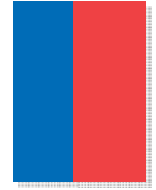




IMPACT ASSESSMENT OF EDUCATIONAL INTERVENTION ON ADOLESCENTS IN THE PREVENTION OF CERVICAL CANCER

Patricio R Bertoglia MD,MPH,FACOG
HCHM UCSC UBB ULL 2011
CHILLAN - CHILE





THE TROUBLE.....

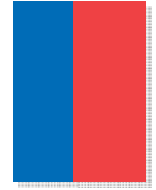
The World Health Organization (WHO) estimates that each year 466,000 new cases are diagnosed from cervical cancer and 231,000 women die from this disease.

80% of these women are from developing countries.

In Latin America and the Caribbean , more than 300.000 women die from this cause.

OMS. Preparación de la introducción de las vacunas contra el VPH. Orientaciones normativas y programáticas para los países. 2006
Muñoz N. Human papiloma virus and cancer the epidemeological evidence. J Clin Virol. 2005; 19: 15- 21.



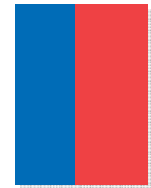


In Chile, cervix cancer is a public health issue; **2 women die each day from cervical cancer**

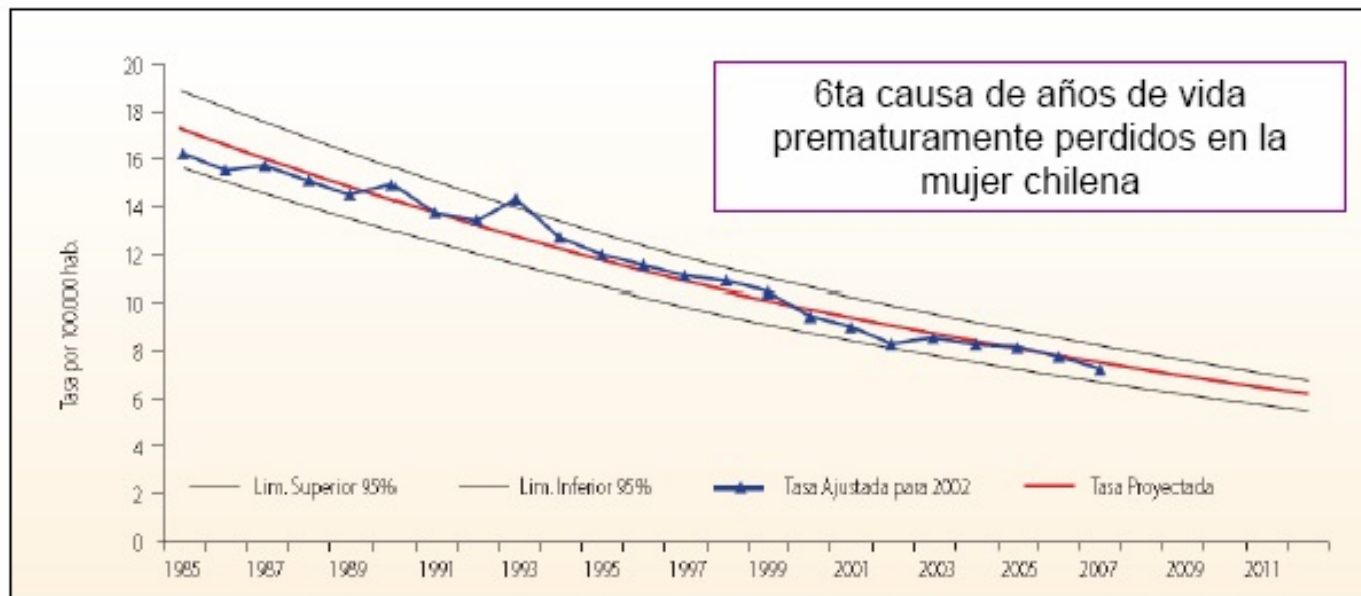
In 2002, cervix cancer represented the first cause of reduction in the number of potential living years (15.628); which means that cervix cancer is affecting young women in reproductive.

ESTADÍSTICAS VITALES, INFORME ANUAL 2008. Instituto Nacional de Estadísticas. Publicación en convenio con MINISTERIO DE SALUD MINSAL.
Departamento Epidemiología Ministerio de Salud 2005.



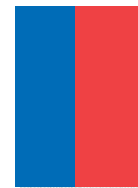


Tasa de Mortalidad ajustada por edad por Cáncer cervicouterino en Chile entre los años 1990-2007

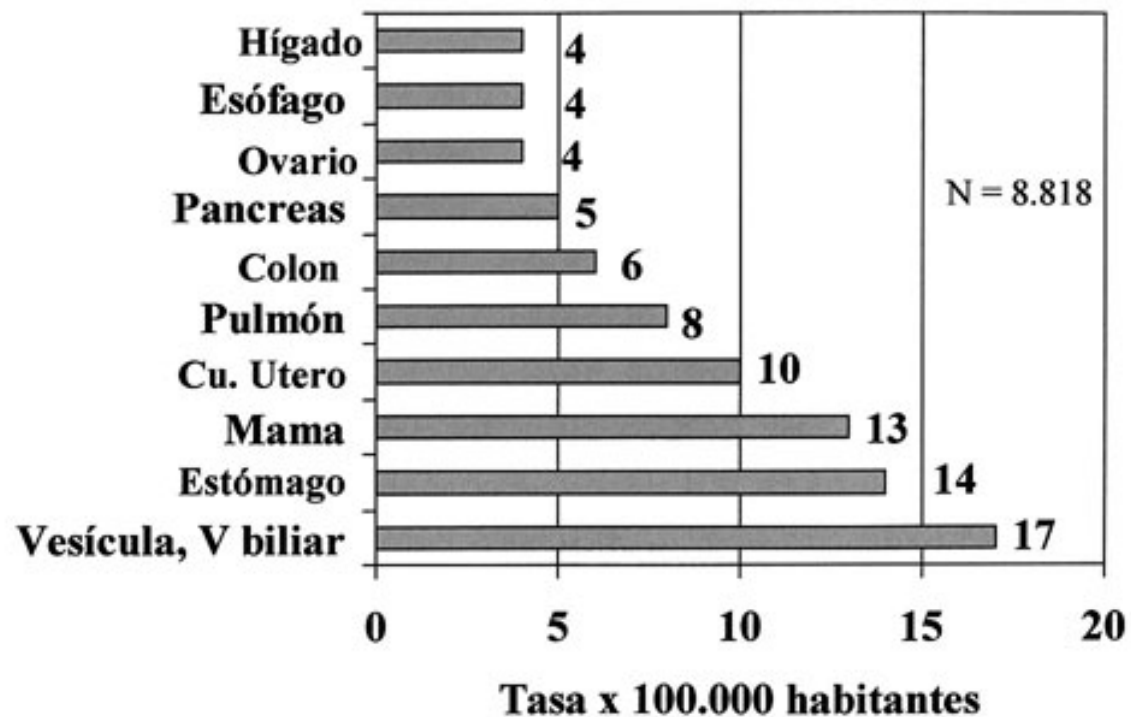


Objetivos Sanitarios de la década 2000-2010. Evaluación final del período. Objetivos de impacto. Ministerio de Salud. Gobierno de Chile.





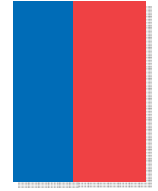
Epidemiology of Women Cancer in Chile (2005)



FOD: INE-MINSAL

Departamento Epidemiología Ministerio de Salud 2005.



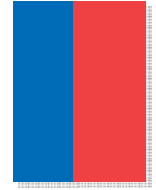


BACKGROUND

Epidemiological studies confirm that the cervical neoplasm behaves like a sexual transmitted disease, associated to multiple risk factors, mostly related with woman's sexual conduct

Bosch FX, Muñoz N. The Viral etiology of cervical cancer. *Virus Res.* 2005; 89: 183-90.
Beutner K, Tyring S. Human papillomavirus and human disease. *JAMA* 1997; 102(5A):9-15.





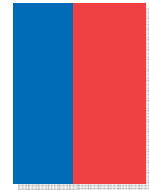
HPV infection and cervical cancer

HPV 16-18-31-45 = 80% of HPV found in cervical cancer.

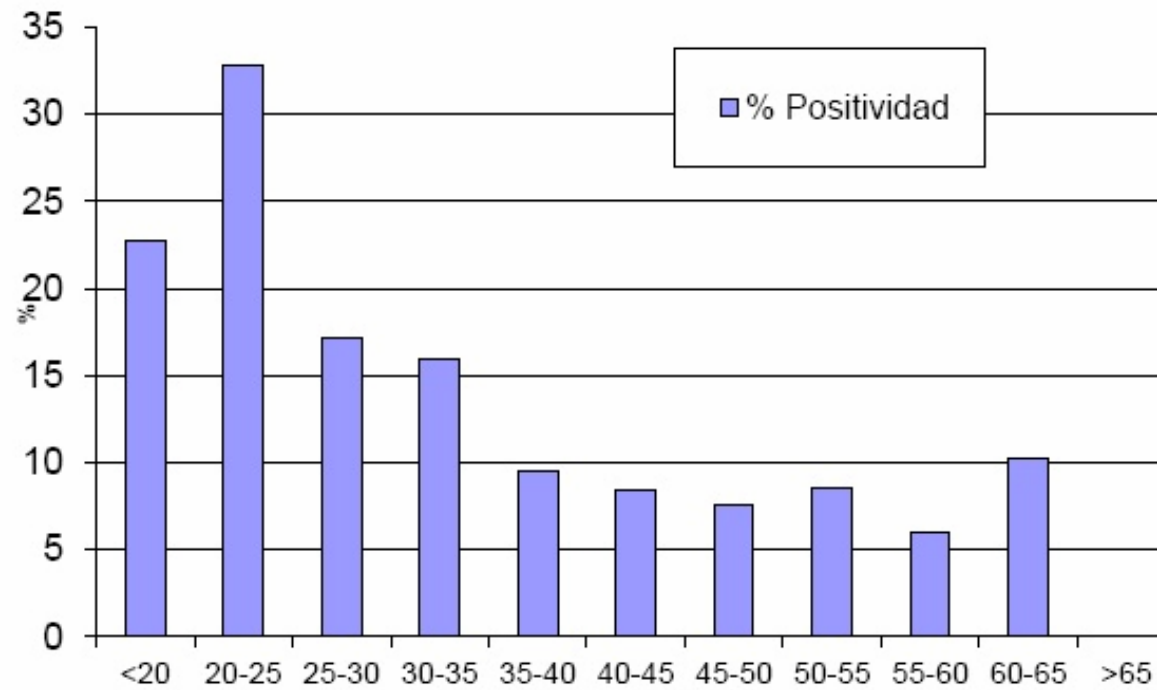
HPV inactivates p53 and Rb.

HPV infection is a ***necessary but not sufficient*** cause to develop cervical cancer (5% of women infected with HPV develop dysplasia)



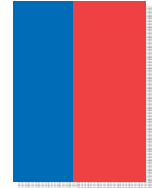


Epidemiology of HPV in Chile

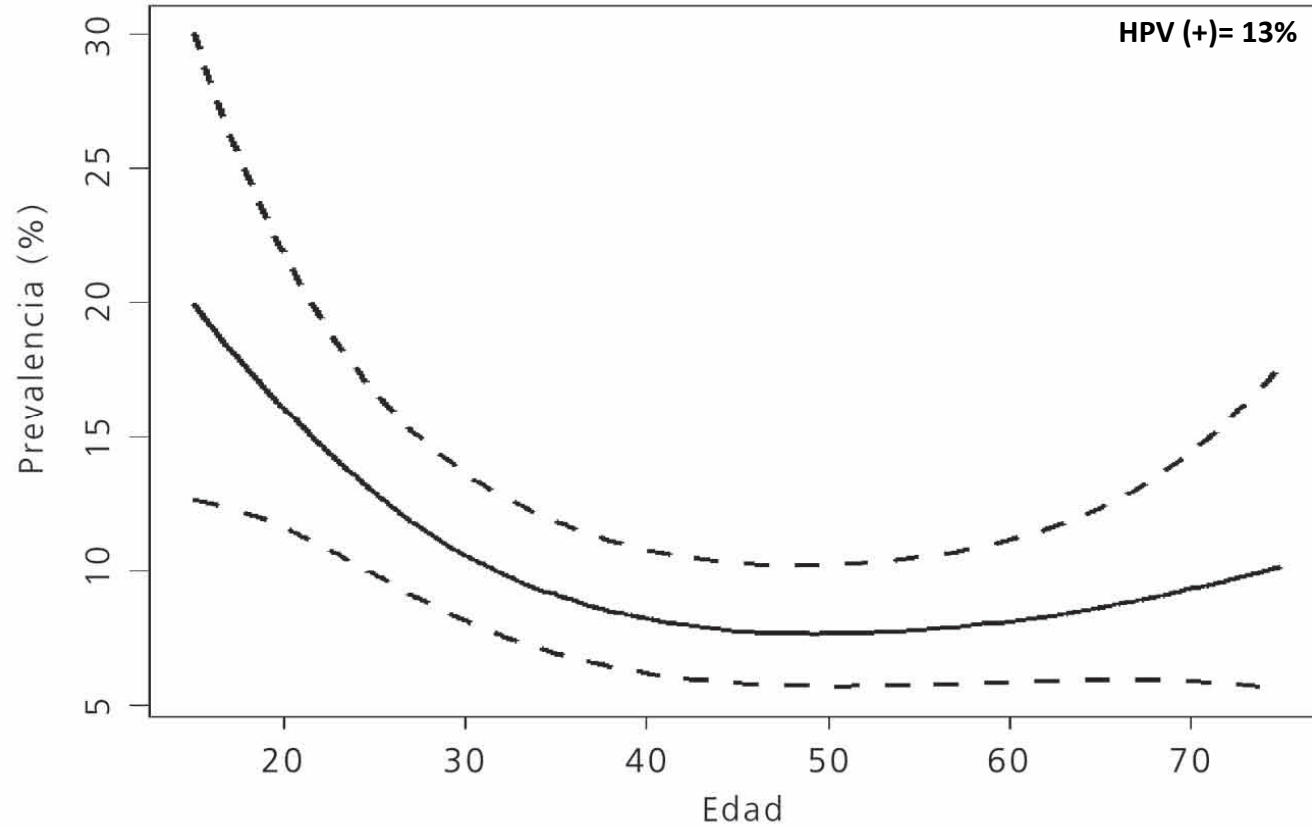


Ferrecio C, Prado R et al, *Cancer Epidemiology, Biomarkers & Prevention*; 13; 2004.



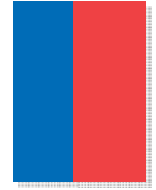


Prevalencia del Virus Papiloma Humano de Alto Riesgo (VPH AR) por grupos de edad entre 955 mujeres. Santiago, Chile, 2000. Regresión no paramétrica e IC 95%



BOLETIN DE LA ESCUELA DE MEDICINA UC VOLUMEN 30 Nº1 - AÑO 2005





RISK FACTORS

Sexual transmitted diseases

HPV infection

Early initiation of sexual activity

Number of sexual partners

Parity

Cigarette smoking

Oral contraceptives

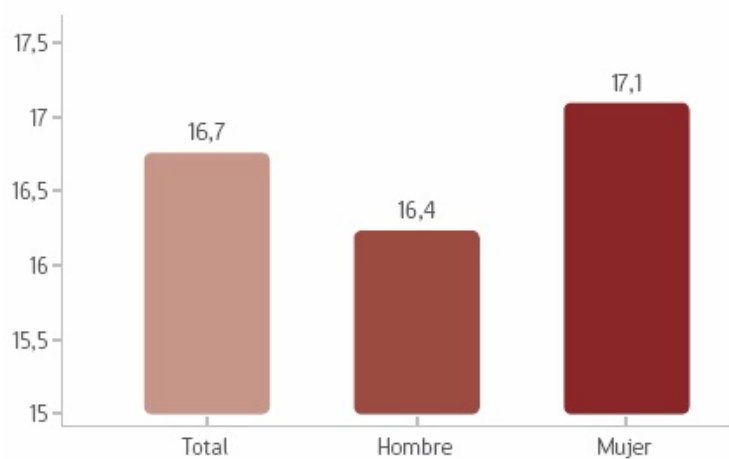
Socioeconomic Level





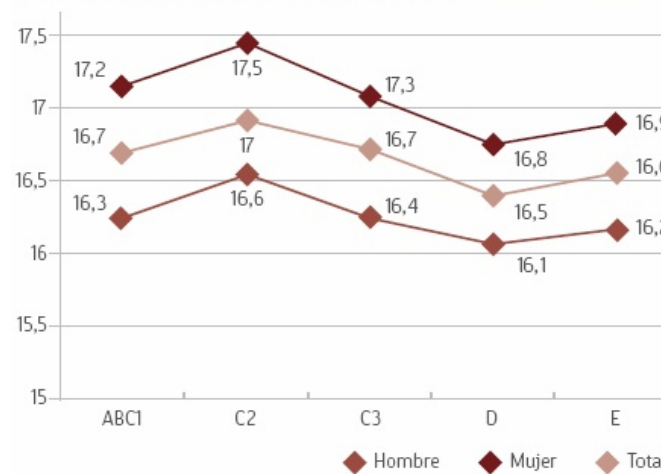
THE TRUTH OF TEENS

PROMEDIO DE EDAD PRIMERA RELACIÓN SEXUAL SEGÚN SEXO
Muestra: Iniciados/as sexualmente (Promedios)



Fuente: Sexta Encuesta Nacional de Juventud (INJUV, 2009)

PROMEDIO DE EDAD PRIMERA RELACIÓN SEXUAL SEGÚN NIVEL SOCIOECONÓMICO
Muestra: Iniciados/as sexualmente (Promedios)

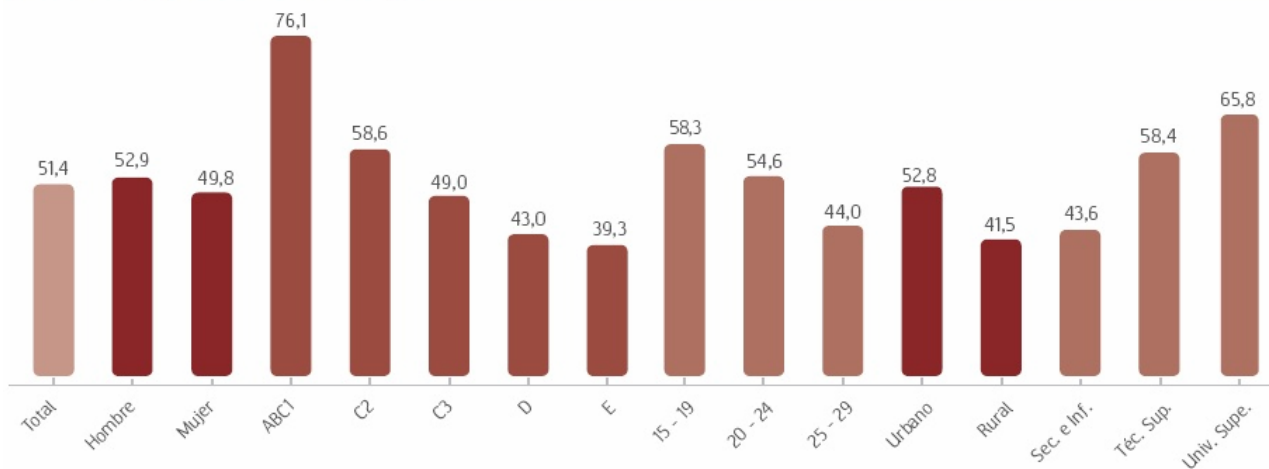


Fuente: Sexta Encuesta Nacional de Juventud (INJUV, 2009)



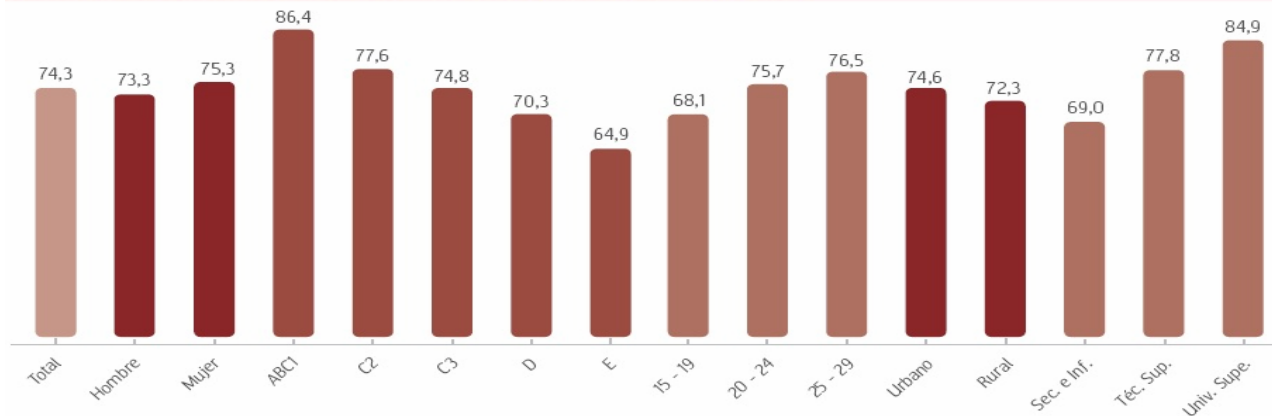


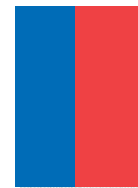
USO MÉTODO DE PREVENCIÓN PRIMERA RELACIÓN SEXUAL SEGÚN SEXO, NIVEL SOCIOECONÓMICO, TRAMO ETARIO, LOCALIDAD Y NIVEL EDUCATIVO
Muestra: Iniciados/as sexualmente (Porcentajes)



Fuente: Sexta Encuesta Nacional de Juventud (INJUV, 2009)

USO DE MÉTODOS DE PREVENCIÓN EN LA ÚLTIMA RELACIÓN SEXUAL SEGÚN SEXO, NIVEL SOCIOECONÓMICO, TRAMO ETARIO, LOCALIDAD Y NIVEL EDUCATIVO
Muestra: Sólo quienes han tenido relaciones sexuales en los últimos 12 meses (Porcentajes)





PAREJAS SEXUALES EN LOS ÚLTIMOS DOCE MESES SEGÚN SEXO
 Muestra: Sólo quienes han tenido relaciones sexuales en los últimos 12 meses (Porcentajes)

Las relaciones que has tenido los últimos 12 meses han sido		
	Hombre	Mujer
Sólo con hombres	4,7	97,6
Sólo con mujeres	94,5	1,7
Con hombres y mujeres	0,6	0,6
No responde	0,3	0,0
Total	100	100

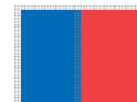
Fuente: Sexta Encuesta Nacional de Juventud (INJUV, 2009)

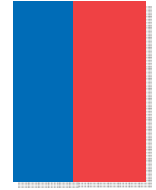
CANTIDAD DE PAREJAS SEXUALES EN LOS ÚLTIMOS DOCE MESES SEGÚN SEXO Y TRAMO ETARIO
 Muestra: Sólo quienes han tenido relaciones sexuales en los últimos 12 meses (Porcentajes)

	Total	Sexo		Tramo Etario		
		Hombre	Mujer	15-19	20-24	25-29
1 persona	78,9	67,8	90,2	75,2	75,0	84,7
2 persona	10,6	14,5	6,5	12,2	12,5	7,8
3 a 5 personas	8,6	14,3	2,8	9,2	10,4	6,6
6 a 10 personas	1,4	2,5	0,4	3,1	1,7	0,3
Más de 10 personas	0,2	0,4	0,0	0,2	0,1	0,3
No sabe	0,0	0,1	0,0	0,0	0,0	0,1
No responde	0,3	0,5	0,1	0,2	0,4	0,3
Total	100	100	100	100	100	100

Fuente: Sexta Encuesta Nacional de Juventud (INJUV, 2009)

Patricio R Bertoglia MD., MPH, FACOG





THE TRUTH OF PROGRAMS

The Programs for early diagnosis of cervical cancer have weaknesses:

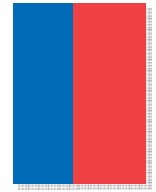
Poor prevention

Educational Programs are focused on techniques
Sexual Responsibility

Poor promotion

Educational Programs are focused on tests
Healthy Lifestyles

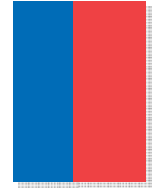




OBJECTIVE

TO ASSESS THE IMPACT OF AN EDUCATIONAL INTERVENTION IN
ADOLESCENTS ABOUT THE RISK FACTORS
ASSOCIATED WITH THE DEVELOPMENT OF CERVICAL CANCER.





PATIENT AND METHODS

The population was represented by **adolescent students from seventh and eighth grade** of basic public schools (N = 116) (**mean age 13 ± 0.8 years**, range 11-14 years).

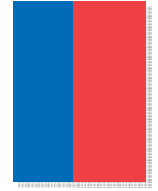
It was a volunteer sample of n = 51 adolescents who participated in the educational intervention (EI).

The study was conducted from 1 April 2009 to July 30, 2009.

Inclusion criteria :voluntarily attend to all sessions

Exclusion criteria : absence to one or more sessions.



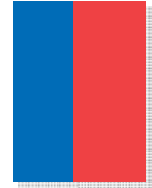


Variables:

Dependent Variable = Level of knowledge of adolescents about the risk factors associated to cervical cancer

Independent Variable = Educational Intervention





FirstPretest

Sexual Knowledge Test

12 questions:

Risk factors (items 1 to 6, 9 and 12)

Protective factors for cervical cancer (7, 8, 10 and 11).

Expert Panel

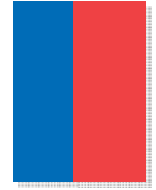
Statistical techniques for validity and reliability

Pilot study in 20 students

Consistency item-test : Pearson correlation (reliability) $R < 0.30$

Reliability: Spearman-Brown correlation 0.63604; $P < 0.0001$





Intervention was focused on elements that associate sexual behavior and risk factors for cervical cancer

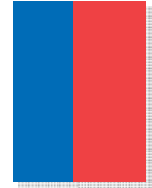
Four workshops of 1 hour each

ETS, EA, HPV and cervical cancer.

The lectures were in the educational establishment and supported by professional using powerpoint presentation

At the end Posttest.....

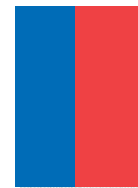




Characteristics of the studied adolescents

Characteristic	Men n=17	Women n=34
Range Age	11-14 years	
Mean age	13 ± 0.8 years	

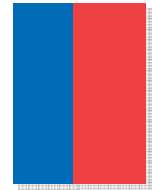




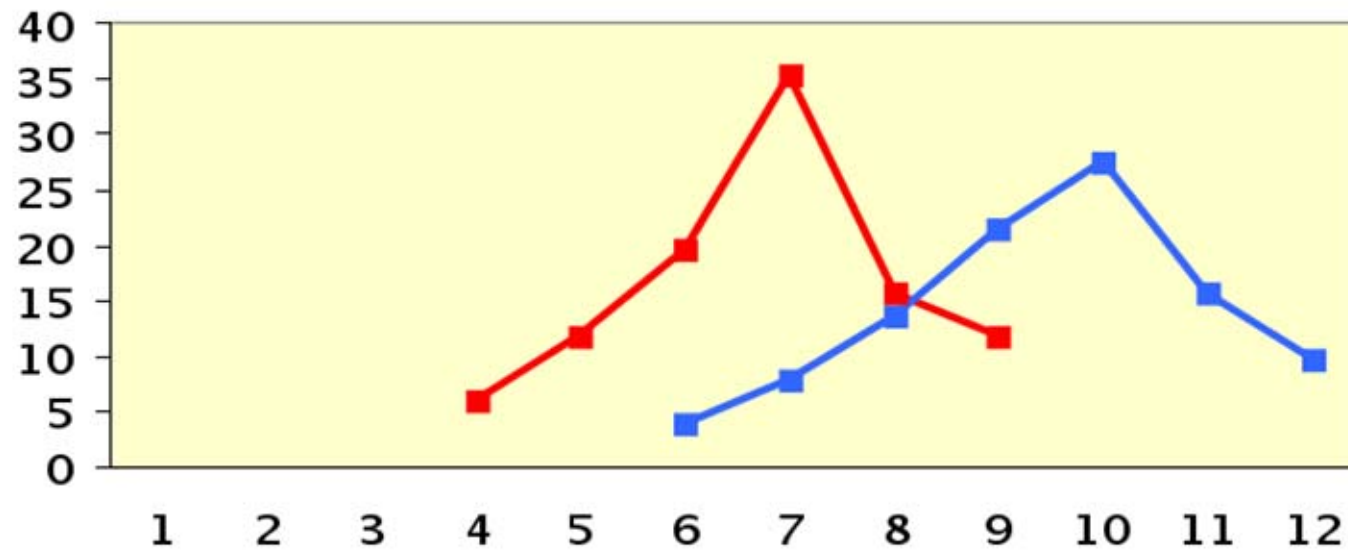
Levels of knowledge of the total sample by gender

	Pre-test	Post-test
Total sample(n= 51)		
Total Yield (score)	6.8a ± 0.2	9.5b ± 0.2
Total Yield (% correct answers)	56.5a ± 1.6	78.9b ± 1.7
Male (n= 17)		
Total Yield (score)	6.5a ± 0.2	9.0b ± 0.3
Total Yield (% correct answers)	54.4a ± 1.9	75.0b ± 2.9
Female (n= 34)		
Total Yield (score)	6.9a ± 0.2	9.7b ± 0.2
Total Yield (% correct answers)	57.6a ± 2.1	80.9b ± 2.1



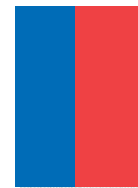


Levels of knowledge of the total sample

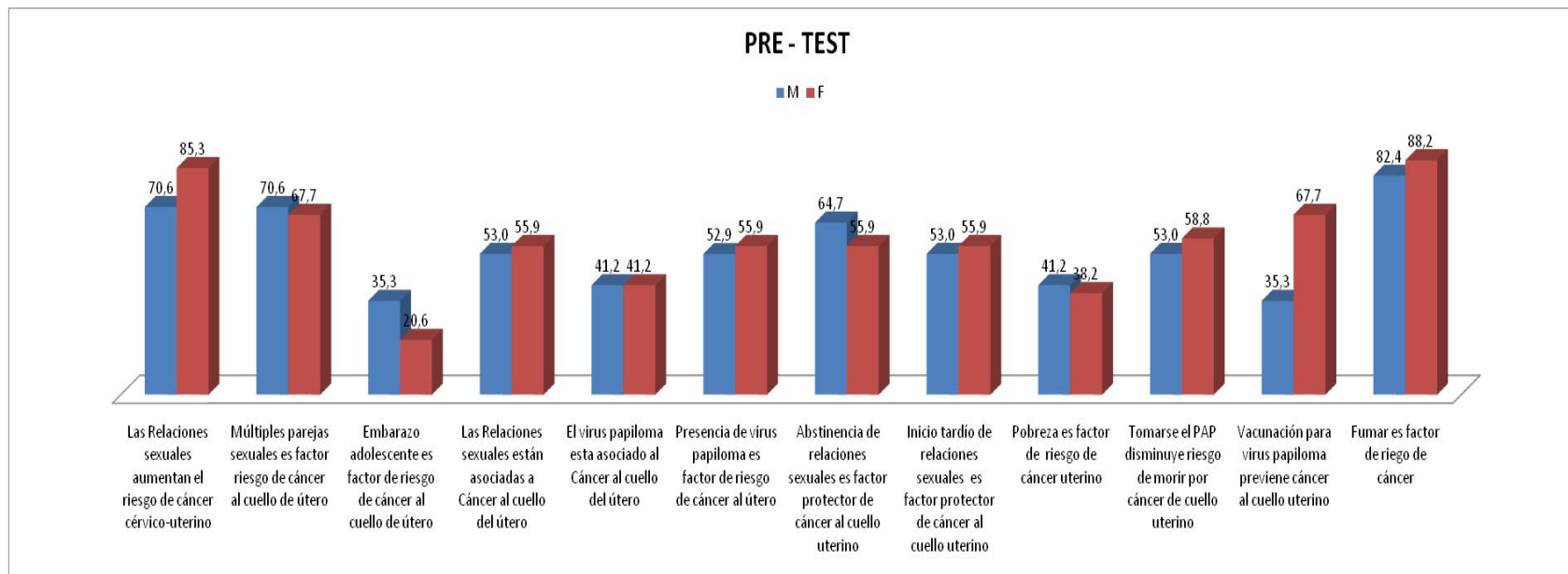


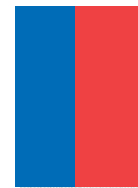
Percentage of cases with correct answers in the test, during the periods of pretest and posttest.



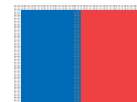
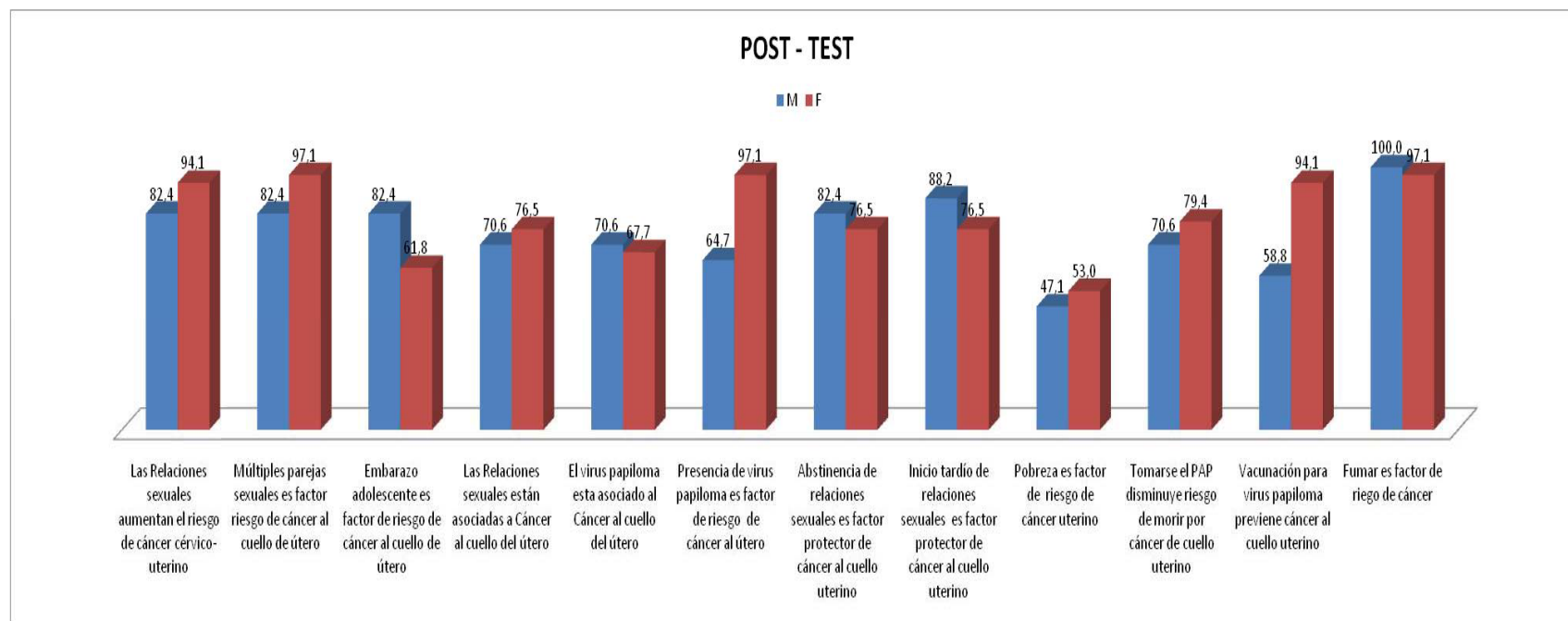


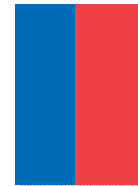
INITIAL SITUATION



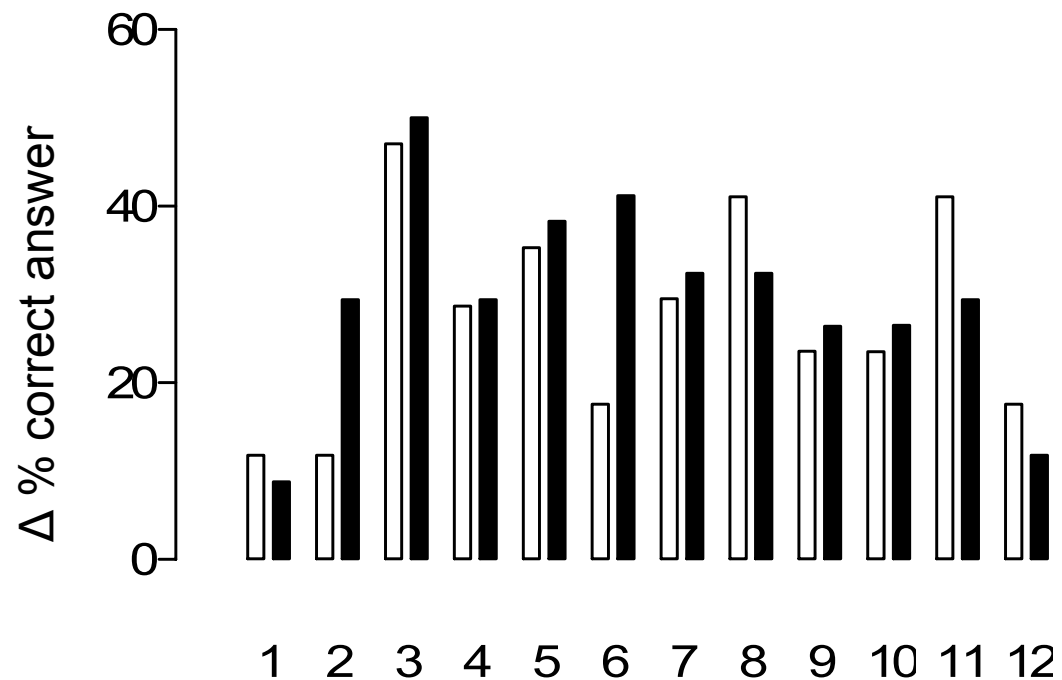


FINAL SITUATION



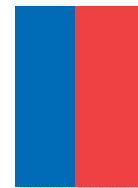


Improvement of knowledge according to gender

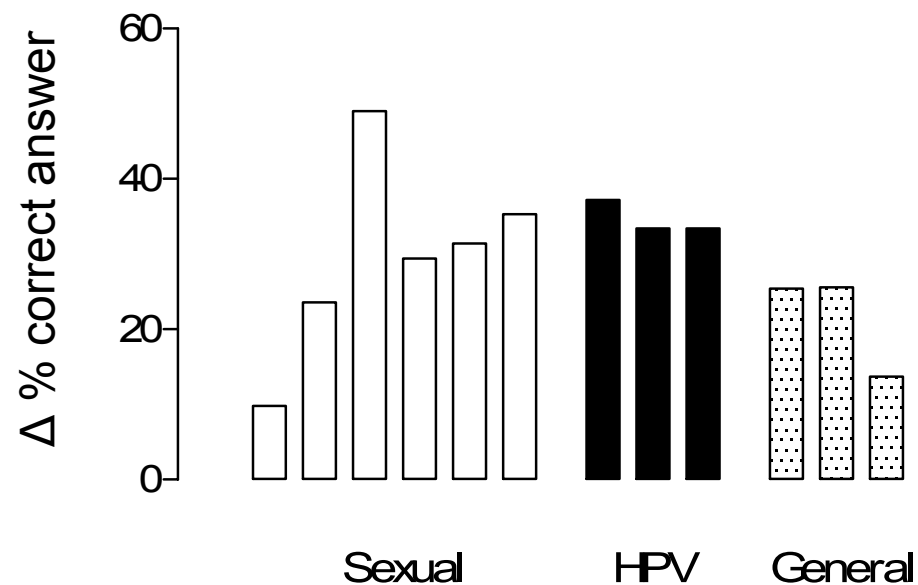


Hits of the total group analysis. We conducted a survey of males () and women (■) adolescents before and after an educational intervention to determine knowledge of risk factors for cervical cancer . It plots the difference (^) of correct answers before and after intervention in all its responses.





Improvement of knowledge according to topic

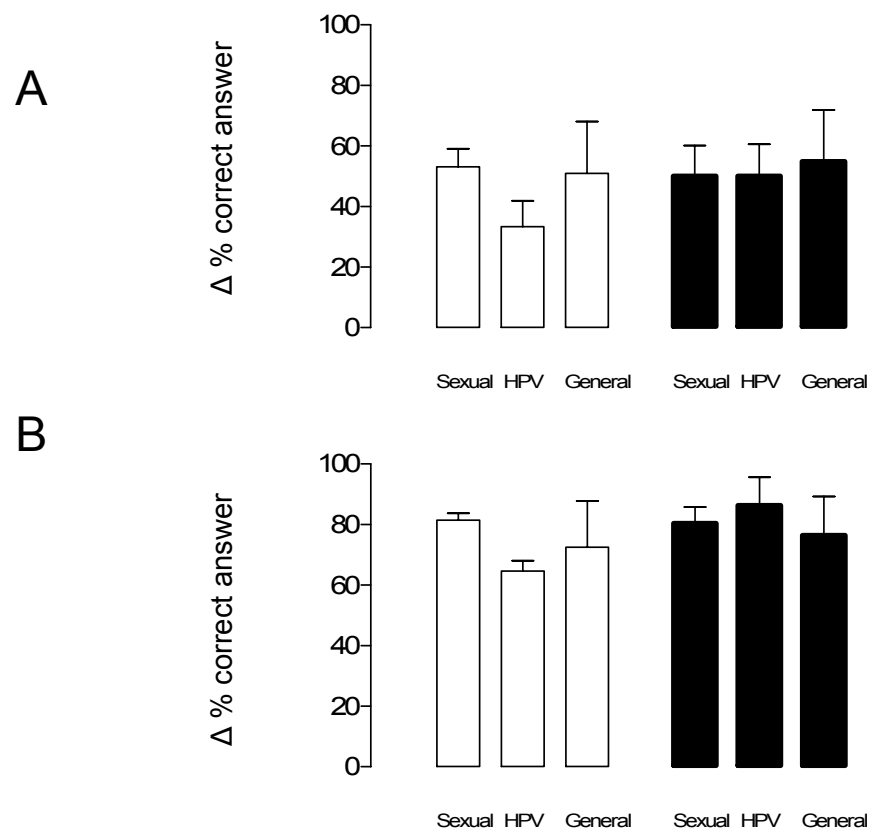


Hits of the total group analysis. We conducted a survey of males () and women (■) adolescents before and after an educational intervention to determine knowledge of risk factors for cervical cancer . It plots the difference (^) of correct answers before and after taking into account the parameters analyzed: Sexual behavior (Sexual), HPV infection (HPV) or Other risk factors (General) values □□are percentage differences



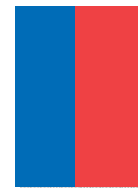


Improvement of knowledge according to topic and gender

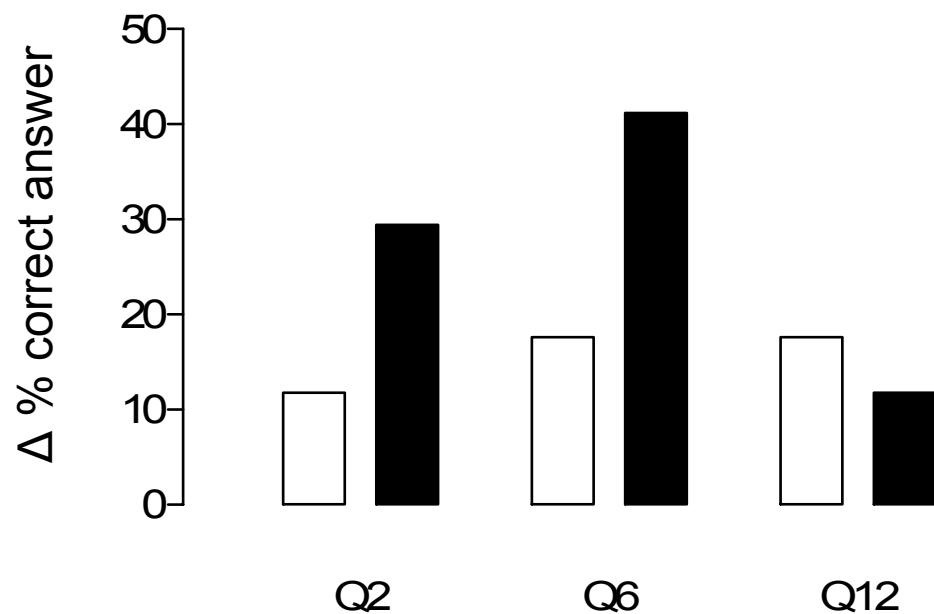


Hits according to the issues analyzed in men and women. The questions were classified according to the topic addressed in **Sexual Behavior** (Sexual), **HPV infection** (HPV) and **Other risk factors** (General) in adolescent of males () and women (■). Hits **before** (A) and **after** (B) of a teaching intervention.



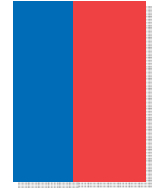


Highest score achieved after education in boys and girls



Differences between men and women hits to the questions .It's conducted a survey males () and women (■) adolescents before and after a teaching intervention to determine knowledge about risk factors for cervical cancer. It's plotted the differences in the questions (Q) where significant differences were found between men and women. Q12 was taken as a control test.





REMARKS

Increased knowledge about cervical cancer

Risk Factors:

Multiple sex partners

Teen Pregnancy

Early initiation of sexual activity

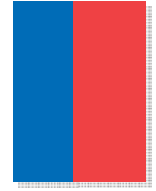
Protective factors:

Abstinence

Late onset sexual activity

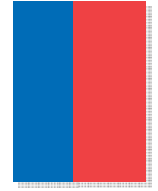
Only one sexual partner





Female adolescents exhibited higher achievement rates, with significant differences in recognizing the presence of papillomavirus as a risk factor for cervical cancer (OR = 18.0) and the papillomavirus vaccination as a protective factor for cervical cancer (OR = 11.2).





Risk Factor

Multiple sexual partners

“Women achieve greater changes”

Teen Pregnancy

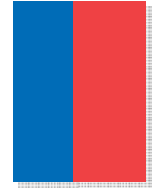
“Men have better performance”

Protective Factor

Abstinence and delayed onset of sex

“Teens 14 years have better performance”



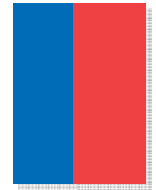


Baseline knowledge 53%

After Intervention 83.3% regardless of sex

“A educational intervention aimed at students, regardless of gender, significantly increased the knowledge in the risk factors associated with the generation of cervical cancer. ”





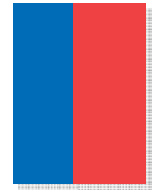
CONCLUSIONS

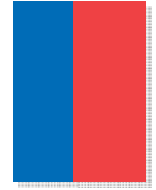
Education is an important tool because can made significant changes in adolescents *knowledge* about risk factors related to cervical cancer.

Possible *changes in behavior*?

The results of this study have allowed a better understanding of adolescents knowledge about sexuality.







Acknowledges

Institutions

- Hospital Clínico Herminda Martín
- University of Loma Linda
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- Universidad Catolica de la Santisima Concepcion
- Universidad del Bio Bio
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- Cesfam Isabel Riquelme

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