

## **The challenges of unprotected sex: Statistical analysis of a global sex survey**

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**Introduction:** Since the start of AIDS, studies have questioned whether sex education should target the population or groups at risk. A question in the Durex Global Sex Survey (DGSS) asked: 'Have you ever had unprotected sex with a sexual partner without knowing their sexual history?' In-depth statistical analysis of this and other questions examined if there are means of predicting what influences people to have unprotected sex and what measures can be undertaken to combat this.

**Background:** The DGSS was designed by SSL-International in 1996 to better understand sexual behavior globally. In 2005, 41 countries participated with more than 317,000 responses. The survey included 31 questions about sexuality profiles and behaviors.

**Design and methods:** The main dependent variable is unprotected sex. Based on different Rates of Unprotected Sex (RUS), *t*-tests based on various population profiles were performed. Moreover, a MLR model shows the different unadjusted and adjusted associations between RUS and five independent variables: condom use; number of sexual partners (NSPs); sex frequency; age of first sexual education; and age at first sex. Authors also carried-out analysis of RUS statistical differences based on three country groups.

**Results and outcome:** NSPs, age, age at first sex, and location are associated with RUS ( $P$  value < 0.05). For every year delay of sex initiation, RUS reduces by 6.3%. NSPs is also a predictor of RUS. NSPs explains 63% ( $R^2 = 0.63$ ) of the variance of RUS. If the average NSPs is increased by one in a country, RUS increases by 3.5%. If a country averages 10 sexual partners, RUS is expected to range between 48 and 53%. Homosexuals reported having, on average, 21.0 partners. This fell to 14.6 and 8 for bisexuals and heterosexuals, respectively. Finally, males report having had more sexual partners (10.2) than females (6.9). The effects of gender, sexual orientation, and relationship status do not have a direct influence on RUS ( $P > 0.05$ ).

**Conclusion:** While delaying sex initiation leads to RUS reduction, evidence suggests that the opposite is happening. This means that measures need to be introduced to encourage people to take responsibility for their sexual health and use reliable methods of contraception. Results of MLR suggest that in a given country, a 1% increase in the rate of condom use results in 0.21% decrease in RUS. Also, results reveal differences in the average age which people are receiving sex education globally. On average, people living in low/low-middle income countries, are a year older (14) than people in upper-middle income countries (13) and 2 years older than people in high income countries (12) when they first receive sex education.