



- The Impact of the READY-Girls Preconception Counseling Program Among Female Adolescents with T1D on Reproductive Health, Risky Behaviors, Birth Control Use, and STI Prevention
- AADE17



Jennifer Thurheimer-Cacciotti
PhD, MEd, RN
Assistant Professor
University of Pittsburgh
Johnstown, PA

AADE17

- Disclosure to Participants**
- Notice of Requirements For Successful Completion
 - Please refer to learning goals and objectives
 - Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours
 - Conflict of Interest (COI) and Financial Relationship Disclosures:
 - Presenter: XX, PharmD, CDE – Speaker's Bureau: XYZ Pharmaceuticals; Advisory Board: ABC, Inc
 - Presenter: XX, MS, RD – No COI/Financial Relationship to disclose
 - Non-Endorsement of Products:
 - Accredited status does not imply endorsement by AADE, ANCC, ACPE or CDR of any commercial products displayed in conjunction with this educational activity
 - Off-Label Use:
 - Participants will be notified by speakers to any product used for a purpose other than for which it was approved by the Food and Drug Administration.
- AADE17

- Background**
- Uncontrolled diabetes causes reproductive complications
 - 75% women with diabetes have unplanned pregnancies
 - 39% of teenage girls with diabetes we studied had an episode of unprotected sex
 - Sexual debut was 15.6 years and unaware of complications
- AADE17

- Preconception Counseling (PC)**
- Education for women of reproductive age about family planning and planning a healthy pregnancy
- AADE17

Diabetes Specific PC

- Special care and advice for women with diabetes to provide education on the importance of planning pregnancies and controlling blood sugars to decrease risks for reproductive health complications
- ADA (2014) recommends beginning PC at puberty prior to sexual debut

AADE17

PC Goals

- Reproductive complications can be reduced from 9% to 2% through PC
- Educate and counsel about DM and pregnancy
- Achieve and maintain excellent glucose control before and throughout pregnancy
- Identify, evaluate and treat before pregnancy
 - Complications of diabetes
 - Risk factors for adverse maternal and fetal outcomes

AADE17

3 Phases of a PC Program

- Phase 1: “Awareness Counseling (anyone anytime “not ready”)
- Phase 2: “Overview” PC (> 6 months “getting ready”)
- Phase 3: “In-Depth PC (< 6 months “getting and being ready”)

(Jones, 1995)

AADE17

READY-Girls

- Reproductive-health Education and Awareness of Diabetes in Youth for Girls
- A theory and evidenced-based PC program developed as a DVD and book that targets teens with diabetes
- Phase 1 “Awareness PC”

AADE17

“Awareness Counseling”

- Information about:
 - Diabetes and pregnancy/risk of complications
 - Importance of tight metabolic control before conception
 - Importance of planning a pregnancy with PC
 - How to prevent and unplanned pregnancy
 - Family planning advice

AADE17



AADE17

Funding

- American Diabetes Association
-Clinical Research Awards
(CR-2684232, 7-02-CR-06)

AADE17

READY-Girls (RG) Studies

- ADA 1999
– RG RCT 1
- ADA 2002
– RG RCT 2

AADE17

Background

- Risky behaviors (substance use & unsafe sex) can interfere with diabetes management
- Females with chronic illness are less likely to use birth control
- Diabetes increases the risk of reproductive health complications
- These complications may be compounded with undiagnosed STIs
 - PID, infertility, ectopic pregnancy, cervical cancer

AADE17

Background

- Everyday in the U.S., 12,000 adolescents contract a sexually transmitted infection
- The highest prevalence is between 15-24 year olds
- Females are 4x more likely to contract an STI than to have an unplanned pregnancy
- 40% of unplanned pregnancies are in females under 20 years

AADE17

Purpose

- To examine the impact of READY-Girls in adolescence (13-20 years) on risk-taking behavior, condom use, and STI prevention among adolescent females with T1D to adolescent females who received standard care.

AADE17

Design and Methods

- Secondary analysis using pooled data from adolescent RG-RCT1 & RG-RCT-2
- Measures for all the variables from the RG-RCTs were condensed in a single questionnaire

AADE17

READY-Girls (RG-I) and Control (RG-C)

Characteristic	Pooled Sample (N=136)	RG-I (n=76)	RG-C (n=60)	Test Statistic	p
M ± SD (min-max)				t	
Age (13-20)	16.9 ± 1.5	16.8 ± 1.5	17.1 ± 1.5	-1.41	.162
Age of sexual debut (14-16)	15.4 ± 1.4	15.5 ± 1.5	15.4 ± 1.5	-.204	.840
Age of 1 st date (16-17) n(%)	14.4 ± 1.4	14.5 ± 1.3	14.1 ± 1.4	-1.21	.193
Race					.448
White	108 (79.4)	62 (82.1)	45 (77.6)		
African American	7 (5.1)	3 (4.2)	4 (6.9)		
Other	16 (11.3)	7 (9.7)	9 (15.5)		
Religion					.255
Catholic	56 (41.2)	35 (47.3)	21 (35.0)		
Protestant	28 (20.6)	14 (18.9)	14 (23.3)		
Other/none	51 (37.5)	25 (33.8)	9 (15.5)		
Income					.351
≤\$20000	7 (5.1)	3 (8.1)	4 (17.3)		
≥\$20000	53 (39.0)	34 (91.9)	19 (82.6)		
Education Level					.076
≥High school	101 (74.2)	53 (78.7)	48 (85.7)		
>High school	25 (18.4)	17 (24.3)	8 (14.3)		

AADE17

Risk-taking behaviors, BC use, STIs READY-Girls (RG-I) and Control (RG-C)

Behavior/Outcome	RG-I (n=16)	RG-C (n=20)	p
Substance Use (N=136)			
"Ever" smoked cigarettes	20 (26.3)	17 (28.3)	.490
"Ever" used alcohol	32 (42.1)	22 (40.7)	.298
"Ever" used illicit drugs	11 (14.5)	13 (21.7)	.203
Sexual Behavior			
"Ever" had sex (N=136)	16 (21.3)	20 (33.3)	.085
"Ever" unprotected sex	11 (68.7)	12 (60.0)	.425
>1 sex partner	13 (81.3)	12 (60.0)	.156
Most Frequent Birth Control Methods)			
Condoms	12 (75.0)	14 (70.0)	.519
Oral contraceptives	10 (62.5)	6 (37.5)	.451
Withdrawal	0	5 (25.0)	.041**
Diagnosed with an STI	2 (12.5)	1 (5.0)	.415

AADE17

Risk-taking behaviors, BC use, STIs READY-Girls (RG-I) and Control (RG-C)

Behavior/Outcome	RG-I (n=16)	RG-C (n=20)	p
Substance Use (N=136)			
"Ever" smoked cigarettes	20 (26.3)	17 (28.3)	.490
"Ever" used alcohol	32 (42.1)	22 (40.7)	.298
"Ever" used illicit drugs	11 (14.5)	13 (21.7)	.203
Sexual Behavior			
"Ever" had sex (N=136)	16 (21.3)	20 (33.3)	.085
"Ever" unprotected sex	11 (68.7)	12 (60.0)	.425
>1 sex partner	13 (81.3)	12 (60.0)	.156
Most Frequent Birth Control Methods)			
Condoms	12 (75.0)	14 (70.0)	.519
Oral contraceptives	10 (62.5)	6 (37.5)	.451
Withdrawal	0	5 (25.0)	.041**
Diagnosed with an STI	2 (12.5)	1 (5.0)	.415

AADE17

Comparison of Groups, Time, Group*Time

Behavior/Outcome	Estimated Proportions				p
	RG-I	RG-C	RG-I	RG-C	
Time Group					
Voluntarily had sex	0.21 ± 0.047	0.33 ± 0.061	0.33 ± 0.057	0.40 ± 0.066	.179
Currently sexually active	0.11 ± 0.035	0.20 ± 0.052	0.19 ± 0.049	0.23 ± 0.060	.022*
>1 sex partner	0.17 ± 0.043	0.20 ± 0.052	0.14 ± 0.041	0.17 ± 0.053	.058*
"Ever" unprotected sex	0.14 ± 0.040	0.20 ± 0.052	0.20 ± 0.048	0.22 ± 0.058	.260
"Ever" used condoms	0.18 ± 0.044	0.32 ± 0.060	0.28 ± 0.054	0.34 ± 0.065	.054
"Ever" smoked cigarettes	0.26 ± 0.051	0.28 ± 0.058	0.25 ± 0.051	0.21 ± 0.055	.565
"Ever" used alcohol	0.42 ± 0.057	0.37 ± 0.062	0.41 ± 0.060	0.38 ± 0.069	.179
"Ever" used illicit drugs	0.14 ± 0.040	0.22 ± 0.053	0.17 ± 0.045	0.18 ± 0.052	.853
"Ever" diagnosed with STI	0.03 ± 0.018	0.02 ± 0.017	0.04 ± 0.024	0.04 ± 0.026	.024*

AADE17

Conclusions

- Sexual activity did increase over time
- As the subjects became sexually active, condoms use also increased
- Oral contraceptives, condoms and withdrawal were the most frequent BC methods
- Small n of STIs to find statistical significance

AADE17

Conclusions (cont.)

- But because READY-Girls focuses on DM and PC, and not general risky behaviors or STI prevention, it is important to include this additional information for your patients

AADE17

Important Take-Aways

- Programs like READY-Girls is effective, inexpensive, clinic-based, educational, self-instructional PC program for teens with diabetes
- These programs could potentially decrease complications and future health costs
- Prior to sexual activity during routine clinic visits, health care professionals should introduce ALL women with diabetes to the "Awareness" Phase of PC

AADE17

Co-Authors

*Denise Charron-Prochownik,
Dorothy Becker, Susan Sereika,
Patricia Schmitt, Sarah Engle,
Sandra Founds, Julie Downs &
A.B. Powell*

AADE17