

# Temporal Trends and Determinants of Adolescent Reproductive Health in Rural Guatemala 2019-2023

Katharine MH Jones<sup>1</sup>, Emma H Greenberg<sup>1</sup>, Claire Bradley<sup>2,3</sup>, Melissa S Fineman<sup>2</sup>, Nimsy Ramos<sup>3</sup>, Aracaely Perez<sup>3</sup>, Carolina Lucas<sup>3</sup>, Claudia Luna-Asturias<sup>2,4</sup>, Edwin J Asturias<sup>2,4</sup>

<sup>1</sup> University of Colorado School of Medicine, Aurora, CO, USA <sup>2</sup> Center for Global Health, Colorado School of Public Health, Aurora, CO, USA <sup>3</sup> Fundación para la Salud Integral de los Guatemaltecos, Retalhuleu, Guatemala <sup>4</sup> Department of Pediatrics, University of Colorado School of Medicine, Aurora, CO

## Introduction

- Sexual and reproductive health during adolescence impact the physical health, emotional wellbeing, and economic prospects of adolescents.<sup>1,2</sup>
- In 2015, the first Global School-based Student Health Survey (GSHS) conducted in the rural SW Trifinio region of Guatemala revealed reproductive health as a key intervention area.<sup>3</sup>
- A second survey in 2019 provided additional data on reproductive health behaviors and possible associated factors.
- Since, multiple factors have influenced adolescent health in the region that have not been evaluated.<sup>4</sup>



## Objective

To evaluate changes in adolescent reproductive health behaviors between 2019 and 2023 using the results of the GSHS to aid in optimization of the ongoing Big Decisions sexual education program.

## Methods and Materials

- Adolescents ages 12-18 attending schools in rural Guatemala were surveyed with cross-sectional adapted GSHS in 2019 and 2023.
- Analysis of the two GSHS conducted in 2019 and 2023 was performed in R programming software to determine prevalence and association of reproductive health behaviors and trends between 2019 and 2023.



## Results

- Overall, 1410 students completed the survey in 2019 and 1260 in 2023.
- In 2019, 14.6% of respondents indicated they had initiated sexual relations (SR) compared to 12.1% in 2023 ( $p = 0.073$ ).
- Adolescents planning to use contraception increased from 44.4% to 50.3% ( $p = 0.003$ ). (Figure 1)
- No significant changes were found in the percentage that initiated SR before age 16 (10.9% in 2019, 13.6% 2023,  $p = 0.115$ ) nor those planning to have SR in the coming year (25.4% in 2019, 25.9% in 2023,  $p = 0.912$ ). (Figure 1)
- Big Decisions more than doubled its penetration (299 students vs. 658 students,  $p < 0.001$ ). (Figure 1)
- No significant differences between years were found in number of sexual partners, use of alcohol/drugs, use of birth control at initiation of SR, or use of birth control in most recent SR.

Trends in reproductive health behaviors and education from 2019 to 2023

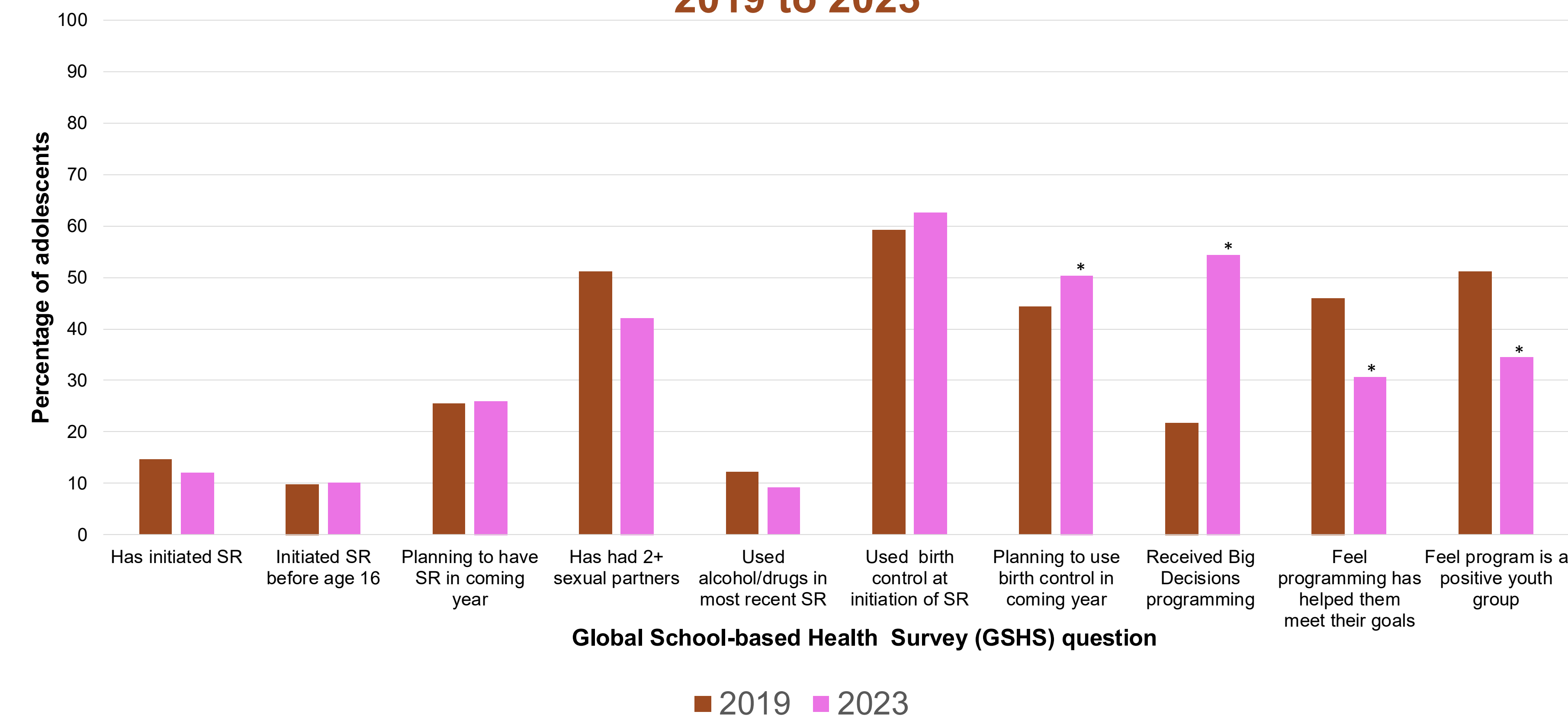


Figure 1. Percentage of adolescents reporting certain sexual health behaviors and participation in the Big Decisions health education program through their responses to GSHS survey questions comparing results from 2019 and 2023. Asterisk(\*) indicates statistically significant difference between years.

Adolescents reported increased participation in the Big Decisions sexual education program and increased intention to use contraception in 2023 compared with 2019.

Table 1. Demographics of Guatemalan Adolescents 2019-2023

Demographics	2019		2023		
Total surveyed	1410		1260		
Number of schools	15		12		
Age	Mean (SD)	14.3 (1.97)	14.4 (1.47)		
	Median (IQR)	14 (3)	14 (2)		
	No response	0	1		
		n	%	n	%
Gender	Male	688	48.8	555	44.0
	Female	659	46.7	589	46.7
	No response	63	4.5	116	9.2
Grade	Mean (SD)	7.2 (1.40)	7.6 (1.11)		
	Grades 4-6	338	26.6	174	14.0
	Grades 7-9	932	73.4	1072	86.0

Table 2: Sexual health behaviors and the Big Decisions education program 2019-2023

Sexual health behaviors and Big Decisions education program	2019		2023		p (chi-squared)
	n	%	n	%	
<b>Initiation of sexual relations (SR)</b>					
Has initiated SR	205	14.6	135	12.1	0.073
Initiated SR before age 16	119	9.8	101	10.2	0.809
Report planning to have SR in coming year	340	25.4	320	25.9	0.789
<b>Risk taking behaviors (includes only those that have initiated SR)</b>					
Has had 2+ sexual partners	89	51.1	51	42.1	0.160
Use of alcohol/drugs during most recent SR	23	12.3	11	9.2	0.505
Used birth control (BC) at initiation of SR	121	64.7	70	58.8	0.360
Used birth control most recently	113	59.2	77	62.6	0.624
Report planning to use BC in coming year	612	44.4	615	50.3	0.003
<b>Sexual health education program</b>					
Report receiving Big Decisions programming	299	21.8	658	54.3	< .001
Feel programming has helped them meet their goals	104	46.0	159	30.6	< .001
Feel program is a positive youth group	120	51.1	174	34.5	< .001

## Conclusion

- The rate of adolescents reporting early sexual initiation is low in the Trifinio region (10.2% in 2023) compared with the rest of the world (14.2%) and the Americas region (18.4%).<sup>5</sup>
- More adolescents reported intending to use birth control in future sexual relations in 2023 than previously, possibly due increased student participation in the Big Decisions program.
- Sexual education programs serve as protective factors for adolescent reproductive health in rural Guatemala.



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## Acknowledgements

- We thank Chase Fulkerson, Jenae Stutzman, and Louisa Landolt, the Big Decisions student leaders, Dr. Wendy Ramirez and Krislin Escobar for their assistance with survey implementation.
- We thank FUNSALUD for the support and commitment to the improvement of health of school-age children in rural Guatemala.

Contact Katharine Jones  
Katharine.jones@cuanschutz.edu  
720-633-1200

