

Natalia Gómez¹, Diana Castro¹, Sandra Patiño¹, Mauricio Lozano¹, Javier Mignone² and Carlos Rojas¹

1 Universidad de Antioquia, Colombia. 2 University of Manitoba, Canada

Email: vih.indigenas@gmail.com - <http://vihindigenas.wix.com/saludsexual>

1. Introduction

In Colombia, since 1983 there have been **95,187 cases of HIV**. The latest HIV general prevalence estimation for the country for the population between 15 and 49 years of age was 0.5% in 2012.

The epidemic is concentrated in high-risk populations, such as men who have sex with men, with a growing involvement of women (Figure 1).

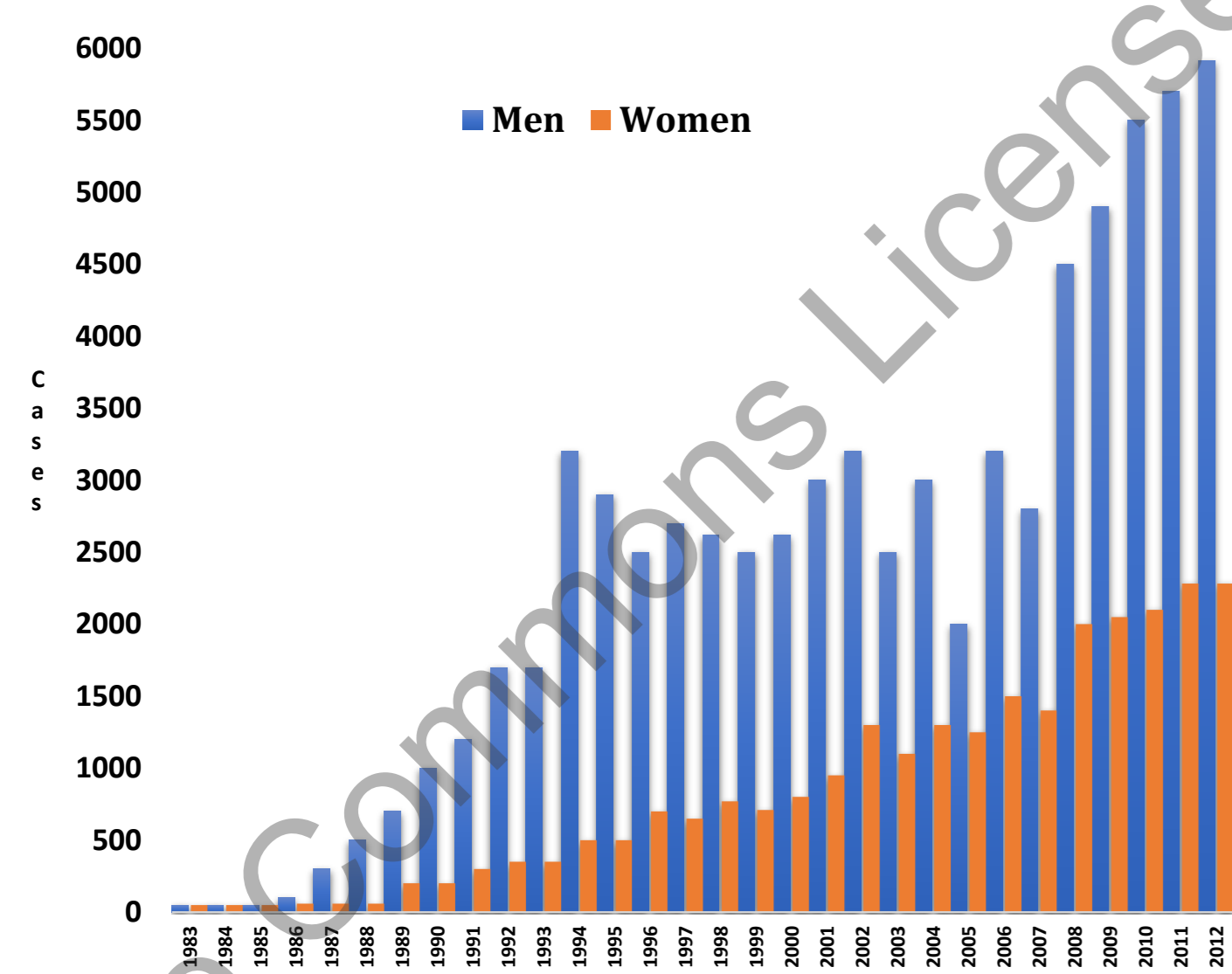


Figure 1. Annual reported cases of HIV in Colombia by gender, period 1983-2012

However, little is known in Colombia about HIV amongst indigenous peoples, despite having an indigenous population of 1.4 million (3.4% of the country's population).

In 2012 we started a research-action project for the prevention of HIV among indigenous communities of Maicao, La Guajira, in partnership with Anas Wayuu indigenous EPS, an indigenous health insurance company, and other health delivery organizations (IPS) that provide services to the local population.

La Guajira is a hot dryland inhabited by the indigenous Wayuu people, whose territory covers the border region between Colombia and Venezuela (Figure 2).

Maicao has an indigenous population of approximately 59,400, representing close to 40% of the total population (51% women and 49% men).

Spanish is the official language. However, among the indigenous population many individuals speak only Wayunaiki, the Wayuu language.

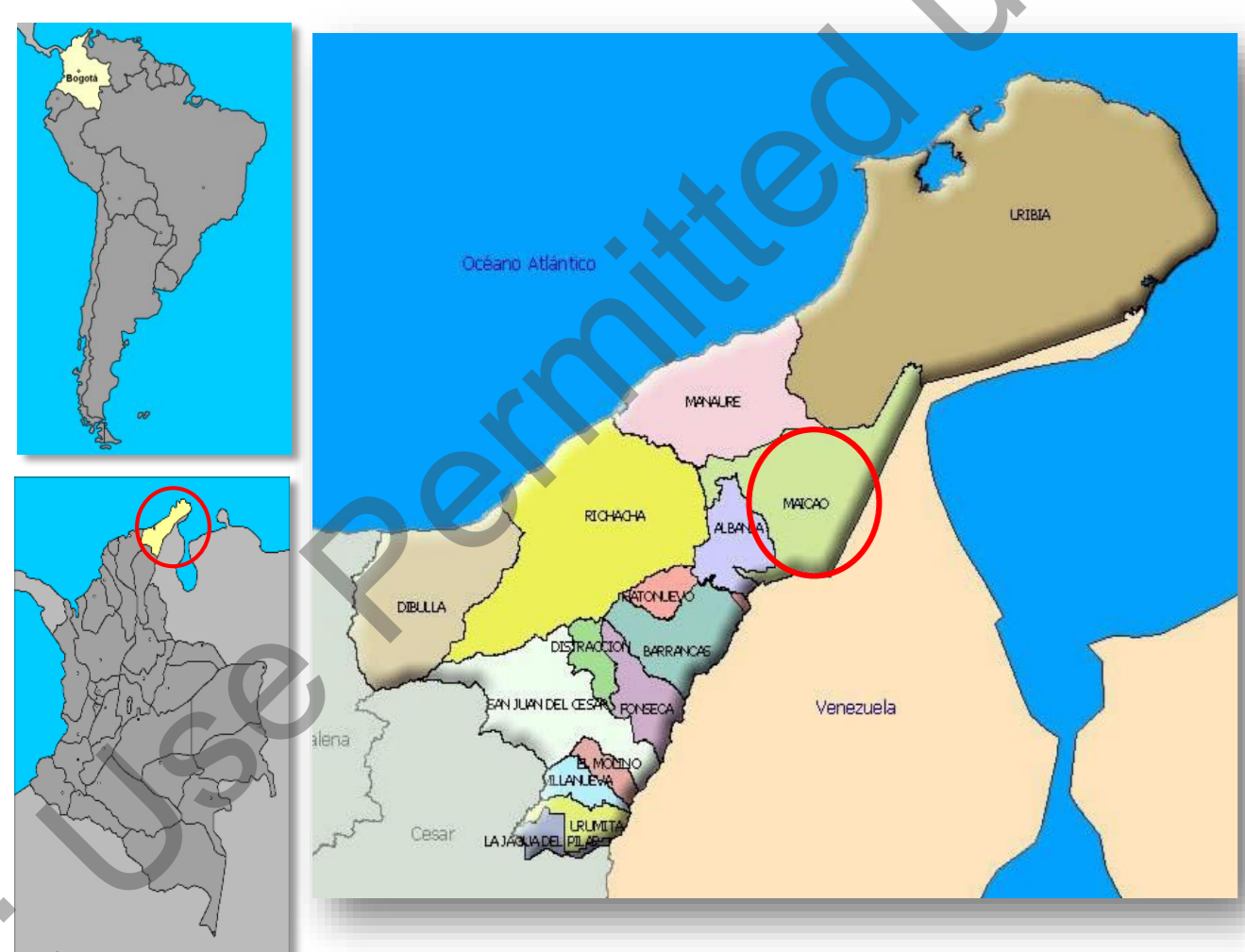


Figure 2. Study area. Maicao, La Guajira, Colombia, close to the border with Venezuela.

The results of the baseline survey conducted in these communities in 2012 -before starting the intervention- are presented: **highlighting the differences between men and women.**

Contact Information

Carlos Rojas
Programa de Investigación en Prevención de VIH con Comunidades
Universidad de Antioquia
Medellín, Colombia
Web page: vihindigenas.wix.com/saludsexual
Email: vih.indigenas@gmail.com

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2. Materials and Methods

Between July and October 2012 a survey was carried out among indigenous people older than 15 years of age in 55 indigenous communities that were part of the study.

HIV and Syphilis rapid tests (Determine®) with counselling before and after the test were conducted. Positive results were confirmed with Western Blot for HIV and VDRL/FTA-ABS for Syphilis and patients were referred for treatment to Anas Wayuu (Picture 1).



Picture 1. Wayuu auxiliary nurses, trained by our team, doing HIV rapid test

A validated questionnaire (including socio-demographic, unsafe sexual behaviours, knowledge of HIV, stigma and discrimination items) was administered to the study participants by bilingual interviewers, after receiving their signed informed consent (Picture 2).



Picture 2. Bilingual Wayuu interviewers collecting data at the study communities

HIV Knowledge

A variable named "Adequate Knowledge Score" was constructed with a score range of 0 a 15. Low score (0 to 7), medium score (8 to 11) and high score (12 to 15).

- To evaluate significant score differences among men and women, we used the U Mann Whitney statistical test. Crude OR were calculated between a score of adequate knowledge (score equal or higher than 12) and gender, the same as with other variables.
- A multivariate analysis. Dependent variable: adequate knowledge. Independent variable: gender, adjusting for other variables identified in the literature.

Unsafe sexual behaviours

Indicator variable regular **use of condom**.

- Association between this variable and gender by crude OR, as well as other variables.
- Multivariate analysis. Dependent variable: use or non-use of condom. Independent variable: gender, adjusting for potential confounding variables.

The data was analysed using **STATA 13** and the study was approved by the Research Ethics Board of the Universidad de Antioquia and by the indigenous authorities of the region.

3. Results

- A total of 905 indigenous people were surveyed, with a median age of 37 years (15-104 years) and a proportion of women of 65.7%.
- In comparison with men, a smaller proportion of women understand Spanish, and a larger proportion are or have been married.
- Women are mostly dedicated to producing crafts and to domestic work, while men are dedicated to activities outside the home, such as agriculture and pastoral activities.
- There were no differences across genders in terms of age and years in school (Table 1).

- A proportion of people with 0.55% positive HIV tests and Syphilis 0.66% were found.

- In general the proportion of positive cases for HIV was 3 times more for men than for women. For Syphilis there were no gender differences (Table 2).

Characteristics	Men		Women		p value*
	N°	%	N°	%	
Age					
15 to 17 years	45	14	57	10	0.069
18 to 24 years	52	17	110	18	
25 to 49 years	130	42	286	48	
50 years and older	83	27	142	24	
Marital status					
Single	135	44	111	18	0.000*
Married – Common law	171	55	388	65	
Widow	0	0	36	6	
Separated	4	1	60	11	
Some level of schooling					
Yes	118	38	199	33	0.167
Understands Spanish					
Yes	230	74	383	64	0.003*
Crosses the Colombian-Venezuelan border one or more times per year					
Yes	119	38	157	26	0.000*
Main occupation					
Crafts	10	3	223	38	0.000*
Agriculture and livestock	165	53	23	4	
Domestic work	5	2	126	21	
Students	44	14	43	7	
Teachers	4	1	44	7	

*Statistical test Chi Square for difference in proportions. Statistically significant at 5%

Table 1. Distribution of women and men on socio-demographic variables.

Rapid test	Men (n= 310)		Woman (n= 595)		Total (n= 905)	
	N°	% CI 95%	N°	% CI 95%	N°	% CI 95%
HIV	3	0.96 0.20 – 2.80	2	0.33 0.08 – 2.31	5	0.55 0.180 – 1.285
Syphilis	2	0.64 0.08 – 2.31	4	0.67 0.18 – 1.71	6	0.66 0.079 – 1.247

Table 2. Frequency of HIV and Syphilis by gender

HIV Knowledge

The median score for adequate knowledge for women was lower than for men, 8 and 9 respectively (p=0.000). Despite this significant difference, men and women were classified as having "medium" knowledge. 17% of the women had a score of "0" compared to 5.5% among men (Figure 3).

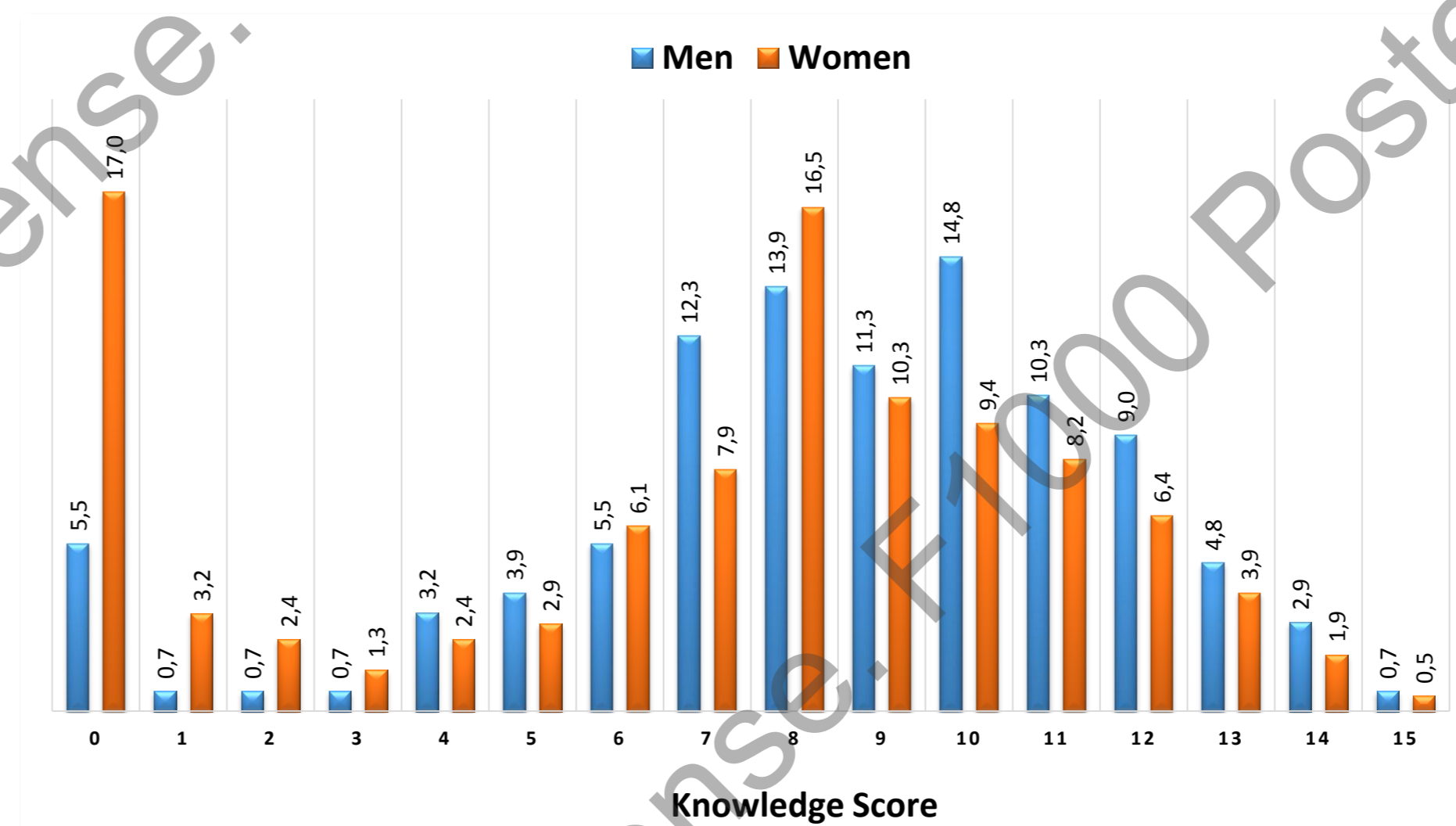


Figure 3. Distribution of Adequate Knowledge Score by gender

The difference between men and women were maintained when comparing levels of knowledge, with 43% of women at low level, compared to 32% of men (p value=0.004).

Aside from gender, other socio-demographic characteristics were associated with higher knowledge about HIV. Given that some of these variables were associated with gender, we calculated adjusted measures of association using logistic regression (Table 4). After adjustment, the variables resulting in high level of knowledge were **gender, level of schooling, having received information about HIV, and having had an HIV test some time in their life.**

Characteristics	OR*	CI 95%	OR**	CI 95%
Gender				
Men	1.46	1.01 - 2.13	1.57	1.03 - 2.40
Age				
18 to 24 years	1.54	0.78 - 3.06	1.43	0.70 - 2.94
25 to 49 years	1.27	0.68 - 2.37	1.90	0.95 - 3.81
50 years and more	0.38	0.17 - 0.85	1.28	0.52 - 3.15
Some level of schooling	5.82	3.87 - 8.77	4.38	2.68 - 7.15
Understands Spanish	4.21	2.41 - 7.47	1.67	0.87 - 3.17
Has received information on HIV	2.52	1.55 - 4.08	1.66	0.98 - 2.82
Works outside the community	1.66	0.99 - 2.80	1.00	0.56 - 1.78
Has had an HIV test	3.92	2.35 - 6.56	2.1	1.17 - 3.73

Table 3. Crude and adjusted (logistic regression) associations between gender, other socio-demographic variables and high level of adequate knowledge.

The opportunity to have higher knowledge was 1.6 times among men in comparison to women, and 4 times among people that have some level of schooling compared to those who not. Furthermore, having received information about HIV anywhere also increased the possibility of higher scores in knowledge.

Unsafe sexual behaviours

Sexual Health	Men		Women		p value*
	N°	%	N°	%	
Started sexual relations	252	81.5	531	89.5	0.000
Sexual relations with non-indigenous people	83	33.1	55	11.4	0.000
Never used condom before	188	75.0	448	88.9	0.000
Used a condom in last sexual relation	17	6.8	20	3.7	0.004
Has had an HIV test some time in life	16	5.2	59	9.9	0.014
Has had some sexually transmitted infection	12	3.9	17	2.9	0.018

*Chi Square statistical test for difference in proportions. Statistically significant at 5%. Not all participants responded to all questions

Table 4. Non-safe sexual behaviours

25% of men and 11% women reported having used a condom some time in life, being this difference significant (p<0.05).

Adjusted measures of association were calculated using logistic regression (Table 5).

The variables that were associated with the use of condom were **gender, some level of schooling, having received information about HIV, having had a HIV test some time in life, and having high level of knowledge about HIV.**

Characteristics	OR*	CI 95%	OR**	CI 95%
Gender				
Men	2.68	1.80 - 3.99	3.74	2.31 - 6.07
Age				
18 to 24 years	1.83	0.64 - 5.20	1.94	0.61 - 6.13
25 to 49 years	0.91	0.33 - 2.50	1.16	0.38 - 3.55
50 years and more	0.17	0.05 - 0.59	0.42	0.11 - 1.59
Some level of schooling	6.25	4.09 - 9.55	2.46	1.46 - 4.15
Understands Spanish	6.31	3.32 - 11.98	1.99	0.96 - 4.10
Has received information on HIV	6.93	3.32 - 14.5	4.75	2.17 - 10.41
Works outside the community	2.27	1.28 - 4.02	0.99	0.51 - 1.93
Has had an HIV test	3.85	2.29 - 6.46	2.33	1.26 - 4.31
High level of knowledge	3.87	2.46 - 6.11	1.77	1.03 - 3.03

*OR for condom use **Adjusted OR by variables included in the table. Pseudo R²: 0.2478 - Prob > chi2 = 0.0000

Table 5. Crude and adjusted (logistic regression) associations between gender, other socio-demographic variables and condom use.

The opportunity to use a condom was 3.7 times among men compared to women, and 2.5 times among people with some level of schooling. In relation to knowledge scores, the opportunity to use a condom was more among people with high scores and almost 5 times the opportunity in people that have received information about HIV.

4. Conclusion

- The prevalence of HIV infection among men and women in the indigenous communities that participated in the study was below 1%, equal to the national prevalence for Colombia.
- There were low levels of knowledge among the general population, but with differences across genders. Similarly in relation to risk behavior related to condom use.
- Having higher level of knowledge about HIV was associated with the presence of safer sexual behaviors such as condom use.
- The difference in knowledge between men and women may be linked to gender relations within the Wayuu culture.
- These results suggest that different interventions are required for women and men.

5. Future Prospective

- It is expected that the levels of knowledge among indigenous people from the 55 communities will improve after the educational initiatives that are part of phase II of the project.
- It is expected that this analysis will assist in future socio-educational initiatives that are responsive to cultural and gender characteristics.