Circumcision among men who have sex with men in Scotland: limited potential for HIV prevention

Lisa M McDaid,1 Helen A Weiss,2 Graham J Hart3

ABSTRACT
Objective Male circumcision has been shown to reduce the risk of HIV acquisition among heterosexual men but the impact among men who have sex with men (MSM) is not known. In this paper, we explore the feasibility of research into circumcision for HIV prevention among MSM in Scotland.

METHODS
Anonymous, self-complete questionnaires and Orasure oral fluid collection kits were distributed to men visiting the commercial gay scenes in Glasgow and Edinburgh.

RESULTS
1508 men completed questionnaires (70.5% response rate) and 1277 provided oral fluid samples (59.7% response rate). Overall, 1405 men were eligible for inclusion in the analyses. 16.6% reported having been circumcised. HIV prevalence was comparable among circumcised and uncircumcised men (4.2% and 4.6%, respectively). Although biologically, circumcision is most likely to protect against HIV for men practising unprotected insertive anal intercourse (UIAI), only 7.8% (91/1172) of uncircumcised men reported exclusive UIAI in the past 12 months. Relatively few men reported being willing to participate in a research study on circumcision and HIV prevention (13.9%), and only 11.3% of uncircumcised men did so.

Conclusion The lack of association between circumcision and HIV status, low levels of exclusive UIAI, and low levels of willingness to take part in circumcision research studies suggest circumcision is unlikely to be a feasible HIV prevention strategy for MSM in the UK. Behaviour change should continue to be the focus of HIV prevention in this population.
12 months (although it should be noted that STI transmission may also occur by means other than anal intercourse).

Overall, 39.9% of men reported any unprotected anal intercourse in the past 12 months and this was similar by circumcision status (table 1). Of these, 22.4% reported exclusive UIAI, and circumcised men were more likely to report this than uncircumcised men (table 1). Among men who reported always being the insertive partner, none of the circumcised men were willing to be circumcised.16 However, our findings differed between the men who did and did not provide oral fluid specimens; suggesting that the men who provided these were representative of the larger venue-based sample. Finally, circumcision status was self-reported, although this has been shown to be a valid measure.14

We found no evidence of an association between circumcision and HIV or other self-reported STI among MSM in Scotland, similar to findings elsewhere.3–5 Among men reporting unprotected anal intercourse, less than one-quarter exclusively favoured the insertive role, which might plausibly provide partial protection against HIV infection. In contrast to a recent US study,15 this behaviour was more common among circumcised than uncircumcised men; and none of the circumcised men who were exclusively the insertive partner tested HIV positive. Although findings are inconsistent across studies, a possibly protective effect among this group has been reported,4 and merits further investigation.

There are few studies of the willingness of uncircumcised MSM to be circumcised.4 One, from the USA, found that 53% were willing to be circumcised.16 However, our findings are similar to those of the London study, in which only one in 10 uncircumcised men were willing to participate in circumcision research.12 Together with the low levels of exclusive UIAI in these populations, these findings suggest that a randomised

### Table 1 HIV status, sexual behaviour and willingness to take part in a research study on circumcision and HIV prevention: comparing circumcised and uncircumcised men

<table>
<thead>
<tr>
<th>HIV and other STI</th>
<th>Uncircumcised (N=1172)</th>
<th>Circumcised (N=233)</th>
<th>Total (N=1405)</th>
<th>Adjusted OR (95% CI) among circumcised men*</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV status (oral fluid specimen)†</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>HIV negative</td>
<td>951</td>
<td>95.4</td>
<td>184</td>
<td>95.8</td>
</tr>
<tr>
<td>HIV positive</td>
<td>46</td>
<td>4.6</td>
<td>8</td>
<td>4.2</td>
</tr>
<tr>
<td>Self-reported STI in past 12 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1052</td>
<td>90.8</td>
<td>211</td>
<td>91.7</td>
</tr>
<tr>
<td>Yes</td>
<td>106</td>
<td>9.2</td>
<td>19</td>
<td>8.3</td>
</tr>
<tr>
<td>Sexual behaviour</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any UAI partners in past 12 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>700</td>
<td>60.8</td>
<td>130</td>
<td>56.3</td>
</tr>
<tr>
<td>Yes</td>
<td>451</td>
<td>39.2</td>
<td>101</td>
<td>43.7</td>
</tr>
<tr>
<td>UAI with more than one partner in past 12 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0/1 partner</td>
<td>1006</td>
<td>87.4</td>
<td>202</td>
<td>87.4</td>
</tr>
<tr>
<td>2 or more partners</td>
<td>145</td>
<td>12.6</td>
<td>29</td>
<td>12.6</td>
</tr>
<tr>
<td>UAI with partners of unknown or discordant HIV status in past 12 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>861</td>
<td>74.8</td>
<td>174</td>
<td>75.3</td>
</tr>
<tr>
<td>Yes</td>
<td>290</td>
<td>25.2</td>
<td>57</td>
<td>24.7</td>
</tr>
<tr>
<td>Sexual position during UAI in past 12 months‡</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always insertive</td>
<td>91</td>
<td>20.5</td>
<td>31</td>
<td>31.0</td>
</tr>
<tr>
<td>Mostly insertive</td>
<td>38</td>
<td>8.6</td>
<td>11</td>
<td>11.0</td>
</tr>
<tr>
<td>Equally both</td>
<td>203</td>
<td>45.7</td>
<td>36</td>
<td>36.0</td>
</tr>
<tr>
<td>Mostly receptive</td>
<td>73</td>
<td>16.4</td>
<td>19</td>
<td>19.0</td>
</tr>
<tr>
<td>Always receptive</td>
<td>39</td>
<td>8.8</td>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td>Research on circumcision</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willingness to take part in a research study on circumcision and HIV prevention¶</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>758</td>
<td>68.8</td>
<td>94</td>
<td>50.0</td>
</tr>
<tr>
<td>Don’t know</td>
<td>220</td>
<td>20.0</td>
<td>39</td>
<td>20.7</td>
</tr>
<tr>
<td>Yes</td>
<td>124</td>
<td>11.3</td>
<td>55</td>
<td>29.3</td>
</tr>
</tbody>
</table>

*Adjusted for age and nationality. †Among men who provided oral fluid specimens (N=1189). ‡Among men reporting any unprotected anal intercourse (UAI) (N=552). §Adjusted OR for men reporting always being the insertive UAI partner in the past 12 months; for men reporting always or mostly being the insertive UAI partner in the past 12 months adjusted OR 1.82, 95% CI 1.14 to 2.92. ¶The willingness question used was ‘We are looking for new ways to prevent HIV. Should the following research studies take place, which would you be willing to take part in?’, with participants asked to select ‘yes’, ‘no’ or ‘don’t know’ for circumcision (and also for behaviour change, rectal microbicides and HIV vaccines). STI, sexually transmitted infection.
controlled trial of male circumcision for HIV prevention is unlikely to be feasible in the UK. Although circumcision may be partly protective against HIV infection for those men who are exclusively insertive partners, our results suggest that comprehensive HIV prevention strategies, including the promotion of consistent condom use, should continue to be the focus of prevention efforts among MSM.

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Competing interests None.

Ethics approval This study was conducted with the approval of the University of Glasgow Faculty of Medicine Ethics Committee.

Contributors LMMcD, HAW and GJH devised the paper. LMMcD conducted the analyses and wrote the first draft. All authors contributed to subsequent drafts and approved the final version of the manuscript.

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