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The RoadMAP Relapse Prevention Group Counseling Toolkit™: Counselor Adherence & Competence Outcomes

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Abstract

Training counselors in empirically-supported treatments (ESTs) far exceeds the ever-decreasing resources of community-based treatment agencies. The purpose of this study was to examine outpatient substance abuse group counselors' (n=19) adherence and competence in communicating and utilizing concepts associated with empirically-supported relapse prevention treatment following a brief multimedia toolkit (RoadMAP Toolkit™) training. Moderate or large baseline to post-training effect sizes for counselor adherence to toolkit content were identified for 13 of 21 targeted behaviors (overall *d* range=.06-2.85) with the largest gains on items measuring active skill practice. Post-training adherence gains were largely maintained at the 6-month follow-up, although no statistically significant improvements were identified over time for counselor competence. This study provides important preliminary support for using a multi-media curriculum approach to increase empirically-supported relapse prevention skills among group counselors. Future research should focus on finding ways to improve counselor skill level and to determine the impact of the Toolkit on client outcomes.

Keywords

group counseling; curriculum; counselor training; relapse prevention; cognitive-behavioral;
substance abuse

1. Introduction

Considerable investment has been made in the development of empirically-supported psychosocial treatments (ESTs) for the treatment of substance use disorders (Miller &

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Willbourne, 2002), but the adoption and implementation rates of ESTs in community based treatment are low (Garner, 2009; Massatti, Sweeney, Panzano, & Roth, 2008; Miller Sorenson, Selzer, & Brigham, 2006). Providers of addiction treatment face numerous workforce challenges (e.g., varying quality in the workforce, counselor turnover) that hamper training, supervision, and quality assurance (Eby, Burk, & Maher, 2010; Kerwin, Walker-Smith, & Kirby, 2006; McLellan, Carise, & Kleber, 2003). Consequently, EST penetration in community-based substance abuse treatment has been less than desired among counselors who provide individual (Santa Ana, Martino, Ball, Nich, Frankforter, & Carroll, 2008) and group counseling (Knoblach, Brooks, Nick, Carpenedo et al., in review). Training in ESTs continues to be provided through manuals and didactic continuing education workshops, despite a decade of research demonstrating that while self-study and workshop approaches may result in improvements in knowledge about and acceptance of ESTs, they do not typically improve clinical adherence or competence (Beidas & Kendall, 2010; Miller & Mount, 2001; Walters, Baer, Matson, Ziedonis, 2005). Workshops supplemented by ongoing feedback or supervision does result in sustained improvements in counselor practice (Baer, Rosengren, Dunn, Wells, Ogle, & Hartzler, 2004; Miller, Yahne, Moyers, Martinez, & Pirritano, 2004; Sholomskas, Syracuse-Siewert, Rounsavill, Ball, Nuro, & Carroll, 2005; Walters et al., 2005). However, these approaches are costly and potentially unwieldy, and require the ongoing involvement of trainers and supervisors.

Our team has been exploring the use of a multimedia group counseling curriculum toolkit to supplement training (Brooks, DiGuseppi, Laudet, Rosenwasser, et al., 2012; Carise, Brooks, Alterman, McLellan, Hoover & Foreman, 2009). Treatment curricula focused on the delivery of group counseling are not new (Hoffman, Landry, & Caudill, 2003; Rawson et al., 1995; McGovern, Drake, Merrens, Mueser, & Brunette, 2008), but they have received significantly less research attention than corresponding individual-focused psychosocial treatments. This is unfortunate, since the majority of community-based treatment is provided in a group format (Price et al., 1991; Weiss, Jaffe, de Menil, & Cogley, 2004).

As previously reported and described in this journal, our team developed a brief multimedia RoadMAP Relapse Prevention Toolkit™ (Brooks et al., 2012). This Toolkit (which consists of video vignettes, colorful posters, worksheets, and teaching aids) is designed to assist counselors in increasing the amount of evidence-based relapse prevention content (Marlatt & Gordon, 1985) provided in their group counseling sessions with minimal training. It introduces counselors to key relapse prevention content and simple, repetitive core strategies that can be easily taught to a diverse group of clients. The Toolkit serves as both a mode of information transfer to clients, as well as a powerful real-time behavioral prompt and teaching tool for counselors (see Brooks et al., 2012 for details about the underlying theoretical foundations, development, content, and initial Toolkit evaluation).

Our team found that counselors reported high levels of satisfaction with both a one-session Toolkit prototype (Carise et al., 2009) and the RoadMAP Toolkit™ (Brooks et al., 2012). Additionally, we found that counselor relapse prevention content adherence demonstrated a very large effect in improvement after completing a brief Toolkit training and receiving no additional supervision or feedback (Brooks et al., 2012); counselor competence, already at adequate-to-average levels at baseline, did not change.

Our previously reported work demonstrated gross changes in pre-post counselor adherence. However, the Toolkit was designed to change counselor practice by promoting increased *active skill practice* in group treatment; we aimed to accomplish this by 1) embedding active skill practice opportunities in each module 2) training counselors in two key cognitive behavioral therapy (CBT) skills (functional analysis, homework assignment/review) and 3) encouraging their repetitive use. While it is true that the acquisition of coping skills has not

typically been shown to mediate the effects of CBT treatment on outcomes (Morgenstern & Longabaugh, 2000), CBT manuals continue to stress the importance of counselors teaching coping skills to their clients and encouraging active practice in and out of the treatment session (Carroll, 1998; Monti, Kadden, Rohsenow, Cooney, & Abrams, 2002). In addition, increased homework engagement is associated not only with the development of more frequent and competent use of coping skills but also with decreases in drug use (Carroll, Nich, & Ball, 2005; Gonzalez, Schmitz, & DeLaune, 2006; Kiluk, Nich, Babuscio, & Carroll, 2010). However, despite the importance attributed to active skill practice in manualized CBT approaches, our preliminary work shows that it is rare in community practice. Counselors enrolled in our RoadMAP Toolkit™ study reported weekly on the types of groups and activities implemented with their clients over a 12-week period prior to being exposed to the Toolkit (Knoblach et al., under review). Their “treatment as usual” data indicated that 25% of their groups were self-reported as CBT in nature. Interestingly, 31% of the group time was spent discussing non-CBT topics, and very little time was spent implementing key practice skill behaviors. For example, only 5% of their group time was spent analyzing clients' drug use patterns or goal setting, only 3% of the time helped clients identify and make plans for engaging in non-drug using activities, and only 1% of session time was used to conduct in-session role-plays, practice activities, or review homework. These findings indicate that counselors spent much more time discussing content rather than engaging in actual skills practice that could play a central role in preventing relapse. The extent to which the use of a CBT RP toolkit can increase group counselors' actual implementation of skill practice behaviors with their clients is not known.

This current report expands on our initial findings in several relevant ways. In this report we examine the extent to which counselors utilize specific skills acquisition behaviors associated with Coping with Craving (CwC) and Drug Refusal Skills (DRS) shortly after they have been provided with (and minimally trained to use) our RoadMAP Toolkit™. Second, changes in counselor adherence and competence associated with these two content areas at baseline, post-toolkit training, and six months post-training are examined. Third, we report on post-training and 6-month follow-up rates of counselors' use of three core RP training strategies (i.e., homework assignment and review, functional analysis of drug use); additionally, we compared adherence and competence scores at these time points for toolkit module 1 (for which we provided direct counselor training; i.e., My Addiction Pattern) to two other modules (for which we did not provide training; i.e., CwC, DRS).

2. Methods

2.1 Participants

Counselors who were employed at one of three mid-Atlantic community outpatient substance abuse treatment programs were invited to participate in this study. They were eligible to participate in the study if they conducted at least two adult counseling group sessions per week and were willing to have their group sessions observed by research staff. Twenty-six of 28 eligible counselors (93%) consented to participate in the study; of these, seven were reassigned or changed positions before baseline observations were completed. Nineteen counselors provided complete observation data at the baseline period, 17 (89%) of which provided full post-training data and 14 (74%) of which provided full observation data at all three time points.

2.2 Design and Procedures

2.2.1 Design Overview—This study consists of a single-arm, repeated measures design intended to examine the impact that the RoadMAP Toolkit™ had on counselor adherence and competence at implementing RP content in their group counseling sessions. Human

subjects approval was obtained from the Treatment Research Institute and the Philadelphia Department of Health IRBs.

2.2.2 Recruitment—Research staff attended a scheduled meeting with treatment program staff, provided a brief overview of the study (including eligibility criteria), and invited counselor participation. Research staff then met individually with interested counselors to answer questions and (when appropriate) complete the consent and HIPAA processes as well as a baseline assessment.

2.2.2.1 Baseline Observations of Group Counseling Sessions: Counselor participation in directly observed groups occurred in three phases: 1) Baseline, occurring three months prior to Toolkit training; 2) Post-Training, occurring after the three-month baseline period was completed and within 2-4 weeks of the Toolkit training; and 3) Follow-up, occurring six months after the Toolkit training. In each phase, counselors allowed coders to observe four group counseling sessions (with concurrent client consent). At Baseline, the first two were “general” groups in which they were free to focus on a topic of their choice. For their third and fourth groups, counselors were asked to conduct the best group possible, using whatever materials they wished, on two common RP topics: Coping with Cravings (CwC; i.e. “how to deal with cravings and urges”), and Drug Refusal Skills (DRS; i.e., “how to handle unwanted offers of alcohol or other drugs”). These two content areas were chosen because they are central to most cognitive-behavioral relapse prevention approaches, and we did not want to unduly increase the counselors' work load by asking them to conduct six (rather than two) baseline sessions. A trained coder observed and coded counselor behaviors at each group session. See our previously published report (Brooks et al., 2012) for additional information.

2.2.2.2 RoadMAP Toolkit™ and Toolkit Training: Following the baseline period, counselors received their copies of the RoadMAP Toolkit™ and participated in a three-hour training in its use. Briefly, the Toolkit consists of six RP-related modules: My Addiction Patterns/functional analysis of drug use behaviors, CwC, DRS, Managing Difficult Emotions, Seemingly Harmless Decisions, Finding Meaning in Recovery). It contains simple clinical guides for each module that contain key teaching points and supplemental materials (e.g., posters, worksheets, recovery cards, videos; see Brooks et al., 2012 for a detailed description of the Toolkit and training).

After reviewing the benefits of RP as an EST and showing the components of the Toolkit, counselors were walked through Toolkit Module 1 (drug use patterns and functional analysis), with emphasis on how each aspect of the Toolkit module could be used to teach relevant RP concepts and engage clients in various relevant recovery activities both within and outside of the group counseling session. Counselors were given an opportunity to conduct a functional analysis and taught how to use the recurring homework assignment (scheduling positive activities). Counselors received no direct training or instruction on how to conduct the remaining five Toolkit modules, and were simply informed that once they understood how one session worked they would be able to teach themselves the rest of the curriculum as they prepared for each session. In addition, counselors were not provided with any additional training, supervision, or tips throughout the rest of the study and were given two weeks to familiarize themselves with the Toolkit.

2.2.2.3 Post-Training and 6-Month Follow-Up Observations: After this two-week period, we conducted four weekly group observations of the first four Toolkit sessions (i.e., My Addiction Patterns, CwC, DRS, Managing Difficult Emotions). All CwC and DRS sessions were observed in order to compare baseline and post-Toolkit adherence and competence ratings on these topics. Counselors were free to use the Toolkit after the second set of

observations and before the third and final set of observations (of modules 1-4) which occurred approximately six months after the training.

2.3 Measures

2.3.1 Counselor Background Form—This measure collects descriptive information about counselors such as demographics, education, licensures/certifications, recovery status and exposure to RP content.

2.3.2 Group Observation Checklist—The Group Observation Checklist (GOC) is based substantially on the Yale Adherence and Competence Scale (Carroll et al., 2000; YACS) designed for use with ESTs (e.g., cognitive behavioral treatments). The GOC contains 10-12 specific *content* items for each of the six modules. The GOC assessed counselor adherence (i.e., frequency and extensiveness) to and competence when implementing each of the observed counseling behaviors. Both were scored on 7-point Likert scales, with 1=not at all and 7=extensively for adherence and 1=poor and 7=excellent for competence.

Eight coders were trained to live-code groups using a detailed GOC coding manual. Inter-coder agreement was monitored bi-monthly throughout the course of the study. Twenty-five percent of the sessions were randomly selected to be observed by two coders in order to monitor inter-coder agreement. The first author and all coders met to discuss dual observations and discuss coders' reasoning for score differentials on items. Inter-coder agreement ratings did not drop below the targeted 80% agreement rate during the study. See Brooks et al. (2012) for additional information on the GOC and coder training.

2.4 Analysis

(1) We conducted reliability analysis of group coders by calculating kappa values between primary and secondary coders. (2) We compared baseline and post-training mean item differences on the CwC and DRS modules using t-tests; due to the large number of related tests, we performed Holms' adjustments for multiple testing (Holm, 1979). Effect sizes were calculated using Cohen's *d*. (3) To assess CwC and DRS adherence and competence gains across all three time-points, we employed repeated measures ANOVAs with Bonferroni adjusted pairwise comparisons to determine where between time period differences were significant. (4) Counselor use of core relapse prevention skills (functional analysis, assigning and reviewing homework) across successive sessions was presented descriptively; weighted least squares analyses based on repeated measurements were conducted to identify differences in skill adherence and competence over time. (5) In order to determine if there were higher adherence and competence scores on the module on which counselors received direct training (i.e., My Addiction Pattern) in comparison to two on which counselors did not receive direct training (CwC, DRS), we conducted ANOVAs at Time 2 and Time 3.

3. Results

3.1 Participants

Seventeen counselors provided full baseline and post-training data. Just under half were female (47%); 29% were African-American, 59% were Caucasian, and none were of Hispanic origin. Seventy-one percent had earned a bachelor's degree, and 18% had a master's degree. Only one counselor (6%) was a certified addictions counselor. Thirty-one percent of the sample self-identified as being in recovery. Nearly half (44%) reported attending a continuing education RP workshop in the past two years, and the majority (77%) reported reading an RP manual in the past two years. With the exception of gender

($X^2(2)=8.04, p=.018$), no statistically significant site by counselor characteristic differences were found.

3.2 Coder Reliability

Coder reliability was calculated on the double-coded groups for each of the 42 Coping with Craving (CwC) and Drug Refusal Skills (DRS) items (i.e., 21 frequency/adherence items; 21 competence items). A weighted kappa was calculated for the for the 7-point Likert scale frequency/adherence items (e.g., ordinal scale). An unweighted kappa was used for the competence items since they consisted of a mix of ordinal and nominal responses (i.e., a 7-point Likert scale with a “Not Done” response option). Also, the sample size of coder pairs was small, thus some items had little to no variation in the responses, with high levels of negative agreement between coders (i.e., both coders regularly agreeing that no target counselor behavior was present). When there is no variation (i.e., when all coders respond with identical values) the kappa value cannot be computed. Therefore, our kappa results include only the valid kappa values where variation is present in the responses. Kappa values less than .40 are conceptualized as poor, .40-.59 as fair, .60-.74 as good, and greater than .75 as excellent (Cicchetti & Sparrow, 1981). On average, we obtained good inter-coder reliability ratings for adherence [Mn kappa=.642; range= 1.0 (min=0, max=1); 3 of 21 items <.40] and fair reliability for competence ratings [Mn kappa=.475; range= 1.0 (min=0, max=1); 7 of 21 items <.40].

3.3 Within Session Baseline to Post-Training Content Changes

We examined which CwC and DRS content adherence areas showed the greatest improvements from baseline to post-training on an item-by-item basis (including mean, standard deviation, t-test results, and effect size estimates; Table 1). Specifically, an item level pre-post comparison of the 11 CwC items shows a statistically significant increase on four items: 1) teach/discuss/model the coping skill “play through the tape” ($t=6.08, p<0.0001$), 2) teach/discuss/model the coping skill “seeking support” ($t=4.33, p=0.001$), 3) teach/discuss/model the coping skill “practicing personal positive self-statements” ($t=4.66, p<0.0001$), and 4) teach/discuss/model the coping skill “delay using” ($t=6.25, p<0.0001$). An item level pre-post comparison of the 11 DRS items shows a statistically significant increase on three items: 1) define/describe difference between passive, aggressive, and assertive communication styles ($t=6.45, p<0.0001$), 2) teach/discuss/model the use of direct eye contact but also remain polite when doing so ($t=4.66, p<0.0001$), and 3) problem solving hypothetical risky situations ($t=4.71, p<0.0001$). Importantly, numerous other items demonstrated moderate to very large effect sizes, but the small sample size ($n=17$) and correction for multiple tests may have limited our ability to detect effects.

3.4 6-Month Follow-Up Counselor Adherence and Competence Ratings

Due to job changes and promotions, three of the counselors who completed post-training observations left their positions before their 6-month follow-up rating could be conducted. The following analysis includes only the 14 counselors for whom direct observation ratings at all three time points could be obtained. ANOVA models, with means and standard deviations for CwC and DRS adherence and competence ratings, are presented in Table 2.

The ANOVA model for CwC adherence scores was significant ($F(2,12)=10.94, p=0.002$); Bonferroni adjusted pairwise comparisons showed significant differences between baseline and post-training ($p<0.001; d=1.49$) and between baseline and 6-month follow-up ($p=0.007; d=1.43$), but not between post-training and follow-up ($p=1.00; d=-.36$). The ANOVA model for CwC competence scores was not significant ($F(2,12)=0.024, p=0.977$).

The ANOVA models for DRS adherence and competence scores demonstrated a similar pattern. The ANOVA model for DRS adherence scores was significant ($F(2,12)=8.40$, $p=0.005$); Bonferroni comparisons showed significant differences between baseline and post-training ($p=0.003$; $d=1.34$) and between baseline and 6-month follow-up ($p=0.026$; $d=1.27$), but not between post-training and follow-up ($p=0.735$; $d=-.13$). The ANOVA model for DRS competence scores was not statistically significant ($F(2,12)=1.70$, $p=0.228$).

3.5 Post-training Toolkit Use

Eighty percent (12 of 15) counselors reported that they voluntarily used Toolkit materials during the time between the post-training group observations and the 6-month follow-up observations. Of those counselors who used Toolkit materials, on average they were used in 6.58 sessions ($SD=11.55$, range=1-46). However, this wide range is largely due to one outlier counselor who used Toolkit materials in 46 groups between Post-training and Follow-up observations. When this counselor was excluded, the average number of sessions in which Toolkit materials was used was 3.00 sessions ($SD=2.61$, range=1-9).

3.6 Across Session Engagement of Core Counselor Skills

Counselors' use of three counseling skills (i.e., functional analysis, homework assignment, homework review) was assessed during the four group observations associated with the post-training and 6-month follow-up time periods (Table 3). These clinical behaviors were not coded at baseline, as the items were Toolkit-specific. We used a weighted least squares approach to model repeated measurements of these skills across modules for each time period using SAS's PROC CATMOD. For significant effects of session, we then used specific contrasts to determine which modules were significantly different from one another. Counselors conducted functional analyses during Module 1 at post-training (Time 2) and 6-month follow-up (Time 3) at relatively high rates (100% and 86%, respectively); however, these rates decreased across sessions, as only 14%-29% of the counselors continued to practice functional analyses repeatedly, with rates as low as 14% at the time of the 6-month follow-up, a statistically significant difference at each time point (Time 2, $X^2(3)=74.66$, $p<.0001$; Time 3, $X^2(3)=39.45$, $p<.0001$). Specific contrasts show that functional analysis was conducted more frequently in Module 1 than in each other module in Time 2 ($X^2(1)=34.99$, $p<.0001$ for each module test), and in Time 3 (vs Module 2 $X^2(1)=14.00$, $p=.0002$; vs Module 3 $X^2(1)=11.79$, $p=.0006$; vs Module 4 ($X^2(1)=35.00$, $p<.0001$). Counselor engagement with assigning and reviewing homework showed more frequent compliance across modules during both assessment time points, with generally half to two thirds of counselors at least attempting these behaviors in each module. During Time 2, there were no significant differences in rates of assigning homework across modules ($X^2(3)=2.90$, $p=.41$); however there were significant differences during Time 3 ($X^2(3)=14.95$, $p=.0019$). Specific contrasts show that homework assignment was done more frequently during Module 2 than any other module (vs Modules 1 and 3 $X^2(1)=5.60$, $p=.0180$; vs Module 4 $X^2(1)=10.50$, $p=.0012$). Finally, during both time periods, there were significant differences across modules for reviewing homework (Time 2 $X^2(2)=8.94$, $p=.0115$; Time 3 $X^2(3)=35.13$, $p<.0001$). Specific contrasts for Time 2 show that counselors reviewed homework more often in Module 2 than in Module 4 ($X^2(1)=7.78$, $p<.0053$), while contrasts for Time 3 show that counselors reviewed homework less often in Module 1 than in any other module (vs Module 2 $X^2(1)=10.50$, $p=.0012$; vs Module 3 $X^2(1)=25.20$, $p<.0001$; vs Module 4 ($X^2(1)=18.67$, $p<.0001$).

3.7 Comparative Adherence Module Effects due to Amount of Training Exposure

Because we trained counselors using only the first Toolkit module (My Addiction Pattern/ MAP), we assessed counselor adherence and competence across modules to determine if

there were differences between the training module and other observed modules. We conducted separate ANOVAs for post-training (Time 2) and 6-month follow-up (Time 3) on adherence and competence scores for the MAP, CwC, and DRS modules. There were no significant differences of module type for adherence (Time 2 $F(2,48)=1.67, p=.198$; Time 3 $F(2,38)=1.58, p=.219$) or competence (Time 2 $F(2,48)=.022, p=.978$; Time 3 $F(2,38)=.586, p=.562$).

4. Discussion

The results associated with this study suggest that after completing a brief training in the use of the RoadMAP Toolkit™, counselor content adherence on both Coping with Craving (CwC) and Drug Refusal (DRS) modules improved from baseline to post-training and these gains, while showing some attrition, were largely maintained at the 6-month follow-up. Counselors demonstrated consistent adherence gains on nearly all topic areas covered within the CwC and DRS modules and made their largest, statistically significant gains on active skill practice domains (item effect sizes ranging from 0.06 to 2.85, mean $d = 0.99$). There were no significant differences in post-training or follow-up adherence on modules which received direct training versus modules which counselors self-taught.

Our previous work (Knoblach et al., in review) demonstrated that counselors consistently self-reported that during CBT groups they rarely engaged in clinical techniques geared towards active skill practice (e.g., role play, homework assignment), and this self-report was consistent with our direct observation. Analysis of counselor engagement with two core Toolkit skills (functional analysis and assigning/reviewing homework) across repeated sessions of the Toolkit showed that counselors did incorporate these skills into their groups, with the majority attempting them at least once and a solid minority adopting them consistently across sessions, at much greater levels than they were self-reporting without the Toolkit (Knoblach et al., in review). This is notable given that coping-related homework completion by is associated not only with the development of more frequent and competent use of coping skills but also with decreases in drug use (Carroll et al., 2005; Gonzalez et al., 2006; Kiluk et al., 2010).

Studies which directly observe substance abuse counselor clinical EST proficiency at pre-training, post-training, and again in a follow-up from two to four months in length typically show some deterioration in adherence between post-training and follow-up. For example, average effect sizes of level of adherence deterioration between post-training and follow-up was moderate in size after self-study instruction (mean $d = -0.57$; Miller et al., 2004; Moyers et al., 2008; Martino et al., 2011; Sholomskas et al., 2005) and after didactic workshop training (mean $d = -0.55$; Baer et al., 2004; Miller et al., 2004; Moyers et al., 2008). Studies of counselor adherence featuring ongoing supervision, coaching, or feedback after workshop resulted in markedly decreased levels of deterioration between post-training and follow-up (mean $d = -0.12$; Miller et al., 2004; Moyers et al., 2008; Martino et al., 2011; Sholomskas et al., 2005). After attending a very brief training, and with no ongoing supervision or coaching, the guidance and structure provided by the RoadMAP Toolkit™ demonstrated similar advantages in reducing post-training deterioration (mean $d = -0.24$), demonstrating the same type of enduring gains typically achieved with ongoing training. This finding is important given that the Toolkit was designed to require minimal counselor preparation time. Counselors delivered very consistent performance on a series of groups that were conducted approximately five to six months apart. In addition, it appears that minimal training on the use of the Toolkit and a single relapse prevention module adequately prepares counselors to implement other modules with their group clients.

We detected no improvements in counselor competence, which was in the adequate-to-average range at baseline. As previously discussed (Brooks et al., 2012), we have concluded that while very brief training on the use of a multimedia toolkit is sufficient to significantly improve the amount of evidence-based content a counselor covers in group, more intensive training and supervision may be needed to improve counselor competence. The fact that counselors demonstrated significantly improved content adherence with only three direct hours of training and with no direct training on the modules on which they were assessed (CwC and DRS) may indicate that the modeling components featured in the Toolkit video helped them to deliver RP groups featuring more evidence-based content and active coping skills practice.

4.1 Strengths and Limitations

While this study has several strengths, including being conducted in the context of community treatment groups facilitated by counselors with real world clients and featuring reliable direct observation of counselor performance, the study also has several limitations. Chiefly, this initial pilot study does not include a control group, without which it is impossible to separate the effects of the Toolkit from practice effects and the effects on counselor performance from being observed. Additionally, we used direct observation, putting a research assistant directly in the room with counselor and clients, which may have pressured the counselor to over-perform (although this pressure also would have occurred during the baseline period). Somewhat related to this, coding recorded sessions rather than live sessions is likely to have provided a more accurate picture of counselor behaviors both in terms of extent to which the skills were implemented and the quality of those skills. Our inability to identify differences in counselor competence over time may be due to an actual lack of change or to limitations associated with the group measure, as suggested by the relatively poor coder reliability estimates for the competence items. Finally, this study demonstrates the effects of an adapted EST on counselor adherence, but without clinical outcomes, which will be needed to demonstrate that the toolkit approach brings actual differential benefits to clients over and above treatment-as-usual.

4.2 Conclusions

The treatment research field has demonstrated that intensive workshop training followed by ongoing supervision is sufficient for improving counselor performance. However, this approach is costly and out of reach for the majority of clinical providers. Carroll and colleagues called for focusing on particular, standardized frontline treatments in which all counselors should be trained (Carroll & Rounsaville, 2007), but also calibrating intensive training efforts based on counselor aptitude and ability (Carroll et al., 2010). A curriculum-based approach may be one of the more efficient strategies for training large numbers of counselors to deliver a standardized EST. Our work with the RoadMAP Toolkit™ may indicate that careful attention to curriculum development and presentation strategy can efficiently improve counselor adherence to an EST, with minimal drift at a 6-month follow-up. Investment in curriculum-based approaches that can demonstrate fidelity with minimal training and are easy for local supervisors to maintain is critically needed.

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This research has resulted in marketable group counseling curriculum Toolkits owned by the Treatment Research Institute (TRI), a not-for-profit research organization. TRI intends to market these Toolkits. The developers of the Toolkits, and the authors of this report, have no financial interest in or ownership of these products. However, many authors are employed by TRI.

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Table 1
Holms Corrected Comparisons of Item-Level Adherence Values for Coping with Craving and Drug Refusal Skills Modules

	Pre-Toolkit Mean (SD)	Post-Toolkit Mean (SD)	t	p-value	d
<u>Coping w/ Craving Adherence</u>					
Elicit Client Experiences	2.81 (1.4)	3.69 (1.3)	1.60	0.130	0.65
Teach Cravings Normal, Predictable	2.19 (1.4)	2.88 (1.5)	1.74	0.102	0.48
Teach Craving Types	2.62 (1.5)	2.88 (1.5)	0.57	0.580	0.17
Teach Recognize Triggers	2.19 (1.2)	2.62 (1.6)	1.10	0.289	0.31
Teach Avoid Triggers	1.69 (1.1)	2.19 (1.2)	1.26	0.228	0.43
Identify Coping Strategies	1.50 (0.9)	2.19 (1.1)	2.20	0.044	0.70
Apply Play through the Tape*	2.00 (1.2)	4.00 (0.8)	6.08	<.001	2.00
Apply Seek Support**	2.12 (1.5)	3.75 (1.3)	4.33	0.001	1.16
Apply Distraction	2.94 (1.8)	3.88 (0.8)	2.08	0.055	0.94
Apply Coping Statement*	1.50 (0.8)	3.56 (1.4)	4.66	<.001	1.87
Apply Delay Using*	1.31 (0.8)	3.44 (0.9)	6.25	<.001	2.85
<u>Drug Refusal Skills Adherence</u>					
Identify Risky Situations	3.00 (1.5)	2.31 (1.5)	1.43	0.173	0.46
Avoid Risky Situations	1.94 (1.3)	1.69 (1.0)	0.50	0.621	0.22
Refusing takes Practice	1.69 (1.1)	1.62 (1.3)	0.14	0.894	0.06
Teach Refusal Styles*	1.62 (1.4)	4.12 (1.2)	6.46	<.001	1.92
Eye Contact/Polite*	1.81 (1.1)	3.50 (1.3)	4.66	<.001	1.41
Firm No/ "Shut the Door"	2.38 (1.4)	3.44 (1.3)	2.87	0.012	0.78
Leave/Suggest Alternatives	1.81 (1.2)	2.00 (0.9)	0.44	0.669	0.18
Hypothetical Risky Scenarios*	1.69 (1.4)	3.44 (1.1)	4.72	<.001	1.63
Outcomes of Assertive Communication	1.06 (0.3)	1.75 (0.9)	2.91	0.011	1.15
Role-Play	2.00 (1.3)	4.12 (1.8)	4.19	0.001	1.37

Note.

* indicates $p < .001$;

** indicates $p = .001$.

Table 2
Repeated Measures Analysis of Variance for Coping with Craving and Drug Refusal Skills Adherence and Competence

Description of Variable	Baseline N=19	Post-training N=17	6-Month Follow-up N=14	F	p-value
Coping with Craving					
Adherence	2.01 (0.73)	3.13 (0.64)	2.92 (0.53)	10.94	.002
Competence	3.72 (0.62)	3.83 (0.64)	3.77 (0.53)	.024	.977
Drug Refusal Skills					
Adherence	1.87 (0.61)	2.73 (0.60)	2.65 (0.62)	8.40	.005
Competence	3.54 (0.90)	3.75 (0.53)	3.89 (0.67)	1.70	.228

Note. This table presents baseline, post-training, and 6-month follow-up values for all counselors who allowed group observations at each of the three time points. Also presented are the Repeated Measures Analysis of Variance tests for all counselors who completed group observations at all three time points (N=14 for Coping with Craving Adherence and Competence and Drug Refusal Skill Adherence; N=13 for Drug Refusal Skill Competence).

Table 3
Adherence (F/E) and Competence (CM) for the Core Counseling Skills of Functional Analysis, Homework Assignment, and Homework Review Across Successive Toolkit Modules at Post-Training and 6-Month Follow-up

	Session				p-value
	1	2	3	4	
	My Addiction Pattern	Coping w/ Craving	Drug Refusal Skills	Managing Difficult Emotions	
Conduct Functional Analysis					
Post-Training	Frequency	100%	29%	29%	< .0001
	Mean F/E (SD)	5.36 (.842)	2.07 (1.82)	1.71 (1.27)	1.86 (1.56)
	Mean CM (SD)	3.86 (1.41)	3.50 (1.29)	3.75 (.957)	3.75 (2.22)
6-Month Follow-up	Frequency	86%	36%	29%	< .0001
	Mean F/E (SD)	4.43 (1.91)	1.93 (1.54)	1.71 (1.33)	1.43 (1.09)
	Mean CM (SD)	4.17 (1.75)	4.00 (1.00)	4.50 (1.29)	4.00 (.000)
Assign Homework					
Post-Training	Frequency	79%	86%	64%	.41
	Mean F/E (SD)	2.86 (1.23)	2.71 (.994)	2.57 (1.45)	2.79 (1.25)
	Mean CM (SD)	3.91 (1.3)	2.83 (.937)	2.78 (.972)	3.18 (1.17)
6-Month Follow-up	Frequency	57%	86%	57%	.0019
	Mean F/E (SD)	2.64 (1.60)	3.36 (1.28)	2.00 (1.18)	2.07 (1.39)
	Mean CM (SD)	4.38 (.518)	3.50 (.905)	3.13 (1.36)	3.17 (.408)
Review Homework					
Post-Training	Frequency	N/A	86%	64%	.0115
	Mean F/E (SD)	N/A	3.07 (1.39)	2.36 (1.28)	2.21 (1.53)
	Mean CM (SD)	N/A	3.08 (.900)	3.00 (.866)	3.71 (1.50)
6-Month Follow-up	Frequency	7.0%*	50%	71%	< .0001
	Mean F/E (SD)	1.07 (.267)	2.00 (1.24)	2.43 (1.16)	2.43 (1.40)
	Mean CM (SD)	2.00 (N/A)	3.29 (1.25)	3.60 (.843)	3.44 (1.13)

* This homework score of 7.0% represents one counselor out of 14 who was very active in using the Toolkit between the Post-Training and 6-Month Follow-up; this counselor had been regularly using the Scheduling homework assignment, and had assigned it in the session prior to Session 1 of the 6-Month Follow-up.