

## How can we enhance sexual health outcomes in men who have sex with men in Lebanon?

In Lebanese men who have sex with men (MSM), the prevalence of HIV is 12% and the prevalence of having at least one symptom of a sexually transmitted infection (STI) is 34.9%.<sup>1</sup> Low HIV testing rates, unprotected unprotected sexual intercourse, alcohol and substance use contribute to this epidemic.<sup>2</sup> Here we present data on the prevalence of STIs in a sample of MSM attending a sexual health clinic in order to identify the correlates of risk-taking behaviour, and of testing behaviour in this population. Addressing these questions is crucial for reducing the incidence of HIV/STIs and, thus, for enhancing sexual health outcomes in this high-risk population in Lebanon.

We analysed data from the medical records of MSM who presented for STI screening and treatment between 2014 and 2018 at a sexual health centre (Dermatology-STI clinic) in Beirut, Lebanon. Ethical approval was obtained from the Faculty of Health & Life Sciences Research Ethics Committee, De Montfort University, Leicester, UK (Ref. 3082).

MSM attending the clinic completed a short survey and the data were added to their medical records. The sample consisted of 1364 participants for whom data were complete and thus were included in the analysis. The most frequent STIs were genital warts (41.13%), *Chlamydia trachomatis* (25.85%), anogenital herpes (24.49%), *Neisseria gonorrhoea* (22.87%), syphilis (13.41%), scabies/pediculosis (10.19%), HIV (9.51%), *Mycoplasma genitalium* (4.88%), hepatitis B (0.73%), lymphogranuloma venereum (0.45%) and hepatitis C (0.09%). Table 1 summarises the main findings across the participant sample.

To assess the predictors of STI screening, participants were divided into two groups: those who had never been screened (n=242, 17.9%) and those who had had at least one previous screening. Those who had been screened had a higher frequency of alcohol/substance use ( $\chi^2=27.2$ ,  $p=0.002$ ), higher use of mobile phone applications for casual sex ( $\chi^2=15.7$ ,

**Table 1** Demographic, behavioural and sexually transmitted infection findings in the participants

| Variable   | Responses          | Had been tested for STIs/HIV (n=1103) |       | Never been tested for STIs/HIV (n=242) |        | P value |
|--|--------------------|---------------------------------------|-------|--|--------|---------|
|  |                    | n                                     | %     | n                                      | %      |         |
| Age range (years)  | <20                | 8                                     | 0.73  | 33                                     | 13.64  | 0.0001* |
|  | 21–25              | 274                                   | 24.84 | 78                                     | 32.23  |         |
|  | 26–30              | 540                                   | 48.96 | 53                                     | 21.90  |         |
|  | 31–35              | 238                                   | 21.58 | 52                                     | 21.49  |         |
|  | >36                | 43                                    | 3.90  | 26                                     | 10.74  |         |
| Alcohol/substance use before sex                         | Always             | 427                                   | 38.71 | 39                                     | 16.12  | 0.0001* |
|  | Never              | 385                                   | 34.90 | 177                                    | 73.14  |         |
|  | Sometimes          | 291                                   | 26.38 | 26                                     | 10.74  |         |
| Use of mobile applications to find sexual partners       | Always             | 501                                   | 45.42 | 61                                     | 25.21  | 0.0001* |
|  | Never              | 268                                   | 24.30 | 141                                    | 58.26  |         |
|  | Sometimes          | 334                                   | 30.28 | 40                                     | 16.53  |         |
| Perceived risk of HIV                                    | Yes                | 404                                   | 36.63 | 41                                     | 16.94  | 0.0001* |
|  | No                 | 526                                   | 47.69 | 87                                     | 35.95  |         |
|  | Don't know         | 173                                   | 15.68 | 114                                    | 47.11  |         |
| Hepatitis B vaccination                                  | Vaccinated         | 489                                   | 44.33 | 169                                    | 69.83  | 0.02*   |
|  | Not vaccinated     | 614                                   | 55.67 | 73                                     | 30.17  |         |
| HPV vaccination  | Vaccinated         | 43                                    | 3.90  | 0                                      | 0.00   | 0.29    |
|  | Not vaccinated     | 1060                                  | 96.10 | 242                                    | 100.00 |         |
| Protected sexual encounters on the last 10 occasions (n) | 0                  | 88                                    | 7.98  | 71                                     | 29.34  | 0.02*   |
|  | 1–5                | 138                                   | 12.5  | 42                                     | 17.36  |         |
|  | 6–9                | 447                                   | 40.53 | 72                                     | 29.74  |         |
|  | 10                 | 430                                   | 38.98 | 57                                     | 23.55  |         |
|  | Mean 7.40, SD 3.11 |                                       |       | Mean 5.20, SD 4.24                     |        |         |
| Condyloma/genital warts                                  | Yes                | 399                                   | 36.17 | 12                                     | 4.96   | 0.007*  |
|  | No                 | 704                                   | 63.83 | 230                                    | 95.04  |         |
| Chlamydia  | Yes                | 153                                   | 13.87 | 29                                     | 11.98  | 0.04*   |
|  | No                 | 950                                   | 86.13 | 213                                    | 88.02  |         |
| Gonorrhoea   | Yes                | 110                                   | 9.97  | 31                                     | 12.81  | 0.035*  |
|  | No                 | 993                                   | 90.03 | 211                                    | 87.19  |         |
| Herpes   | Yes                | 138                                   | 12.51 | 29                                     | 11.98  | 0.95    |
|  | No                 | 965                                   | 87.49 | 213                                    | 88.02  |         |
| <i>Mycoplasma genitalium</i>                             | Yes                | 22                                    | 1.99  | 7                                      | 2.89   | 0.98    |
|  | No                 | 1081                                  | 98.01 | 235                                    | 97.11  |         |
| Syphilis   | Yes                | 116                                   | 10.52 | 7                                      | 2.89   | 0.17    |
|  | No                 | 987                                   | 89.48 | 235                                    | 97.11  |         |
| HIV  | Yes                | 73                                    | 6.62  | 7                                      | 2.89   | 0.43    |
|  | No                 | 1030                                  | 93.38 | 235                                    | 97.11  |         |
| Scabies/pediculosis                                      | Yes                | 44                                    | 3.99  | 15                                     | 6.20   | 0.7     |
|  | No                 | 1059                                  | 96.01 | 227                                    | 93.80  |         |
| Lymphogranuloma venereum                                 | Yes                | 5                                     | 0.45  | 0                                      | 0.00   | 0.8     |
|  | No                 | 1098                                  | 99.55 | 242                                    | 100.00 |         |
| Hepatitis B  | Yes                | 8                                     | 0.73  | 0                                      | 0.00   | 0.97    |
|  | No                 | 1095                                  | 99.27 | 242                                    | 100.00 |         |

Continued

**Table 1** Continued

| Variable          | Responses | Had been tested for STIs/HIV (n=1103) |       | Never been tested for STIs/HIV (n=242) |        | P value |
|-------------------|-----------|---------------------------------------|-------|--|--------|---------|
|                   |           | n                                     | %     | n                                      | %      |         |
| Hepatitis C       | Yes       | 1                                     | 0.09  | 0                                      | 0.00   | 0.99    |
|                   | No        | 1102                                  | 99.91 | 242                                    | 100.00 |         |
| Never had any STI | Yes       | 428                                   | 38.80 | 146                                    | 60.33  | 0.02*   |
|                   | No        | 675                                   | 61.20 | 96                                     | 39.67  |         |

\*Significant statistical result ( $p < 0.05$ ).

HIV, human immunodeficiency virus; HPV, human papillomavirus; SD, standard deviation; STI, sexually transmitted infection.

$p < 0.001$ ), higher perceived HIV risk ( $\chi^2 = 17.7$ ,  $p < 0.001$ ) and higher frequency of unprotected sex ( $\chi^2 = 20.2$ ,  $p = 0.02$ ).

These results suggest that those who engage in sexual risk behaviours (alcohol/substance use, use of mobile phone applications to find sexual partners, frequent unprotected intercourse) and who appraise their risk to be high are more likely to have been tested for HIV/STIs than those who do not. The findings suggest a multi-pronged strategy to prevent HIV and other STIs in Lebanon where the Joint United Nations Programme on HIV and AIDS (UNAIDS) treatment target to help end the AIDS epidemic ('90-90-90', ie, 90% diagnosed, 90% on treatment, 90% virally suppressed) is far from being achieved. First, there is a lack of data in Lebanon, therefore a representative national assessment of sexual health in Lebanese MSM should be conducted. Second, beside condom use, other preventive interventions targeting substance use in sexualised settings (known as 'chemsex'<sup>3</sup>) and varied sexual networks based on active dating applications usage<sup>4,5</sup> should be developed. HIV pre-exposure prophylaxis would be a valuable component of the national prevention strategy. Sexual

health risks specific to MSM need to be highlighted to individuals from this population who never test for STIs. Third, in Lebanon where homosexuality is socially stigmatised, MSM may have decreased access to sexual health promotion and HIV prevention information.<sup>2</sup> This can be translated into a gap in self-risk assessment amid a 60% prevalence of unprotected sexual intercourse. Fourth, in order for us to achieve '90-90-90' in Lebanon, our recommendation is to integrate sexual and reproductive healthcare services to improve access for key populations in line with the Regional World Health Organization (WHO) strategy. More generally, breaking the barriers of stigmatisation and criminalisation of Lebanese MSM can effectively improve our ability to target and serve this high-risk population with comprehensive preventive services.

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