Author's response to reviews

Title: Body Mass Index, Sexual Behaviour, and Sexually Transmitted Infections : An Analysis using the NHANES 1999-2000 data

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Response to Reviewers of "Body mass index, sexual behaviour ...1999-2000 data"

Point-by-point Response

Reviewer: C.K. Fairley

1. "A considerable amount of time ..BMI finding". This issue is now more extensively discussed in the discussion section. In particular, several mechanisms accounting for the association between BMI and number of partners are put forward.

2. "BMI rises with age ....analysis". This is a very important and pertinent point. It is one of the reasons we excluded individuals over 49 years of age. The association only makes sense if BMI is a rather stable trait, which it only partially is (reference now included). The fact that this may lead to bias (most likely dilution) of the association is now discussed.

3. "Please put data in the abstract". Excellent point. After some experimentation (to compromise making the abstract informative or too cluttered) we have decided to put the most important figures in the abstract but no 95% CI and no p-values.

Reviewer: Adrian Mindel.

1. " Whilst sexual data were collected ... validated" . Excellent point. This was a serious omission in our first version. We have now mentioned the method used to elicit information and given a background reference of this method. However, "true" validation of self reported sexual behaviour is not really possible, as no gold standard for comparison exists.

2. "The study is written from a statistical perspective. ... in mind.". Good point. We have split some of the tables into separate tables for men and women and extended the legend to provide information on how the tables should be read.

3. "I believe that the oversimplification.... Oral sex as sex". All excellent points. Yes, the use of one variable (regular partner) is a gross simplification of the sexual history of an individual. Ideally one would want a history of "stable partnerships as well as casual partnerships. Unfortunately, the use of secondary data, while easy, imposes severe constraints and there is little we can do about this. The definition of sex in NHANES (vaginal, oral or anal) is now mentioned.

4. "A preferable term...relationships". The word homosexual relationship has been replaced by same sex relationship.
5. "Some of the suggestions...sexual partners". Good points. We agree that these points were not well explained in the first version of our paper. The speculation that perhaps individuals with a high BMI choose high risk partners was suggested by the surprise finding that despite fewer life time partners, men with high BMI do not have a lower HSV-2 prevalence. We now make clear that this explanation is speculative. As regards smoking. The relationship between smoking and sexual behaviour and risk of sexually transmitted infections has been reported many times. We have now included an extra reference.