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AIDS Care. 2016 April ; 28(4): 537–542. doi:10.1080/09540121.2015.1112348.**Adolescents and parental caregivers as lay health advisers in a community-based risk reduction intervention for youth: baseline data from *Teach One, Reach One*****Tiarney D. Ritchwood^{a,g}, Gaurav Dave^b, Dana L. Carthron^c, Malika Roman Isler^d, Connie Blumenthal^e, Mysha Wynn^f, Adebowale Odulana^g, Feng-Chang Lin^h, Aletha Y. Akersⁱ, and Giselle Corbie-Smith^{b,e}**^aDepartment of Public Health Sciences, Medical University of South Carolina, Charleston, SC, USA^bNC TraCS Institute, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA^cSchool of Nursing, University of North Carolina at Greensboro, Greensboro, NC, USA^dOffice of Wellness, Wake Forest University, Winston-Salem, NC, USA^eDepartment of Social Medicine, Center for Health Equity Research (CHER), University of North Carolina at Chapel Hill, Chapel Hill, NC, USA^fProject Momentum, Inc, Rocky Mount, NC, USA^gDepartment of Pediatrics, Medical University of South Carolina, Charleston, SC, USA^hDepartment of Biostatistics, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC, USAⁱThe Craig Dalsimer Division of Adolescent Medicine, The Children's Hospital of Philadelphia, Philadelphia, PA, USA**Abstract**

The purpose of the current study is to describe the demographic, behavioral, and psychosocial characteristics of adolescent and caregiver lay health advisers (LHAs) participating in an intervention designed to reduce risk behaviors among rural African-American adolescents. *Teach One, Reach One* integrates constructs from the Theory of Planned Behavior and Social Cognitive Theory. It acknowledges that changing the sexual behaviors of African-American adolescents requires changing one's knowledge, attitudes, normative beliefs about the behavior of peers, and self-efficacy regarding adolescent sexual behavior, parent–teen communication about sex, and healthy dating relations among adolescents. Study participants completed baseline questionnaires assessing demographics and psychosocial determinants (knowledge, attitudes, perceived social norms, and self-efficacy) of sexual behaviors. Sixty-two adolescent and caregiver dyads participated. Caregivers included biological parents, legal guardians, or other parental figures. Strengths and areas in need of improvement were determined using median splits. Few adolescents had initiated sex. Their strengths included high levels of open parent–teen

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communication; positive attitudes and normative beliefs regarding both sex communication and healthy dating relationships; and high knowledge and self-efficacy for healthy dating behaviors. Areas needing improvement included low knowledge, unfavorable attitudes, poor normative beliefs, and low self-efficacy regarding condom use. Caregiver strengths included positive attitudes, normative beliefs, and self-efficacy for sex communication; positive attitudes and self-efficacy for condom use; and low acceptance of couple violence. Areas needing improvement included low levels of actual communication about sex and low knowledge about effective communication strategies and condom use. The current study highlights the value of assessing baseline characteristics of LHAs prior to intervention implementation, as it enables a better understanding of the key characteristics necessary for planning and implementing interventions, as well as engaging in targeted training activities.

Keywords

African-American; HIV prevention; youth; caregivers; lay health adviser

Introduction

African-American youth in the rural South have higher rates of HIV infection compared to their white and Hispanic peers (CDC, 2014). Though many interventions have been developed to reduce sexual risk behaviors among African-American adolescents (Brody et al., 2004; Maticka-Tyndale & Barnett, 2010), common critiques include their tendency to target only proximal factors (e.g., individual, peer, or partner factors) and their limited demonstrated impact (Johnson, Scott-Sheldon, Huedo-Medina, & Carey, 2011). One promising risk reduction approach is through the employment of lay health advisers (LHAs) (Ayala, Vaz, Earp, Elder, & Cherrington, 2010; Crosby, DiClemente, Charnigo, Snow, & Troutman, 2009; Maticka-Tyndale & Barnett, 2010; Viswanathan et al., 2010). LHAs are socially well-connected and well-respected individuals possessing unique expertise, knowledge, and skills that can be capitalized upon to facilitate individual and community-level health change.

In this study, we highlight the baseline characteristics of adolescent and caregiver LHAs trained to implement *Teach One, Reach One* (TORO). The current study is important for two reasons. First, it allows researchers to develop a better understanding of key characteristics necessary for planning and implementing interventions. This is especially important for LHA interventions, as a significant proportion of intervention effectiveness is dependent upon targeted LHA training that is only possible through initial assessment and characterization (Albritton et al., 2014). Second, a description of the base-line characteristics of LHAs increases the likelihood that others will be able to replicate the intervention by enabling comparisons across studies that could support necessary adaptations, thereby fostering dissemination and implementation efforts.

Methods

Intervention background and description

TORO was developed through Project GRACE (Growing, Reaching, Advocating for Change, and Empowerment), a community-based participatory research partnership in rural North Carolina (Corbie-Smith et al., 2010). Other published papers describe partnership development (Corbie-Smith et al., 2011), the content and structure of the intervention (Corbie-Smith et al., 2010), as well as the initial process evaluation (Albritton et al., 2014). In brief, the program used a LHA model, in which community members considered natural helpers are trained to share their new knowledge and skills with friends to achieve targeted improvements in behavioral determinants (e.g., attitudes, normative beliefs, and self-efficacy). This multigenerational intervention is guided by a composite conceptual framework (see Figure 1) that includes constructs from the theory of planned behavior (Ajzen, 1991) and social cognitive theory (Bandura, 1986).

Separate curricula were developed for adolescents and parental caregivers that were administered simultaneously. The adolescent curriculum focused on abstinence, condom use, and healthy dating relationships. The caregiver curriculum focused on parental monitoring, communication about sexual health, and healthy dating behaviors. Each session was led by two trained facilitators lasting approximately 90 minutes. LHA's were taught "advising skills" or strategies for engaging friends. Suggestions for engaging friends (e.g., informal face-to-face discussions, hosting informational parties, and developing their own outreach educational materials) were also provided, but LHAs were encouraged to identify and test their own strategies. More information about the intervention can be found at <http://www.torotraining.org/best-evidence-based-program/>.

Recruitment

LHAs were recruited using radio and newspaper announcements, and outreach to local community organizations, churches, and schools. Recruitment materials explained the study goal of reducing local HIV rates, described the intervention, eligibility criteria, and incentives. Recruiters evaluated LHA candidates using a checklist of qualifications (e.g., leadership, trustworthiness, comfort discussing sexual health, availability, and commitment) (Rhodes, Foley, Zometa, & Bloom, 2007).

Eligibility

To be eligible, caregivers and adolescents each had to voluntarily agree to be trained as a LHA and identify at least one friend they would teach following training. Eligible caregivers were over the age of and either the parent, legal guardian, or primary parental figure for the participating adolescent LHA. Eligible adolescents were 10–14 years of age. LHAs provided written informed consent and assent. The University of North Carolina at Chapel Hill's Institutional Review Board approved the study.

Data collection

Prior to the LHA training, participants completed base-line questionnaires using audio computer-assisted self-interviewing to assess key constructs (see Table 1). Measures were

assessed and adapted, where necessary, to ensure readability. Adolescent and caregiver LHAs received \$30 for completing the baseline survey.

Analysis

We calculated the means and standard deviations for all measures. We used a median split to identify LHA baseline strengths or areas needing improvement because some measures were developed de novo and lacked agreed upon or natural cut-off points. Characteristics were categorized as a strength if the frequency or score was at or above the median split, while areas needing improvement were defined as results below the median split. Data were analyzed using SAS© (2011).

Results

Sixty-two adolescent and caregiver dyads ($n = 124$ individuals) were trained as LHAs and participated in the intervention. While 50% of adolescent LHAs were male, only 12.9% of caregiver LHAs were male. Other socio-demographic data are summarized in Table 2.

Adolescent baseline characteristics

Strengths—Few adolescents reported ever having sex. Adolescent LHAs endorsed high levels of open communication with their caregiver, positive attitudes toward parent–teen communication about sex, positive normative beliefs about parent–teen communication about sex, positive normative beliefs about healthy teen dating relationships, high knowledge levels about healthy dating relationship skills, and high levels of self-efficacy for participating in healthy dating relationships (Table 3).

Areas needing improvement—Adolescent LHAs reported low knowledge, unfavorable attitudes, poor normative beliefs, and low self-efficacy regarding condom use (Table 4).

Caregiver baseline characteristics

Strengths—Caregiver LHAs endorsed high levels of open communication with their adolescent co-participant (Table 4). They also reported positive attitudes, normative beliefs, and self-efficacy regarding parent–teen communication about sex. They reported positive attitudes and high self-efficacy for condom use and low levels of acceptance of dating violence.

Areas needing improvement—Caregiver LHAs reported infrequent communication about general and sensitive sex topics with their adolescent co-participant; low knowledge of effective communication strategies; and low knowledge of condom use (Table 4).

Discussion

This study presents the baseline characteristics of adolescent and caregiver LHAs trained through TORO. Understanding LHAs' baseline characteristics highlights significant factors that may contribute to intervention success. Baseline characteristics, for example, can be used to identify areas to target when training LHAs to ensure that they have the necessary skills to maximize intervention effectiveness.

Our results indicated that adolescent and caregiver LHAs possessed key characteristics that could enable them to serve as positive role models for their peers. Adolescent LHAs, for example, held positive attitudes, normative beliefs, and self-efficacy for parent-teen communication about sex and healthy dating relationships. Similarly, caregiver LHAs reported positive attitudes, normative beliefs, and self-efficacy for communicating about sex; had positive attitudes toward and high self-efficacy for condom use; and reported low levels of acceptance of couple violence. These findings suggest that TORO recruited individuals with a high likelihood of facilitating positive behavioral change among members of their social network.

Regarding areas in need of improvement, we found that adolescent LHAs had low knowledge, unfavorable attitudes and normative beliefs about peer condom use, and low condom use self-efficacy, which would be expected given their young age and low rates of sexual activity. Similarly, caregiver LHAs reported low knowledge of condom use and effective communication strategies. Skill-building programs are critical to TORO implementation and success. Our findings provide an opportunity to integrate evidence-based communication strategies in trainings to maximize our results and intervention outcomes. Moreover, this characterization of LHAs provided confirmation that the TORO curricula addressed areas identified as needing improvement, including condom use knowledge and self-efficacy for adolescent LHAs and knowledge regarding effective communication strategies and condom use for caregiver LHAs.

There are several notable limitations of the current study. First, the majority of caregiver LHAs were female, reflecting the demographic characteristics of primary caregivers in this community. Nonetheless, this finding is significant and advocates for stronger efforts to engage male caregivers, as previous research has demonstrated that paternal absence increases youths' sexual risk (Mendle et al., 2009). Second, the use of a median split could be viewed as a limitation. While we acknowledge that median splits often result in relative comparisons that could limit generalizability, this was the most appropriate method for this study, as it allows us to identify LHA characteristics that are particularly applicable to the norms of this community.

Few published reports describe the baseline characteristics that are common among LHAs and believed essential for influencing outcomes in health behavior interventions (Booker, Robinson, Kay, Najera, & Stewart, 1997). This represents a critical omission given the presumption that the major mechanism by which LHA-based interventions function is through diffusion of health-related attitudes through networks. Characterizing LHAs allowed us to identify key strengths and areas needing improvement prior to intervention implementation. As noted in previous studies (e.g., Booker et al., 1997), such information can be helpful – as it was for TORO LHA trainers – for delivering tailored instruction during LHA training which maximizes LHA's potential impact (Albritton et al., 2014). Specifically, during LHA training for TORO, facilitators used real-time information about LHAs' attitudes, beliefs, and self-efficacy to inform training structure, and activity implementation and sequence (Albritton et al., 2014). This study highlights the importance of assessing the characteristics of LHAs during intervention planning and implementation.

Future research should examine the impact that initial assessment has on intervention outcomes.

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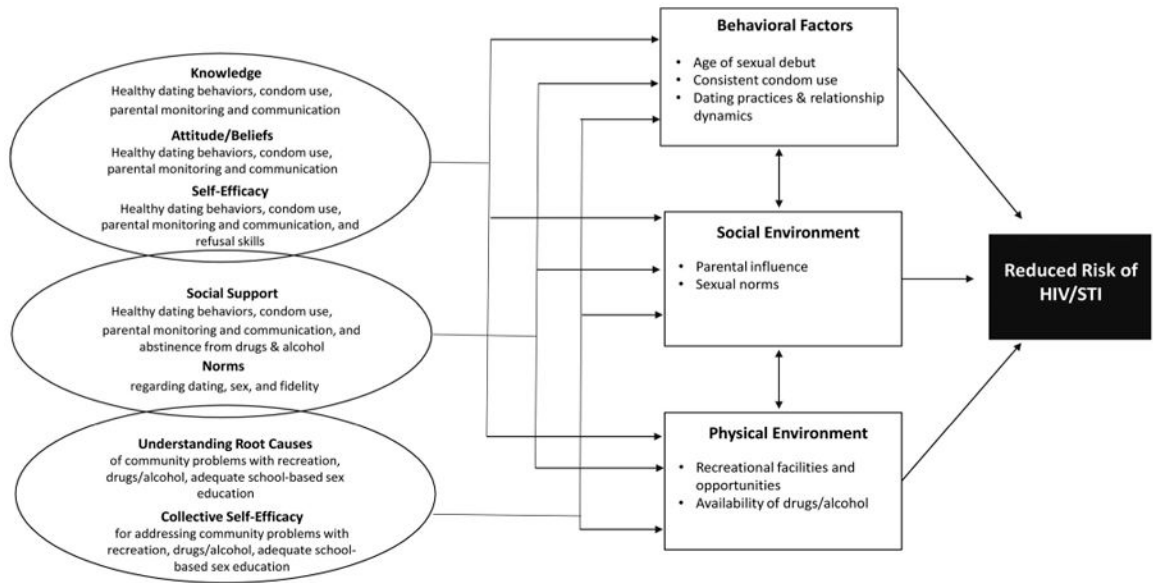


Figure 1.
Conceptual Framework for TORO.

Table 1

Measures of the primary behavioral outcomes and behavioral determinants.

	Adolescent LHAs			Caregiver LHAs		
	# items	Scoring range	α	# items	Scoring range	α
<i>Primary behavioral outcomes</i>						
Ever had sex (vaginal, anal, or oral)	1	0-1	—	—	—	—
Healthy dating behaviors	6	0-18	.78	—	—	Vernberg, Jacobs, and Hershberger (1999)
Victim of IPV	6	0-19	.77	—	—	—
Perpetrator of IPV	10	0-30	.88	10	0-30	.85 Barnes and Olson (1985)
Open parent-teen communication	—	—	—	10	0-30	.91 Sales et al. (2008); Somers and Canivez (2003)
Parental communication about	—	—	—	7	0-21	.91 Sales et al. (2008); Somers and Canivez (2003)
General sex topics	6	0-6	.46	6	0-6	.55 Coyle et al. (2006)
Sensitive sex topics	6	0-18	.72	—	—	Wingood, DiClemente, McCree, Harrington, and Davies (2001)
Parent-teen communication	—	—	—	4	0-4	.10 Coyle et al. (2006)
<i>Behavioral determinants</i>						
Knowledge of						
Condom use ^a	1	0-3	—	—	—	—
Positive attitude regarding condom use	5	0-15	.74	5	0-15	.69 Jemmott III, Jemmott, Fong, and McCaffree (1999)
Acceptance of couple violence	5	0-15	.80	6	0-18	.89 Foshee and Bauman (1992)
Parent-teen communication	3	0-12	.89	—	—	Coyle et al. (2006)
Normative beliefs	3	0-9	.65	—	—	Study team
Condom use	6	0-18	.86	6	0-18	.92 Study team
Healthy dating behaviors	8	0-24	.87	8	0-24	.84 Basen-Engquist, Masse, and Coyle (1998)
Parent-teen communication	4	0-12	.75	—	—	Study team
Self-efficacy	—	—	—	16	0-48	.93 DiIorio et al. (2001)

Note: LHA = lay health adviser; IPV = interpersonal violence.

Higher scores equals lower knowledge.

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Table 2

Demographic characteristics of LHA participants.

	Adolescent	Caregivers
Age (mean [SD])	12.61 [1.32]	39.8 [11.4]
Gender (% [n])		
Male	50.0 [58]	12.9 [16]
Female	50.0 [58]	87.1 [108]
Race (% [n])		
Black	96.5 [110]	90.3 [112]
Non-Black	3.5 [4]	9.7 [12]
Ethnicity (% [n])		
Hispanic/Latino	4.8 [5]	3.3 [4]
Non-Hispanic/Latino	95.2 [100]	96.8 [119]
Relation to adolescent (% [n])		
Biological parent	–	65.3 [81]
Relative	–	21.0 [26]
Unrelated	–	13.7 [17]
Education (% [n])		
5th grade or less	27.4 [32]	–
6th–8th grade	62.4 [73]	–
9th–12th grade	10.3 [12]	–
Some high or less	–	19.4 [24]
High school	–	31.5 [39]
Some college/technical school	–	32.3 [40]
College/higher	–	16.9 [21]
Yearly income (% [n])		
<\$10,000	–	57.4 [62]
\$10,000–29,999	–	25.9 [28]
\$30,000–49,999	–	13.0 [14]
\$50,000–69,999	–	2.8 [3]
\$70,000 or more	–	0.9 [1]

Note: Totals do not sum to the sample size because of missing data and rounding.

Table 3

Adolescent primary outcomes and intermediate behavioral determinants.

	LHAs <i>M</i> (<i>SD</i>)	Strength (<i>S</i>) or area needing improvement for behavioral determinants (<i>AI</i>) (%)
Primary behavioral outcomes		
Ever had sex (vaginal, anal, or oral)	0.13 (0.34)	–
Healthy dating behaviors		
Victim of IPV	2.04 (3.39)	–
Perpetrator of IPV	1.47 (2.54)	–
Open parent–teen communication	19.46 (6.09)	–
Intermediate behavioral determinants		
Knowledge of		
Condom use ^a	1.75 (1.29)	AI (63.9)
Parent–teen communication	–	–
Healthy dating behaviors	14.7 (3.41)	S (50.0)
Attitude toward		
Parent–teen communication	11.36 (2.55)	S (58.2)
Condoms (aversion)	0.79 (0.95)	AI (51.5)
Acceptance of couple violence	4.64 (3.39)	S (55.5)
Normative beliefs		
Parent–teen communication	9.38 (4.05)	S (57.7)
Condom use	4.82 (4.33)	AI (50.6)
Healthy dating behaviors	6.07 (2.14)	S (65.7)
Self-efficacy		
Condom use	15.00 (6.17)	AI (52.5)
Healthy dating behaviors	9.05 (2.50)	S (61.0)

Note: LHA = lay health adviser; IPV = interpersonal violence.

^aHigher scores equal lower knowledge.

Table 4

Caregiver primary outcomes and intermediate behavioral determinants.

	LHAs <i>M</i> (SD)	Strength (S) or area needing improvement for behavioral determinants (AI) (%)
Primary outcomes		
Parental communication about		
General sex topics	17.35 (8.45)	–
Sensitive sex topics	5.18 (5.23)	–
Open parent–teen communication	21.49 (4.39)	–
Intermediate behavioral determinants		
Knowledge of		
Parent–teen communication	0.82 (0.73)	AI (68.0)
Condom use ^a	4.44 (1.41)	AI (70.1)
Attitude toward		
Parent–teen communication	15.83 (3.01)	S (53.3)
Positive attitude toward condom use	11.95 (2.55)	S (56.8)
Acceptance of couple violence	1.14 (2.07)	S (64.6)
Normative beliefs		
Parent–teen communication	9.02 (4.16)	S (50.0)
Self-efficacy		
Parent–teen communications	39.79 (7.51)	S (52.7)
Condom use	21.33 (3.62)	S (52.1)

Note: LHA = lay health adviser.

^aHigher scores equal lower knowledge.