The Impact of a Sexual and Reproductive Health Intervention for American Indian Adolescents on Predictors of Condom Use Intention

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ABSTRACT

Purpose: American Indian (AI) adolescents experience inequalities in sexual health, in particular, early sexual initiation. Condom use intention is an established predictor of condom use and is an important construct for evaluating interventions among adolescents who are not yet sexually active. This analysis evaluated the impact of Respecting the Circle of Life (RCL), a sexual and reproductive health intervention for AI adolescents, on predictors of condom use intention.

Methods: We utilized a cluster randomized controlled trial design to evaluate RCL among 267 AIs ages 13–19. We examined baseline psychosocial and theoretical variables associated with condom use intention. Generalized estimating equation regression models determined which baseline variables predictive of condom use intention were impacted.

Results: Mean sample age was 15.1 years (standard deviation 1.7) and 56% were female; 22% had initiated sex. A larger proportion of RCL versus control participants had condom use intention post intervention (relative risk [RR] = 1.39, p = .008), especially younger (ages 13–15; RR = 1.42, p = .007) and sexually inexperienced adolescents (RR = 1.44, p = .01); these differences attenuated at additional follow-up. Baseline predictors of condom use intention included being sexually experienced, having condom use self-efficacy, as well as response efficacy and severity (both theoretical constructs). Of these, the RCL intervention significantly impacted condom use self-efficacy and response efficacy.

Conclusions: Results demonstrate RCL intervention efficacy impacting variables predictive of condom use intention at baseline, with greater differences among younger, sexually inexperienced adolescents. To sustain intervention impact, future RCL implementation should reinforce education and training in condom use self-efficacy and response efficacy and recruit younger, sexually inexperienced AI adolescents.

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Despite profound diversity in health behaviors and contextual factors impacting health across urban and reservation-based communities, American Indians (AIs) experience inequalities in sexual health. In 2011, AIs had the second highest Chlamydia and Gonorrhea rates and third highest primary and secondary syphilis rates in the United States [1]. While the U.S. American
Indian/Alaska Native (AI/AN) HIV diagnosis rate is less than U.S.-
all-races (2.8 vs. 5.2/100,000), 4 Indian Health Service areas, have
higher rates of 5.6, 6.6, 6.8, and 25.7/100,000, respectively [2].
Furthermore, AIs have the poorest 3-year survival rates following
an HIV diagnosis compared with all other U.S. groups [2].
AI adolescents and young adults are particularly burdened by
poor sexual health. In 2011, AI/AN females ages 15–24 reported
the highest age-specific Chlamydia rates compared with all other
U.S. females [1]. Additionally, the majority of Chlamydia cases in
Indian Health Service areas (68.6%) were among those ages
13–24 [2]. In 2011, the AI/AN Gonorrhea rate of 115.7/100,000
increased 7.7% from 2010, with the highest rate occurring among
13- to 24-year-olds (238.9/100,000) [2].

Among adolescents, early sexual initiation predicts future
sexual risk taking [3,4]. Youth who initiate sex at younger than 14
years are more likely to have sex more often, multiple partners,
and sex without a condom [5]. It follows that adolescents and
young adults who acquire sexually transmitted infections (STIs)
more often report initiating sex at a young age [4]. National data
show that AI/youth are more likely to initiate sex before age 13 than
all other groups, with the exception of black/African-American
youth [6].

Given AI/AN youth are more likely to initiate sex before age
13, it is not surprising that in 2012, AI/AN females ages 15–19 had
the third highest teen birth rate in the United States (35/1,000 vs.
29.1/1,000 nationally) and, in 2010, had the highest prevalence of
repeat teen births [7]. Nearly half (41%) of AI females begin
childbearing in adolescence and within their lifetime bear twice
as many children as the general U.S. population [7]. Compared
with all U.S. groups, AI adolescents are more likely to have ever
had sex (69% vs. 47%); had sex with four or more persons during
their lifetime (22% vs. 15%); and drank alcohol or used drugs prior
to sex (32% vs. 22%) [8]. Taken together, these sexual health
disparities underscore the need for interventions targeting
young AI adolescents, prior to sexual initiation.

Several tribal-academic partnerships are developing and
evaluating sexual health interventions for AI adolescents and
young adults [9–14]. Evaluating sexual health interventions with
adolescents poses challenges when participants are young and/
or have not initiated sexual intercourse and behavioral outcomes
of interest may not occur during data collection (i.e., condom
use). As an alternative, condom use intention or the perceived
likelihood of engaging in condom use, has been utilized [15,16].

Theoretically, condom use intention is an established pre-
dictor of condom use behavior [15,17–23]. Yet, to our knowledge,
no published evaluations of a sexual health intervention imple-
mented with AI adolescents have explored intervention impact
on baseline variables predictive of condom use intention,
including psychosocial and intervention theoretical constructs.
This paper presents results from a secondary analysis of
the evaluation of Respecting the Circle of Life (RCL): Mind, Body
and Spirit, a culturally adapted sexual health and HIV risk-reduction
intervention for AI adolescents [9,10]. RCL was evaluated
through a randomized controlled trial with AI adolescents and
demonstrated promising intervention impacts, which have been
described in detail elsewhere [9,10]. (Note: information about
the tribal-academic partnership and the participatory process
shaping the RCL intervention and evaluation design are
described in the aforementioned citations).

RCL is grounded in protection motivation theory (PMT), which
posits that protection from a threat such as HIV is based on two
pathways: threat appraisal and coping appraisal [9,18]. With
regard to condom use intention and actual condom use, PMT
suggests that youth’s perceived severity of HIV and likelihood
that sex without a condom will result in contracting HIV, is
balanced with the internal and external rewards of having sex
without a condom. Similarly, youth’s perceived ability to use a
condom and belief that using a condom will prevent HIV, is
balanced with the costs of using a condom. Reflecting these PMT
constructs, the RCL intervention aims to increase condom use
intention by providing knowledge and skills to increase youth’s
ability and motivation to use condoms and decrease desire to
have sex without a condom.

Several evaluations of sexual health interventions rooted in
PMT have been conducted with diverse adolescent samples. A
meta-analysis found the constructs comprising the coping
(protective) appraisal pathway to be greater predictors of
behavioral intent outcomes than those of the threat (risk)
appraisal pathway [24]. For example, among Bahamian youth,
self-efficacy and response efficacy were related to intention to
initiate sex, while response efficacy and subjective norms
explained 22% of the variance in condom use intention among
South African youth [25,26]. Though the constructs of PMT and
predictors of condom use intention have been studied with other
adolescent populations, there is a dearth of similar analyses in
the AI/AN adolescent health literature.

Current study

We analyzed data from the sample of AI youth (ages 13–19)
who participated in the evaluation of RCL [9,10]. In the primary
analysis, RCL intervention participants were more likely than
control participants to have condom use intention immediately
post intervention. That analysis did not explore differences by
age group or sexual experience and intervention impact on
condom use intention attenuated by 6- and 12-months follow-up
[10]. The majority of participants were sexually inexperience,
thus exploring RCL intervention impact on condom use intention
is important for strengthening the RCL intervention to sustain
long-term impact.

Our goals for this secondary analysis were to: (1) examine
intervention impact on condom use intention by age group and
sexual experience; (2) identify baseline psychosocial and PMT
(theoretical) predictors of condom use intention; (3) assess RCL
intervention impact on these baseline predictors; and (4) inform
future RCL implementation and dissemination efforts. We
hypothesized that post intervention, a larger proportion of
younger and sexually inexperienced participants receiving the
RCL program would have higher condom use intention than
participants in the control group.

Methods

Participants

Participants were 267 self-identified AIs ages 13–19 who
participated in the evaluation of RCL [9,10]. We used a non-
probability sampling frame and recruited through local schools
and at public events in the participating tribal community.
Trained paraprofessionals from the community described the
purpose, general design, and enrollment criteria to potential
participants. For those interested, written informed consent
(if ≥ 18 years old) or assent/parental permission (if <18 years
old) was completed. The study was approved by relevant tribal
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