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The Adult Roles Models Program: Feasibility, Acceptability, and Initial Outcomes

Dr Lisa Colarossi, PHD,

PLANNED PARENTHOOD OF NEW YORK CITY, RESEARCH, 26 BLEECKER STREET, 6TH FLOOR, NY, 10012

Dr Ellen Johnson Silver, Ph.D.,

Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, 10461 United States

Ms Randa Dean,

Planned Parenthood of New York City, Education, 26 Bleecker Street, New York, 10012 United States

Ms Amanda Perez, and

Private consultant, New York, United States

Ms Angelic Rivera

Albert Einstein College of Medicine, Pediatrics, 1300 Morris Park Avenue, Bronx, 10461 United States

Lisa Colarossi: lisa.colarossi@ppnyc.org; Ellen Johnson Silver: ellen.silver@einstein.yu.edu; Randa Dean: randa.dean@ppnyc.org; Amanda Perez: amandaperezleder@gmail.com; Angelic Rivera: angelic.rivera@einstein.yu.edu

Abstract

We present the feasibility and acceptability of a parent sexuality education program led by peer educators in community settings. We also report the results of an outcome evaluation with 71 parents who were randomized to the intervention or a control group, and surveyed one month prior to and six months after the 4-week intervention. The program was highly feasible and acceptable to participants, and the curriculum was implemented with a high level of fidelity and facilitator quality. Pilot data show promising outcomes for increasing parental knowledge, communication, and monitoring of their adolescent children.

Keywords

sexuality; adolescents; parenting; intervention

The Bronx, New York has a higher incidence of unintended pregnancy and sexually transmitted infections than New York State and City, and is one of the poorest counties in the United States with 42.5% of its children living below the poverty line (see review by Guilamo-Ramos, Lee, & Husiak, 2011). Such disparities warrant the use of evidence-based models of sex education for youth as well as for caregivers who are an integral part of their

lives. While evidence-based models of youth sex education exist, parents have rarely received sex education interventions. However, the feasibility and acceptability of parent interventions may be problematic where there are barriers to attendance, cost, and interest. If programs are feasible and acceptable, we also need to know if they are effective.

Planned Parenthood of New York City (PPNYC) developed the Adult Role Models (ARM) program to provide peer-led sexuality education workshops to enhance parent-child communication, closeness, monitoring, and knowledge about sexual and reproductive health. Professional PPNYC education staff recruit, screen, and train community parents to become ARMs for other parents in the same or similar communities. Staff also organize and monitor the peer workshops conducted by the ARMs. We present descriptive implementation research on the feasibility, acceptability, and fidelity of the ARM program for parents or guardians of adolescents living in the Bronx. We also present results of an exploratory pilot randomized controlled study of parents attending ARM workshops compared to those who did not for differences in parent-child closeness, monitoring, communication, and knowledge.

Background Literature

Impact of Parents on Youth Sexual Behavior

Families provide many of the factors that protect adolescents from engaging in sexual risk behavior (Miller, Benson, & Galbraith, 2001; Parkes, Henderson, Wight, & Nixon, 2011; Perrino, Gonzalez-Soldevilla, Pantin, Szapocznik, 2000). Moreover, a majority of 12–19 year-olds said they shared parental values about sex and they also told researchers that parents were a more important influence on their decisions about sex than friends, teachers, sex educators, or the media (Albert, 2007). Thus, interventions that increase parents' abilities to influence sexual health among adolescents may be promising. Parenting characteristics and processes influencing adolescents include parent-child communication and closeness, monitoring/supervision, and the transmission of values and knowledge.

Parent-adolescent communication is well researched and considered a major factor in reducing both early sexual initiation and inconsistent condom use (Aspy, Vesely, Oman, Rodine, Marshall, Fluhr, & McLeroy, 2006; DiIorio, Kelly, & Hockenberry-Eaton, 1999; Hutchinson, Jemmott, Jemmott, Braverman, & Fong, 2003; Parkes, et al., 2011). Teen-parent communication has been associated with increased contraceptive use among girls and decreased likelihood that a boy will impregnate a girl (Pick & Palos, 1995). It is also associated with increased partner communication regarding STDs, condoms, and past sexual experiences (Hutchinson et al., 2003). Further, 13–17 year-olds are less likely to initiate sexual intercourse when parents set clear rules and talk about what is right and wrong about delaying sexual activity (Aspy et al., 2006). Yet, parents underestimate their influence on teens and admit they need help learning what to say and how to say it, and their adolescents agree (Albert, 2007). Moreover, attempts by parents to impart sexual information is often done in a style that denies the adolescents opportunities to discuss their own thoughts and feelings (Lagina, 2002).

Parents are the primary providers of the sexuality education of their children (Sugland, Leon, & Hudson, 2003), and therefore levels of parent knowledge can affect how much their communication influences safer sex behaviors (Fitzharris & Werner-Wilson, 2004). When parents express discomfort talking about sex, it may stem from lack knowledge of certain topics (Fitzharris & Werner-Wilson, 2004; Sigelman & Derenowski, 1993). In addition to the communicating knowledge, parent-child relationship quality is important to adolescent sexual decision making. For example, decreased risk behaviors are associated with teen reports of communicating with parents who they perceived as knowledgeable, trustworthy, and as giving good advice (Daddis & Randolph, 2010; Guilamo-Ramos, Jaccard, Dittus, & Bouris, 2006; Whitaker Miller, May, & Levin, 1999). Warmth, support, and connectedness in parent-teen relationships are positively correlated with decreased risk behaviors including early sexual initiation and low condom use (Dittus & Jaccard, 2000; Donenberg, Bryant, Emerson, Wilson, & Pasch, 2003).

Finally, parental monitoring is a measure of a parent's awareness of a child's whereabouts and activities. Monitoring has been shown to influence adolescent sexual behaviors such as condom use, number of sex partners, and rates of sexually transmitted infections (DiClemente et al., 2001; Huebner & Howell, 2003; Li, Feigelman, & Stanton, 2000; Wright, Williamson, & Henderson, 2006). However, parents may need to learn new developmentally and contextually appropriate techniques such as internet and electronic monitoring.

Despite this associational research on parenting and adolescent sexual health, few studies have tested curriculum-based parent interventions for: (1) their feasibility and acceptability to parents (i.e., whether they can and/or will attend a series of workshops and their approval of the content of those workshops), (2) the ability of peer educators to conduct a manualized curriculum with fidelity, or (3) their impact on positive parent outcomes. Further, the existing studies have used different training methods that are often minimally described and vary in terms of: peer versus professional parent educators, intervention duration, and the content of the interventions. Further, many evaluation outcome reports include impacts on youth over varying lengths of time, but not on the parents or guardians themselves. Additional research is needed to increase the overall knowledge base about parenting interventions to improve adolescent sexual health.

Parent Intervention Research

Parent sexuality education interventions have been reported in two ways: those conducted with parents only and those conducted in combination with youth sexuality education. One intervention with parents, not combined with a youth program, is the Parent Adolescent Training for HIV (PATH) prevention program (Krauss & Miller, 2012). PATH is a professionally led training for parents to increase communication with their children about HIV knowledge and sexual risks, and is associated with delay of first intercourse, increased condom use and HIV knowledge. Another model is the Parent-Peer Education (PPE) (Green & Documet, 2005) program, which is a single workshop conducted by parent peer educators. The PPE program was evaluated by comparing parents receiving PPE with a community sample who did not, with surveys before the intervention and four weeks later.

Results indicate PPE parents had greater comfort talking about sex, more communication with their children, perceptions of the value of talking, and use of guidebooks. A third model is the Parents Matter! Program (PMP) (Forehand, Armistead, Long, Wyckoff, Kotchick, Whittaker, 2007). In PMP, professionals train parents in groups for five weekly 2.5-hour sessions. An evaluation found increases in sexuality communication, comfort, and efficacy by parents; while their youth reported less sexual risk behaviors compared to a control group.

Evaluations of combined parent and teen interventions include the Parent-Adolescent Relationship Education (PARE) model (Lederman, Chan, Roberts-Gray, 2008). This manualized program is conducted in afterschool settings with parents and children in grades 6–8 participate together in training sessions. An evaluation comparing PARE to a control group, found increases parent-child communication, support, and knowledge, which resulted in greater intentions to postpone sexual initiation and avoid sexual risks. Also, the Keepin' it REAL! (DiIorio, Resnicow, McCarty, De, Dudley, Wang, 2006) evaluation compared interventions for mothers and their adolescents to a control group for delaying initiation of sexual intercourse and encouraging condom use among sexually active youth. No differences in abstinence rates or participation in sexual behaviors between the groups were found. However, youth in the intervention group greater reported condom use and intentions to use condoms than the controls. Further, mothers in the intervention had higher HIV knowledge and talked more about sexual subjects with their adolescents. Finally, using another approach, a parental monitoring intervention was added to a small group, risk reduction intervention for adolescents to determine if it could broaden or sustain changes in adolescent behavior (Stanton et al, 2004). The parent intervention was a 20-minute video emphasizing parental communication/supervision shown to parents in their home by a professional educator. The educator also provided a condom demonstration and facilitated role-playing of a standard vignette in which the parent learns about a child's sexual involvement. This program had been previously shown to increase parent-child communication and parent perceptions of monitoring; however, when it was used solely as a parent intervention, youth risk behavior was unchanged. When parent and youth programs were combined, youth reported lower rates of sexual intercourse and sex without a condom at six months than youths who only participated in the adolescent program. Differences were not maintained 12 months or 24 months later.

Most recently, two related rigorous studies compared a parent-only to a parent-teen combined intervention with a control group of no intervention. Guilamo-Ramos et al. (2011) reported a randomized controlled study of parents in the "Families Talking Together" (FTT) program designed for Latino and African-American youth. FTT was offered in health center settings by professional social workers who conducted 30-minute educational sessions for mothers who were waiting for their teens' school enrollment check-up. FTT also included written materials and booster educational phone calls at 1 and 5 months after the appointment. Phone surveys nine months later with youth showed significantly lower vaginal and oral sexual activity in the FTT group compared to the control group. No parental outcomes were reported for this study. In a related study, these researchers conducted a three-group randomized trial of (1) FTT only, (2) FTT combined with teen sexuality education, and (3) teen sexuality education only. There were no significant differences in

youth outcomes between the groups; suggesting that when teen sexuality education is not available, parent training alone will serve to enhance teen sexual health and vice-versa.

The Adult Role Model (ARM) Intervention

The ARM program is a curriculum-based intervention based on social learning and ecological systems theories (Bandura, 1989; Bronfenbrenner, 1979). Parent peer educators present new knowledge about sexual development, and provide role modeling and social support. We theorize that workshop participants (parents, guardians, and other adult caregivers) learn new knowledge and develop efficacy and parenting skills. Further, they receive support from other parents related to communication about sexuality, closeness with their children, and monitor adolescent behaviors. In ARMs workshops, parents are taught sexual development, health facts, and communication techniques, but are encouraged to make their own decisions about how and what to talk about with their adolescents based on their own values about dating, relationships, sexual activity, and health care.

Adult role models (ARMs) are parent educators recruited, trained, and monitored by PPNYC professional education staff. Parents are recruited through community organizations and by existing ARMs. They receive 75 hours of training in sexual and reproductive health education and facilitation skills, which takes place over 2–3 months. After completing the training, passing a written exam, and completing a successful field observation of their facilitation skills, parents serve as educators and role models for other parents living in similar New York City neighborhoods with higher than average unintended pregnancies, STIs and HIV among youth and adults. Two ARMs co-facilitate each workshop, and PPNYC professional education staff periodically monitor workshops for fidelity and facilitation quality. ARMs also meet regularly as a group led by professional staff to improve their skills, receive additional training and updates in the sexual and reproductive health field, and discuss their workshop experiences.

ARMs promote workshops to fellow parents in their own communities in places like churches, GED programs, community organizations, and schools. Workshops are then formally requested by a community member, arranged by PPNYC staff, and facilitated by ARMs. The ARM Program Manual is available from PPNYC. For this study, a series of four workshops at two hours each were scheduled once a week.

Workshop 1—“Talking to Your Children about the Facts of Life” is designed to help parents talk with their children about sexuality. It covers the definition of sexuality, how to answer tough questions, and how to use everyday opportunities to start conversations about sexuality.

Workshop 2—“Opening the Lines of Communication” helps parents to identify the sexuality messages they want to send to their children and the best way to communicate those messages.

Workshop 3—“Child Development and Sexuality” takes parents through the stages of child sexual and psychosocial development and explores how they can help their children to

become sexually healthy and responsible adults. Parents learn about normal, healthy, and risk-taking behaviors; about the “psychology of being a teenager”; gender role and identity development; and adolescent relationships.

Workshop 4—“It Takes More Than Talk” focuses on the importance of combining good parental communication with monitoring and other behaviors that support and enhance the bond between parent and teen. This workshop also addresses how parents can communicate about the role of technology plays in sexuality discussions.

Methods

Design and Procedures

We conducted a two-phase study of parents attending ARM workshops at PIRC in the Bronx, New York, which was part of a larger research project with adolescents and parents at the Preventive Intervention Research Center (PIRC) at Albert Einstein College of Medicine. The first phase was a qualitative study of acceptability and feasibility of the intervention. We collected qualitative data through advisory group discussions because this method would allow participants to receive wide range of opinions, attitudes, suggestions, and feelings about the intervention based on the lived experiences of the parents themselves (Strauss & Corbin, 2008). Alternately, surveying parents about the intervention would create narrow feedback based on the researcher’s specific hypotheses.

Parents participated in advisory groups before and after attending a series of ARM workshops. Twenty-six parents participated in pre-ARM intervention groups (two groups were held with 15 and 11 participants). These parents were then invited to participate in the 4-workshop ARM series over the course of a month (two separate series were held, one on a weeknight and one on a weekend, and parents could choose which day to attend) and asked to attend another advisory group afterward to give us their feedback; 22 of these parents agreed. A month after workshops ended, 17 parents returned to participate in the second advisory group discussions (two groups with 11 and 6 participants). Advisory groups were co-facilitated by researchers and PPNYC education staff, and lasted approximately 1.5 hours per group. Two additional research observers took notes on the discussion content and non-verbal behavior of the group. ARMs conducted all the workshops.

The second phase was a pilot randomized controlled trial (RCT) with a new group of parents to measure outcomes of parents attending the ARM workshop series (at two hours per week for four weeks) compared to parents assigned to a no intervention control group. A small, pilot RCT was conducted to test exploratory hypotheses and estimate effect sizes that we could not anticipate from prior research. This study can then serve as preliminary research for a larger RCT, where greater resources and planning would be necessary based on these findings. To do this, quantitative survey data would be collected to allow us to statistically test specific hypotheses and measure the difference between parents attending the ARM workshops and those who did not. Using standardized measures provides less breadth and depth of responses from participants, but allows for a standardized, consistent way of understanding differences between the groups. Further, by randomizing participants to groups, selection bias is minimized by decreasing differences that could make those in the

ARM group more amendable or susceptible to the intervention because they personally chose or selected to be there, as well as other biases that can occur (Shadish, Cook, & Campbell, 2002).

RCT participants were surveyed two months prior to the beginning of the intervention and six months later at PIRC using individualized Computer Assisted Personal Interviews (CAPI). Two separate ARM series of four workshops were conducted over the course of a month (one on a weeknight and on a weekend, and parents could choose which day to attend). All workshops were conducted by ARMs and were observed by a research staff person to record fidelity to the curriculum manual and quality of facilitation skills, as well as attendance and drop out. Additionally, at the end of the 4th workshop, we administered satisfaction surveys to the parents in the ARM group as an additional quantitative measure of acceptability.

Participants

All participants were the parents or guardians of a sexually active adolescent aged 14–17 years residing in the Bronx, NY who was participating in a separate sex education program as part of a larger research project at PIRC. Only one parent/guardian participated per household. All participants were English speaking with a reading comprehension level of 5th grade or higher as determined by the Wide Range Achievement Test (WRAT) before study enrollment.

Fidelity and acceptability participants—We identified potential participants for the advisory group and first intervention series using a wait list that consisted of adolescents who had completed a screening survey for another project and did not match the eligibility criteria, but had asked to be re-contacted for future projects. This list contained contact information for 60 teens who were 14–17 years of age, lived in the Bronx, spoke English, and reported they were sexually experienced (i.e., had prior vaginal, oral, or anal activity). We mailed invitation packets to the home, which requested parental participation in advisory discussion groups about parent-teen communication about sexual health, and afterward would include the opportunity for parents to attend a 4-session educational workshop series conducted by other parents if they so chose. Twenty-six parents (one male and 25 females) participated in pre-ARM intervention advisory groups, 22 of whom agreed to enroll in the 4-week ARM workshop series. Later, 17 of the ARM workshop intervention attendees returned to participate in a second advisory group to discuss their experience. Parents were paid \$30 and a round-trip subway/bus transit card (valued at \$4.50) and refreshments were also provided during the group discussions.

Randomized controlled trial participants—We recruited 204 families for a larger study of parent and teen sexual and reproductive health at PIRC. From this larger study, 80 parents or guardians were eligible for the ARM RCT, and 11% of these refused to participate. The reason given for refusal was mostly due to job-related time conflicts. The remaining 71 parents consented and were randomized to the ARM intervention (n=35) or the control group (n=36). Participants in the RCT were paid \$25 each time to complete baseline and six month surveys. Participants also received \$25 for each session of ARM they

attended plus a round-trip subway/bus transit card. Of the 71 enrollees, 58 completed the 6-month survey (82% overall retention in the study): 27 in the ARM group (77%) and 31 controls (86%). Of the 27 ARM workshop participants completing the study: 20 attended all four workshops, three attended 3 workshops, two attended 2 workshops, and two attended no workshops.

Measures and Data Collection

Qualitative measures—To assess acceptability and feasibility, we gave a semi-structured discussion guide plus visual handouts to the participants to present the ARM workshop purpose, curriculum content, materials, and workshop duration and guide feedback from participants. Participants gave feedback about whether they thought the content would be acceptable if presented in workshops, the need for and interest in participating in such workshops, and the feasibility of attending 2-hour workshops for four consecutive weeks. Participants were then invited to attend the workshops (the first discussion groups were not linked to a requirement to attend the workshops so we could measure interest in enrollment after hearing about the workshops). Participants then took part in an additional round advisory groups employing a similar discussion guide, and were asked about their actual experiences of participating in the ARM workshops, anything they would like to be different, and how they think participating affected them as parents.

Quantitative measures—Many standardized measures that were available in the public domain were used in the questionnaire. We created scales based on these measures, sometimes combining items across measures that were theoretically similar after analyzing factor and alpha reliability statistics.

We created a measure of parent-child closeness by mean scoring eight questions: five from the Add Health survey (Ream & Slavin-Williams, 2005) and three from Acquilino's (1999) relationship quality measure, which factored into a similar construct with an eigenvalue of 5.28 and had good internal reliability with our sample ($\alpha=.89$). Questions were answered on 5-point scales where 1=not at all close and 5=very close. Items included: "How close do you feel to your child?" "How much do you think your child cares about you?" "It is easy for me to laugh and have a good time with my child." And "Most of the your child is warm and loving towards you."

We created a measure of parental monitoring by mean scoring 13 questions about overseeing what a child does (8 items) and rule setting (5 items) (Stattin & Kerr, 2000). These were separate factor components, but highly related with very good internal reliability ($\alpha=.88$). Questions were answered on 5-point scales where 1=low monitoring to 5=high monitoring. Items included: "Do you know what your child does during his/her free time?" "Do you know which friends your child spends time with during their free time?" "Do your child need to have parental permission to stay out late on a weekday?" And "Before your child goes out on a Saturday night, do you require your child to tell you where he/she is going and with whom?"

We created a communication measure by mean scoring 15 questions (DiIorio, Kelley, & Hockenberry-Eaton, 1999) beginning with the stem: "In the last 6 months, have you talked

to your adolescent about ...” including topics such as dating, menstruation, erections, STDs, AIDS, pregnancy, and birth control methods. Answers were given on 5-point scales where 1=not at all to 5=a lot. Five additional items were added that were created by the authors because they are often discussed in the ARM workshops in relation to sexual risk. These included communication related to peer groups, community and dating violence, and alcohol use. The 20 items formed a factor with an eigenvalue of 12.92 and excellent internal reliability ($\alpha=.96$).

We measured knowledge about sexuality and adolescent development by summary scoring the number correct out of five factual questions, answered true or false, which were developed by PPNYC to measure factual content presented in the ARM curriculum. These questions included: “Masturbation is a normative part of teenage sexuality.” “Sexual feelings towards other people occur as early as preteen, pre-puberty years.” “Teens need guidance about how to take care of hygiene needs such as using deodorant, shaving, and menstrual care.” And “Infants between birth and 2-years explore their genitals as a normal part of development.”

Research observers completed fidelity forms by observing each session of the ARM intervention. The forms were structured quantitative instruments for rating each workshop’s content area as well as facilitation skills developed by PPNYC. On-time start and end were recorded. We measured fidelity by summary scoring the number of activities performed with adherence to the workshop script content and timetable out of 22 total activities across a 4-workshop series. We measured facilitation quality by mean scoring ratings of the facilitators on their: (1) ability to maintain ground rules among the participants, (2) quality of co-facilitation skills, and (3) inclusion of participants in workshop activities. Ratings were made on 3-point scales where 1=not completed or needing improvement, 2=satisfactory, and 3=excellent. Facilitator quality was rated for all 22 workshop activities.

We recorded attendance for all workshops in the qualitative and quantitative phases of the study. Additionally, we gave brief satisfaction surveys to parents at the end of the 4th workshop asking if: (1) they had more knowledge about communicating about sexuality with their adolescent, (2) they could use the information they learned with their adolescent, and (3) they thought the information in the workshop was important for parents to know. We rated each on a 5-point scale where 1=strongly disagree to 5=strongly agree.

Analyses

We used grounded theory to code categories and themes that emerged across the four group discussions, and distinguished between themes emerging in both pre- *and* post-ARM workshop intervention discussions versus those emerging only in the pre- *or* post-ARM workshop intervention discussion (Strauss & Corbin, 2008).

We conducted an intent-to-treat analysis with the RCT survey data, such that all participants assigned to the intervention group, regardless of dosage, were analyzed with the treatment group (Shadish, Cook, & Campbell, 2002). The analytic sample for the analyses is 58 who completed pre- and post-survey data. To determine if random assignment created group equivalence on demographic characteristics, we conducted multiple analyses of variance

(MANOVA) for linear variables of participant age, age of first sexual encounter, age of first pregnancy and first birth, number of children under 18 years living in the household, importance of religion and attendance of religious services. Chi-square analyses tested group differences in categorical characteristics of participant gender, race/ethnicity, being foreign born, educational level, religious affiliation, sex of children living in the home, and parents in the household. General linear models were analyzed to test within and between-subject differences over time for parent-child closeness, monitoring, communication, and sexual development knowledge, and the interaction between time and treatment group.

Fidelity was calculated as percent of activities performed with adherence to the scripted manual. Means and standard deviations were analyzed for ratings of facilitator quality. Percents of enrollment, attendance, and retention were calculated, as well as means and standard deviations of satisfaction survey responses, to analyze feasibility and acceptability of the intervention and to provide triangulation of the quantitative and qualitative data.

Results

Discussion Group Reports of Feasibility and Acceptability

Table 1 presents the categories and themes of the discussion groups before and after participation in the ARM workshop intervention. Before attending ARM workshops, 25 females and 1 male (across two groups) reviewed the purposes, curriculum, and materials of the ARM workshop and commented on whether they perceived or anticipated that these would be acceptable to parents in their communities and whether parents could feasibly attend the workshops (i.e., scheduling, time commitment, location). Interest in participating in the proposed intervention was high with 22 of the 26 parents (21 females and 1 male) in the initial group participants wanting to return a month later to attend the ARM series. After attending the workshops, 16 females and 1 male returned for the post-ARM intervention discussion group and related whether they found their actual experience to be acceptable and feasible. Five categories emerged from the pre- and post-discussion data: learning, emotional reactions, parent-child relationships, feasibility of attending the workshops, and acceptability of the curriculum.

In the learning category, four themes emerged in the pre-discussion and nine in the post-discussion. Pre-workshop themes were that parents would like to learn: (1) better communication skills for talking to teens about sex and answering questions effectively; (2) factual information about HIV, sexually transmitted infections, pregnancy, and alcohol and drug use related to sexual behavior; (3) how to have age-appropriate discussions with kids of different ages, and (4) to reinforce the sexuality education that their kids received in school or in afterschool programs (“if sex ed is good for teens, it’s good for parents to know too”). The post-ARM intervention group said that they had learned new information in the first three areas above (e.g., “how to handle tough conversations with teens” and “how to engage in conversations without arguing” and “how to compromise and negotiate with their teen” as part of monitoring activities). Additionally, they related learning new information about: (4) electronic access to sexual activity (via the internet and cell phone “sexting”) and (5) how to better monitor their teens’ behaviors (which they found to be “one of the most helpful things about the workshops”). Parents in the post-discussion also related that they wanted to learn

more in the future about: (6) replacing punishments and reprimands with promotion of positive behaviors, (7) dating violence and verbal abuse, (8) bridging generation and acculturation gaps (e.g., many parents were foreign born), and (9) electronic monitoring of computers and phones.

The emotional reactions of parents before the ARM workshops included five themes: anticipated fear of embarrassing their children by talking to them about sex, their own discomfort talking about sex, feeling overwhelmed by how to begin, and desiring social support from other parents, and wanting to be more involved in their teens' lives. After the ARM workshops, discussion group participants did not report fear, embarrassment, or discomfort. They did similarly emphasize the need for peer support and how much they enjoyed receiving support in the workshops. They also related that they enjoyed the ARMs as teachers "who were more knowledgeable [than themselves] but who were also parents sharing their experiences."

The pre-ARM intervention group said that they thought parenting workshops would create structured opportunities ("reasons") to talk to their children about sex in activities and homework assignments guided by the workshops. The after-ARM intervention group related that this was true and all parents reported that they were able to practice what they learned at home. Additionally, pre-ARM intervention parents said that the workshops would help parents talk about sex, which would in turn create closer relationships with children. Post-ARM intervention group parents did not mention closeness as a theme.

Overall, parents found the intervention to be highly acceptable and feasible for parents to attend if the workshops were scheduled in the evenings and on weekends. There was nothing in the curriculum content or written materials that was deemed unacceptable. Reminder phone calls and food and cash incentives were deemed very important motivators. Two-hour workshops once per week were considered "just right," even though many parents in the post-ARM discussion group wanted to learn more.

RCT Survey Results

Demographic characteristics—The randomization process achieved equivalence for all characteristics presented in Table 2 (i.e., no differences were found between ARM and control group participant demographics). The median age of study participants was 43 years (range = 28–72 years). The vast majority of participants identified as African-American or Latino. Of the Latinos, 67% identified as Puerto Rican, 21% as Dominican, and 12% other nationality. The majority of participants were foreign born, but all were English proficient. Education levels varied widely. The median number of children under the age of 18 living in the home was two (range = 1–4). Religiosity was measured by asking how often they attended religious services (1=once per week to 5=never) and how important they rate their religious beliefs (1=extremely important to 5 =not important). On average, participants said they attended services about once per month and that their religious beliefs were important to them. We thought religiosity might influence content acceptability, and in turn the attendance or effects of the intervention, we wanted to control for this construct by equalizing it across the study groups. The only significant difference between groups was

that 49% of participants were employed in the ARM intervention compared to 72% in the control group ($\chi^2(1) = 4.16, p=.04$).

Parenting outcomes—Table 3 presents results of general linear model analyses of the outcome variables over time and between treatment groups. Most noteworthy are the number of significant interactions between time and treatment group across the outcomes. Before and after the intervention, there were no significant differences between the intervention and control group on closeness and communication; however, there were significant interaction effects such that the ARM group increased in closeness and communication over the 6 months, while the control group decreased on both. Monitoring was the same between the groups before the intervention, but approach a significant difference 6 months later, again with a significant interaction where the ARM group increased monitoring while the control group decreased. For knowledge, there was no significant difference between the groups before the intervention (the ARM group scored 78% correct and the control group 73%), but 6 months later, the ARM group's knowledge score was significantly higher than the control group's (85% vs. 73%).

Fidelity to the curriculum—Out of eight workshops (two series of four workshops for separate groups of parents), 100% were started on time and 63% were ended on time (mainly due to more than expected discussion by parents during the workshops). Fidelity was high, with 97% of content presented with adherence to the curriculum script and time allotments across activities. The facilitation quality mean was 2.53 ($SD=.34$) indicating facilitators were satisfactory to excellent in maintaining ground rules and participation among the participants and in co-facilitating the workshops.

Acceptability via attendance and satisfaction surveys—Of the advisory group participants ($n=22$) and RCT participants ($n=27$) attending the ARM workshops, we found that 88% completed three or four workshops, while 12% completed two or less. Satisfaction surveys were given only to RCT participants at the end of Workshop 4, and 100% “strongly agreed” that: (1) they had more knowledge about communicating about sexuality with their adolescent, (2) they could use the information they learned with their teenager, and (3) the information in the workshop was important for parents to know.

Discussion

Parent sexuality education interventions are in the early stages of research, especially compared to the number of youth sexuality education interventions that have an evidence base. Yet, this and other research has shown promising results for parents and their children. Still, more research is needed to more fully specify what components of parent education might be most effective for which types of outcomes, and how to best engage parents in educational programs in terms of the acceptable length, content, and venue. Further, additional research is needed to explore the potential for parent education to have a broader reach within the community and over time, as parents may communicate sexuality information to other parents as well as youth for whom they serve as supportive adults, even if not their guardians. Such information sharing may be a part of community capacity building interventions, which are intended to be more sustainable than discrete educational

sessions with just youth themselves (Colarossi, Betancourt, Perez, Weidl, & Morales, 2013). Moreover, ancillary parent education may serve to enhance the effectiveness of evidenced-based youth sex education programs.

We present a study that adds to the literature about peer-led sexuality education for parents by describing the intervention, its feasibility and acceptability, fidelity to the curriculum manual, and outcomes from an exploratory randomized controlled trial. Given the existing research base, this educational model is an innovative approach that aims to increase positive parental influence on teen behavior by incorporating knowledge development with communication and monitoring skills, and to encourage overall family warmth and support.

The ARM program is curriculum-based and led by trained parent peer educators in community settings. The four-workshop weekly two-hour sessions were highly feasible and acceptable to the parents in our study, as evidenced by high attendance rates, satisfaction, and interest in the program. Descriptive qualitative and quantitative data revealed high levels of acceptability and feasibility for parent participants. Participants traveled near and far by public transportation within the Bronx to attend the groups. Many noted that our provision of food and cash incentives were helpful. Further, the curriculum was conducted with a high level of fidelity and facilitator quality.

Exploratory, small scale RCT data show promising parent outcomes for frequency of communication, monitoring, and connectedness with children, and increases in knowledge about sexuality and adolescent development. We look forward to comparing youth reports related to the ARM intervention, and conducting a larger-scale RCT in the future. Most analytic effects were interactions between group and time, such that as ARM intervention participants increased across outcomes, even if not as a significant main effect, control participants decreased. One explanation may be that the ARM intervention group parents practiced skills over time and thus experiencing more positive parent-child outcomes as their teens progressed through developmental stages that may have created more challenges for control group parents.

Methodological Strengths and Limitations

The two phase design allowed for the study of both intervention process and outcome. Many evaluation studies measure outcomes only. However, if an intervention has not been implemented with good retention (which can be affected by acceptability to and feasibility for participants), outcome findings have poor validity (i.e., may not really reflect the overall effectiveness of a program for broader populations). Moreover, if the intervention is not performed with fidelity to the curriculum, we cannot really know if the outcomes were truly linked to the curriculum or the idiosyncratic way it was implemented by different facilitators. Thus, this two phase design lays the foundational data to describe intervention implementation in detail first, and then describing the outcomes of an outcome design (Grembowski, 2001). There are limitations due to the exploratory, pilot nature of the RCT, the sample size was too small to analyze dosage effects, and statistical power was low for testing significance. Therefore, our generalizability is limited. Youth outcomes will be reported separately for this program, but all parents in the study had at least one child enrolled in a sexuality education program. This is not unusual for New York City, as many

adolescents are exposed to sexuality education in or after school. This does not pose a problem for the validity of our findings because this was true for both the intervention and control groups, but may not be generalizable in other locations. However, Guilamo-Ramos et al. (2011) suggest that parent training alone may have advantageous effects for youth with or without additional youth sexuality education. Sampling bias may be a larger limitation, as our parents were recruited through initial contact with adolescents. This may generate a sample of parents with more bias toward positive communication and connectedness to begin with since teens were willing to talk to their parents about the program and parents were willing to participate.

Conclusion

This research adds to the small, but growing, literature on the importance of parent sexuality education and its impact on adolescent sexual and reproductive health. We present a new curriculum model that is highly feasible and acceptable, and can be performed with fidelity. Results demonstrate promising parent outcomes for frequency of communication, monitoring, and connectedness with their children, and increases in knowledge about sexuality and adolescent development. A larger sample size is needed to further test these outcomes for parents, as well as information about associated youth outcomes. In addition, parent education programs such as the ARM program may contribute to broader community capacity building interventions, which could be explored with different methodologies.

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Table 1

Acceptability and Feasibility of ARM Workshops

Category	Pre-ARM Workshop Group Themes <i>Anticipated/imagined experience</i>		Post-ARM Workshop Group Themes <i>Actual experience after participating</i>	
Learning	1	How to communicate effectively with children about sex.	1	Communicating more effectively with children about sex.
	2	Facts about HIV, STIs, pregnancy, alcohol & drugs with sex.	2	Facts about HIV, STIs, pregnancy, alcohol & drugs with sex.
	3	How to talk to children of different ages/have age-appropriate discussions about sex.	3	How to talk to children of different ages/have age-appropriate discussions about sex.
	4	How to reinforce what their kids learn in sex ed classes.	4	Internet risks and lingo, but want to learn more about how to monitor the computer.
			5	Monitoring and supervision techniques.
			Would like to learn more about:	
			6	Replacing punishment and reprimanding with promotion of positive behaviors of their teen.
			7	Dating violence and verbal abuse between teens.
			8	Bridging generation and acculturation gaps between parent and kids.
			9	Electronic monitoring.
Emotional reactions	1	Fear of embarrassing their child by talking about sex.	1	Enjoyed the social support.
	2	Discomfort talking about sex.	2	Enjoyed learning from the ARMs.
	3	Overwhelmed by how to begin.		
	4	Need social support from other parents.		
	5	Desire to be more involved in their teens' lives.		
Parent-child relationship	1	Parent sexuality education classes would help create opportunities to talk to their kids.	1	Parent sexuality education classes did create opportunities to talk to their kids.
	2	Talking about sex will create a closer parent-child relationship.		
Feasibility (of attending ARM workshops)	1	4 weeks at 2 hours per week is feasible if scheduled on evenings and weekends.	1	4 weeks at 2 hours per week is feasible; longer sessions would also be feasible.
	2	Travel is feasible if location is accessible by bus or train.	2	Travel was feasible and location was accessible by bus or train.
	3	Parents need to receive multiple reminder mailings and calls about the workshops.	3	Weekly reminder calls were very important.
	4	Schedule at a location where their teens are (afterschool programs, community centers).	4	All parents said they had practiced what they learned in the sessions at home.
			5	Food and incentives were key motivators.
Acceptability (of ARM workshop curriculum)	1	Nobody thought that any of the curriculum content or materials were problematic/unacceptable.	1	Nobody found any part of their experience in the workshops problematic/unacceptable.
	2	Concerned about privacy.	2	Besides wanting to learn more, everyone agreed all of the workshop content was useful.

Category	Pre-ARM Workshop Group Themes <i>Anticipated/imagined experience</i>	Post-ARM Workshop Group Themes <i>Actual experience after participating</i>
		3 No privacy concerns, parents liked sharing their personal experiences.

Table 2

Demographic Characteristics by Group

Characteristic	ARM Intervention <i>M (SD)</i>	Control Group <i>M (SD)</i>
Age	42.03 (6.05)	44.25 (8.58)
Number of children < 18 years in household	1.80 (.90)	1.89 (.98)
Attend religious services	3.29 (1.38)	2.83 (1.30)
Importance of religious beliefs	2.31 (.93)	2.08 (1.03)
	<i>n (%)</i>	<i>n (%)</i>
Gender		
Female	32 (91.4)	32 (99.9)
Male	3 (8.6)	4 (11.1)
Race/ethnicity		
African-American	14 (40.0)	22 (61.1)
Latino	20 (57.1)	13 (36.1)
White	1 (2.9)	1 (2.8)
Foreign born	27 (77.1)	26 (72.2)
Education		
Less than high school	7 (20.0)	5 (19.9)
High school diploma or GED	14 (40.0)	9 (25.0)
Some college	12 (34.3)	14 (38.9)
College graduate	2 (5.7)	8 (22.2)
Religious affiliation		
Catholic	16 (45.7)	12 (33.3)
Protestant	9 (25.7)	15 (41.7)
Other	3 (8.6)	3 (8.3)
No religion	20 (20.0)	6 (16.7)
Sex of children living in the home		
Male only	17 (48.6)	12 (33.3)
Female only	12 (34.3)	9 (25.0)
Both male and female children	6 (17.1)	15 (41.7)
Parents in household		
Both biological parents	7 (20.0)	6 (16.7)
Mother/female guardian only	18 (51.4)	25 (69.4)
Mother + unrelated adult male	7 (20.0)	5 (13.9)
Other	3 (8.6)	0

Note. Intervention group n=35; control group n=36. MANOVA and chi-square analyses showed no significant differences in any of these characteristics. Percentages are within treatment group.

Table 3

Descriptive and General Linear Model Analyses of Time, Group, and the Interaction

Outcome	Baseline		6 months		Time by group interaction		6-month difference between groups	
	ARM M (SD)	Control M (SD)	ARM M (SD)	Control M (SD)	F (p)	t (p)		
Closeness	3.74 (.88)	4.04 (.85)	3.87 (.70)	3.79 (.88)	4.35 (.04)		n.s.	
Monitoring	3.02 (.57)	3.04 (.60)	3.16 (.46)	2.88 (.74)	5.30 (.02)		1.70 (.09)	
Communication	3.42 (1.17)	3.57 (.80)	3.45 (1.14)	3.10 (.84)	4.52 (.04)		n.s.	
Knowledge	3.89 (.93)	3.64 (1.20)	4.26 (.76)	3.64 (1.20)	n.s.		2.29 (.03)	

Notes. Not significant= n.s. Knowledge is number correct out of 5 possible. At baseline, there were no significant differences between the groups on any outcome.