor of outcomes, namely long-term abstinence from substance use,[1]

TABLE 1. Client Characteristics

	Total (N = 149)	Graduates (N = 120)	Nongraduates (N = 29)
Sex [n (% male)]	92 (61.7)	74 (61.7)	18 (62.1)
Race [n (% white)]	112 (75.2)	93 (77.5)	19 (65.5)
Age [*M* (SD)]	16.2 (1.6)	16.3 (1.7)	15.9 (1.4)
SASSI at intake [*M* (SD)]*	21.4 (5.8)	22.0 (5.4)	18.9 (6.7)

*Differences between graduates and nongraduates significant at $P<0.05$.
SASSI indicates Substance Abuse Subtle Screening Inventory.

and any program that can produce high retention rates is likely promoting positive outcomes. An outcome evaluation of the AARC program, which includes an assessment of abstinence rates, academic functioning, family functioning, and other health and well-being variables, is currently in progress.

Compartmentalizing AARC's program might be problematic because a unique feature of its model is the incorporation of family-involved treatment, peer support, and long-term intervention. However, some aspects of the program might be more transferable than others, such as the use of peer counselors. There is growing interest and support for the inclusion of peer counselors in programs that address substance abuse and mental health.[33] The AARC program underscores the importance of active family involvement in the treatment process. Enhancements could include parent-focused and sibling-focused sessions, and family-involved aftercare services, which emphasize the importance of continuity of care for the whole family. A unique component of the AARC approach is the involvement of recovery home parents, which could be evaluated for its feasibility in other settings.

Recently, the adolescent SUD treatment field has matured significantly in several ways: comprehensive assessment tools are used to inform treatment approaches; there is increased attention on cooccurring problems; family-based approaches are becoming more common; and a greater number of treatment approaches are evidence based or evidence informed.[4,34] AARC, by incorporating these advances, provides a unique model of a long-term, comprehensive, semiresidential treatment program. AARC's approach appreciates the principle that behavior change requires a sustained and longer-term intervention, which too often is not provided in practices in the United States. Naturally, the cost-effectiveness of this model will need to be considered, given that many managed-care treatment approaches rarely support treatments of this length to address adolescents with a SUD. The forthcoming outcome evaluation of AARC will hopefully inform these and related questions.

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