

CORRECTION

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Prevalence, concordance and determinants of human papillomavirus infection among heterosexual partners in a rural region in central Mexico

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Following the publication of this paper [1] we received some important observations on the statistical proof used and the way the results were presented in the tables and figure. We have taken them into account and are responding to the same.

For the comparison of the prevalence of HPV infection in men and women, we used the MacNemar test. This test is used to prove a hypothesis of equality of proportions in non-independent groups. In this case the groups of men and women are not independent because they are sexual partners. Table 1 shows that the prevalence of HPV is greater in men than in women (20.4% vs 13.7%, *p* value = 0.0009). There were no statistically significant differences between type specific infection in men and women; only in types HPV31, HPV53, HPV55, HPV61 and HPV84 (Table 1 and Figure 1).

The analysis of known risk factors for HPV infection was carried out separately for men and women. Non-conditional logistic regression was performed. When stratifying by sex we do not need to consider the condition of sexual partners. This part of the analysis was performed in this way, as it allows us to include explanatory variables in men - variables that cannot be defined in women, such as circumcision, use of condoms, and some specific characteristics on sexual risk behaviors. In women it allows us to consider, in addition to characteristics of their own sexual behaviors, characteristics of their male partner's sexual behavior - circumcision, use of condoms, etc. (Table 2). The last section of the study focuses on assessing the risk of HPV infection in women, considering the presence of

Table 1 Prevalence of HPV DNA in 504 heterosexual couples in central Mexico, according to sex

HPV	Men n = 504		Women n = 504		OR*	CI 95%*	p*
	n	%	n	%			
Presence of HPV							
Positive	103	20.4	69	13.7	0.51	(0.33-0.77)	0.0009
Presence of high-risk HPV							
Positive	44	8.7	48	9.5	1.14	(0.67-2.00)	0.6056
Presence of low-risk HPV							
Positive	75	14.9	33	6.5	0.27	(0.15-0.49)	0.0000
Multiple HPV infection							
One type only	79	15.7	50	9.9			
Two or more types	24	4.8	19	3.8	0.74	(0.34-1.55)	0.3841
Presence of HPV 16 and/or 18							
Negative	491	97.4	490	97.2			
Positive	13	2.6	14	2.8	1.09	(0.44-2.72)	0.8348
Positive for High-risk HPV							
16	6	1.2	10	2	1.80	(0.54-6.83)	0.2850
18	7	1.4	4	0.8	0.50	(0.08-2.34)	0.3173
31	1	0.2	5	1			0.0455
33	0	0	0	0			
35	0	0	0	0			
39	7	1.4	3	0.6	0.20	(0.01-1.78)	0.1025
45	2	0.4	1	0.2	0.50	(0.01-9.60)	0.5637
51	2	0.4	3	0.6	1.50	(0.17-17.96)	0.6547
52	3	0.6	5	1	2.00	(0.29-22.10)	0.4142
56	2	0.4	1	0.2	0.00	(0.00-39.00)	0.3173
58	3	0.6	5	1	2.00	(0.29-22.10)	0.4142
59	12	2.4	15	3	1.37	(0.50-3.93)	0.4913
66	6	1.2	3	0.6	0.40	(0.04-2.44)	0.2568

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Table 1 Prevalence of HPV DNA in 504 heterosexual couples in central Mexico, according to sex (Continued)

For low-risk HPV							
6	2	0.4	2	0.4	1.00	(0.01-78.40)	1.0000
11	0	0	0	0			
26	0	0	0	0			
40	2	0.4	2	0.4	1.00	(0.07-13.70)	1.0000
42	2	0.4	2	0.4	1.00	(0.07-13.70)	1.0000
53	10	2	2	0.4	0.11	(0.01-0.80)	0.0114
54	5	1	4	0.8	0.66	(0.05-5.81)	0.6547
55	4	0.8	0	0	0.00	(0.00-1.51)	0.0450
61	14	2.8	2	0.4	0.07	(0.01-0.51)	0.0013
62	11	2.2	7	1.4	0.43	(0.07-1.87)	0.2059
64	0	0	0	0			
67	0	0	0	0			
68	2	0.4	1	0.2	0.50	(0.01-9.60)	0.5637
69	0	0	1	0.2			0.3173
70	1	0.2	0	0	0.00	(0.00-39.00)	0.3171
71	3	0.6	5	1	2.00	(0.29-22.10)	0.4142
72	4	0.8	1	0.2	0.25	(0.01-2.52)	0.1797
73	2	0.4	2	0.4	1.00	(0.07-13.79)	1.0000
81	7	1.4	4	0.8	0.50	(0.08-2.34)	0.3173
82	0	0	0	0			
83	1	0.2	2	0.4	2.00	(0.10-117.90)	0.5637
84	9	1.8	1	0.2	0.00	(0.00-0.58)	0.0047
IS39	0	0	0	0			
Cp6108	5	1	3	0.6	0.50	(0.05-3.48)	0.4142

* OR, CI95% and p-value obtained using McNemar's Test.

HPV infection in their sex partners as an explanatory variable. Thus we find that women whose sexual partners are HPV positive have 5.15 times greater risk of HPV, compared to those whose partners are HPV negative (CI 95% 3.01, 8.82). Indeed, what matters to us in this part is proving that the variable "presence of HPV in male partner" be associated with the presence of HPV in the female. We do not seek to compare the risk of HPV infection between men and women (Table 3).

We are thankful for your observations and deeply regret the confusion in the results presented.

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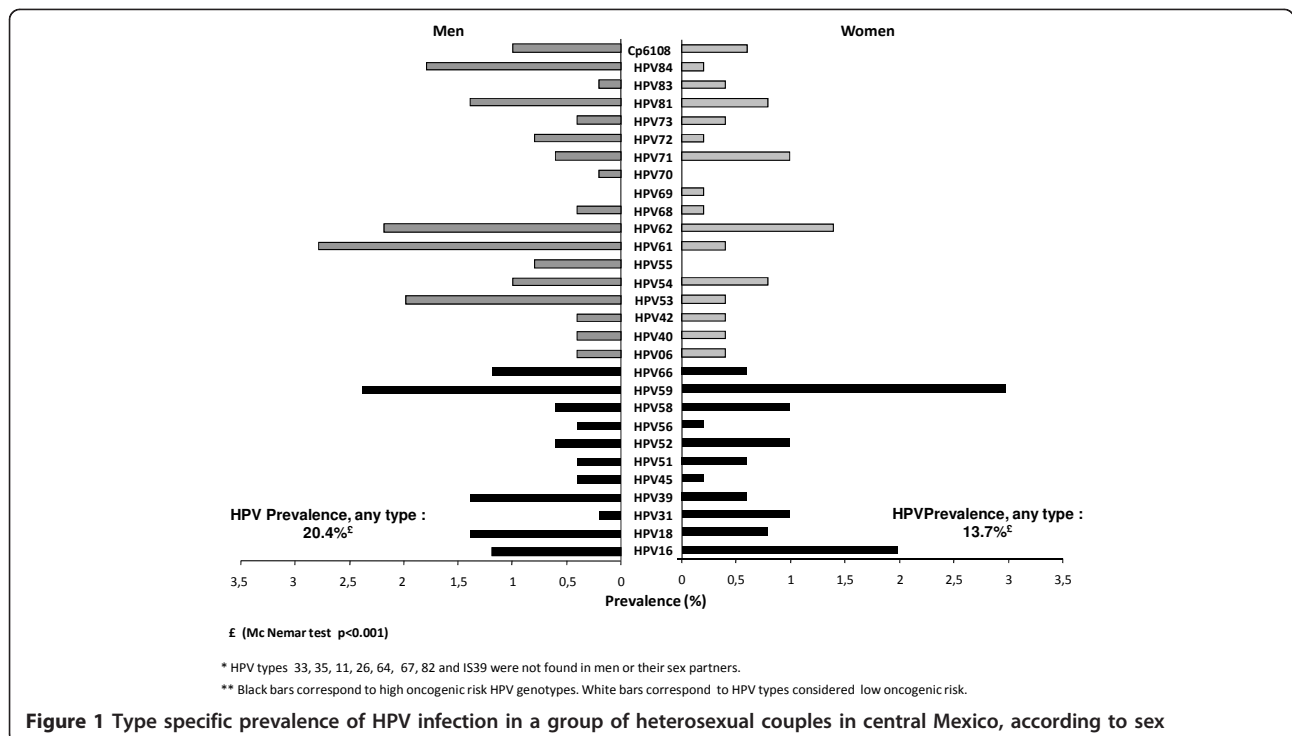


Figure 1 Type specific prevalence of HPV infection in a group of heterosexual couples in central Mexico, according to sex

Table 2 Sociodemographic and sexual conduct characteristics associated with the presence of HPV DNA among 504 heterosexual couples in central Mexico, according to sex

Variable	Men n = 504 ^a				Women n = 504 ^a			
	n (%)	HPV + n = 103	Risk of HPV infection		n (%)	HPV + n = 69	Risk of HPV infection	
		HPV + (%)	OR ^b	CI 95%		HPV + (%)	OR ^b	CI 95%
Age^c (years)								
18-24	40(8.0)	9(22.5)	1.00		64(12.7)	13(20.3)	1.00	
25-30	91(18.0)	17(18.7)	0.77	(0.31-1.93)	98(19.4)	15(15.3)	0.70	(0.30-1.60)
31-40	191(37.9)	29(15.2)	0.61	(0.26-1.42)	209(41.5)	24(11.5)	0.47	(0.22-1.00)
41-75	182(36.1)	48(26.4)	1.23	(0.54-2.80)	133(26.4)	17(12.8)	0.55	(0.24-1.23)
<i>p-trend</i>				0.1999				0.1305
Place of residence								
Rural	350(69.4)	62(17.7)	1.00		350(69.4)	47(13.4)	1.00	
Urban	154(30.6)	41(26.6)	1.71	(1.08-2.71)	154(30.6)	22(14.3)	1.02	(0.58-1.79)
Marital Status								
Married	400(79.4)	72(18.0)	1.00		400(79.4)	43(10.7)	1.00	
Single	104(20.6)	31(29.8)	1.92	(1.14-3.25)	104(20.6)	26(25.0)	2.79	(1.56-5.00)
Schooling^d								
< = 6 years	174(34.5)	47(27.0)	1.85	(0.99-3.44)	77(15.5)	8(10.4)	0.70	(0.28-1.76)
7-9 years	199(39.5)	37(18.6)	1.28		286(57.6)	43(15.0)	1.17	(0.62-2.19)
> = 10 years	131(26.0)	19(14.5)	1.00	(0.70-2.36)	134(26.9)	17(12.7)	1.00	
<i>p-trend</i>				0.0061				0.8069
Religion								
Catholic	430(85.3)	81(18.8)	1.00		430(85.3)	58(13.5)	1.00	
Other	74(14.7)	22(29.7)	1.88	(1.07-3.31)	74(14.7)	11(14.9)	1.04	(0.51-2.11)
Current smoker								
No	278(55.2)	56(20.1)	1.00		435(86.3)	53(12.2)	1.00	
Yes	226(44.8)	47(20.8)	1.08	(0.69-1.69)	69(13.7)	16(23.2)	1.97	(1.03-3.75)
Age on initiating sexual life								
≤18 years	284(56.3)	68(23.9)	1.59	(1.00-2.52)	269(53.4)	39(14.5)	1.06	(0.62-1.81)
≥19 years	220(43.7)	35(15.9)	1.00		235(46.6)	30(12.8)	1.00	
No. of lifetime sexual partners								
One	185(36.7)	30(16.2)	1.00		371(73.6)	45(12.1)	1.00	
Two	76(15.1)	17(22.4)		(0.75-2.92)	88(17.5)	15(17.1)		(0.78-2.85)
Three to nine	171(33.9)	31(18.1)	1.49	(0.62-1.90)	45(8.9)	9(20.0)	1.50	(0.75-3.79)
Ten or more	72(14.3)	25(34.7)	1.08	(1.34-4.82)	–	–	1.69	–
<i>P-trend</i>				2.54				–
				0.0142				0.0796
History of anal sexual relations								
No	305(63.1)	64(20.9)	1.00		146(67.0)	25(17.1)	1.00	
Yes	178(36.9)	34(19.1)	0.90	(0.56-1.45)	72(33.0)	8(11.1)	0.65	(0.26-1.60)
Circumcision^e								
No	469(93.0)	98(20.9)	1.00		469(93.0)	61(13.0)	1.00	
Yes	35(7.0)	5(14.3)	0.61	(0.22-1.64)	35(7.0)	8(22.9)	1.92	(0.82-4.51)
History of sexual relations with prostitutes								
No	395(78.4)	72(18.2)	1.00		–	–	–	
Yes	109(21.6)	31(28.4)	1.68	(1.01-2.78)	–	–	–	–
Use of condom when having sexual relations with prostitutes								
Have not had sexual relations with prostitutes	395(78.4)	72(18.2)	1.00		–	–	–	
Always	34(6.7)	8(23.5)	1.46	(0.63-3.41)	–	–	–	–

Table 2 Sociodemographic and sexual conduct characteristics associated with the presence of HPV DNA among 504 heterosexual couples in central Mexico, according to sex (Continued)

Not always	75(14.9)	23(30.7)	1.78	(1.00-3.17)	-	-	-	-
<i>P-trend</i>				0.0128				

^aDue to missing data, all categories do not total 504.

^bOdds ratio and 95% confidence intervals obtained using logistic regression models adjusted for age and SLI.

^cModels adjusted for SLI only to avoid colinearity.

^dModels adjusted for age only to avoid colinearity when adjusting for SLI.

^eThis variable as was asked of men only. Women were assigned the value corresponding to the antecedent of circumcision in their male sexual partner.

Table 3 Risk of HPV infection associated with the status of HPV infection in the sexual partner

Variable	Risk of HPV infection in women				
	n = 504	HPV positives n = 69%	OR ^a	p ^a	CI 95% ^a
Presence of HPV					
Negative	401/79.6	8.7 (35)			
Positive	103/20.4	33.0 (34)	5.15	0.000	3.01 - 8.82
Presence of oncogenic HPV					
Negative	460	6.9 (32)			
Positive	44	36.4 (16)	7.64	0.000	3.75 - 15.56
Presence of nononcogenic HPV					
Negative	429	3.7 (16)			
Positive	75	22.7 (17)	7.56	0.000	3.62 - 15.79
Presence of HPV 16 and/or 18					
Negative	491	2.4 (12)			
Positive	13	15.4 (2)	7.25	0.016	1.44 - 36.37

^aOdds ratio, p-value, and CI 95% obtained using logistic regression.

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