

# A KISS A NOT JUST A KISS: KISSING AS A RISK FACTOR FOR OROPHARYNGEAL GONORRHOEA IN MEN WHO HAVE SEX WITH MEN

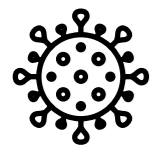
Julien Tran<sup>1,2</sup>, Jason J Ong<sup>1,2</sup>, Catriona S Bradshaw<sup>1,2</sup>, Chen Y Marcus<sup>1,2</sup>, Fabian YS Kong<sup>3</sup>, Jane S Hocking<sup>3</sup>, Ei T Aung<sup>1,2</sup>, Kate Maddaford<sup>1</sup>, Christopher K Fairley<sup>1,2</sup>, Eric PF Chow<sup>1,2,3</sup>

<sup>1</sup> Melbourne Sexual Health Centre, Alfred Health, Melbourne, Victoria, Australia

<sup>2</sup> Central Clinical School, Monash University, Melbourne, Victoria, Australia

<sup>3</sup> Melbourne School of Population and Global Health, The University of Melbourne, Melbourne, Victoria, Australia

## Background



*Neisseria gonorrhoeae* can be cultured in the saliva of individuals who have oropharyngeal gonorrhoea, suggesting that *N. gonorrhoeae* can be transmitted through tongue-kissing.



Past studies have examined the associations between oropharyngeal gonorrhoea and tongue-kissing among MSM were unable to statistically adjust for the three exposures to the oropharynx: kissing, performing fellatio and performing rimming.



Our aim was to determine whether exposure to the anatomical sites (oropharynx, penis, or anus) of male partners of men who have sex with men (MSM) were independent risk factors for oropharyngeal gonorrhoea after adjusting for exposures to these sites

## Methods



We invited MSM who attended the Melbourne Sexual Health Centre between November 2018 and December 2020 to participate in a survey



The survey collected data on the number of male partners with whom they kissed, fellated and rimmed in the past 3 months



We included MSM who were aged  $\geq 16$ , and were tested for oropharyngeal gonorrhoea



We conducted univariable and multivariable logistic regressions to investigate associations between oropharyngeal gonorrhoea, and kissing, performing fellatio and performing rimming

## Results



Median age of the 2322 men included was 31 years (IQR: 26-40)



Men with known gonorrhoea contact had the highest adjusted odds of having oropharyngeal gonorrhoea



After adjusting for all three exposures, oropharyngeal gonorrhoea was associated with increasing number of kissing and rimming partners but not increasing number of fellatio partners.

## Conclusions



Our data suggest kissing and rimming are important practices in gonorrhoea transmission.



These data do not support the currently accepted transmission route where gonorrhoea is transmitted to the oropharynx of men primarily through performing fellatio.

**Table 1. Risk factors for oropharyngeal gonorrhoea among 2322 MSM in the past 3 months**

Risk factors	Individuals, n/N	Adjusted OR (95% CI)	P value
<b>Kissing</b>			0.014*
0	3/210	1 (ref)	-
1-2	18/682	1.81 (0.48-6.88)	0.376
3-4	24/531	2.58 (0.68-9.81)	0.163
>4	75/899	3.59 (0.95-13.55)	0.060
<b>Performing fellatio</b>			0.605*
0	9/286	1 (ref)	-
1-2	27/885	0.73 (0.32-1.69)	0.465
3-4	32/567	0.83 (0.35-1.99)	0.678
>4	52/584	0.99 (0.41-2.42)	0.985
<b>Performing rimming</b>			0.037*
0	37/1087	1 (ref)	-
1-2	38/785	1.15 (0.32-1.69)	0.567
3-4	19/219	1.55 (0.82-2.92)	0.178
>4	26/231	1.85 (0.97-3.52)	0.061
<b>Known gonorrhoea contact</b>			
No	93/2193	1 (ref)	-
Yes	23/129	5.01 (3.06-8.20)	<0.001

\*P for trend for categorical variables

### Citation

Tran J, Ong JJ, Bradshaw CS, Chen MY, Kong FYS, Hocking JS, Aung ET, Maddaford K, Fairley CK, Chow EPF. Kissing, fellatio, and anilingus as risk factors for oropharyngeal gonorrhoea in men who have sex with men: A cross-sectional study. *EClinicalMedicine*. 2022 Jul 14;51:101557. doi: 10.1016/j.eclinm.2022.101557. PMID: 35865738; PMCID: PMC9294476.

