Voluntary Medical Male Circumcision (VMMC) has been scaled up in 14 eastern and southern African countries since 2009. According to the World Health Organization, 11.7 million men received VMMC in these countries through December 2015. The VMMC service package includes HIV testing services (HTS) and a unique platform for reaching men who are less responsive to conventional HTS approaches. However, little is known about HIV prevalence, linkage to care, and treatment rates for men who test positive for HIV through VMMC services.

Aims of Study

This was a multicountry, retrospective study of VMMC services, which had the following aims:

- Describe characteristics of VMMC clients who received HTS in five eastern and southern African countries from 2009 to 2014, including age, HIV prevalence, and linkage to care and treatment services.
- Highlight strategies for improving linkage to care and treatment for people who test positive for HIV in VMMC programs.
- Identify opportunities for VMMC services to contribute to HTS and linkage to care and treatment efforts to achieve the Joint United Nations Programme on HIV/AIDS 90-90-90 goals by 2020.

Background and Problem

- Voluntary male circumcision (VMMC) has been scaled up in 14 eastern and southern African countries since 2009.
- According to the World Health Organization, 11.7 million men received VMMC in these countries through December 2015.
- The VMMC service package includes HIV testing services (HTS) and a unique platform for reaching men who are less responsive to conventional HTS approaches.
- However, little is known about HIV prevalence, linkage to care, and treatment rates for men who test positive for HIV through VMMC services.

Methods

- Data were analyzed from Jhpiego-supported VMMC programs in Botswana, Mozambique, Namibia, Tanzania, and Zambia. All programs were implemented under respective ministries of health, with support from the US President’s Emergency Plan for AIDS Relief (PEPFAR).
- Data from September 2009 to December 2016 were reviewed as countries initiated VMMC services at different times during this period.
- Data were analyzed to determine HIV positivity rates, number of new HIV diagnoses, and rate of linkage to HIV care and treatment.

Results

Across all five countries:

- 1,225,083 men received VMMCs.
- 1,157,240 (94.5%) of those were tested for HIV.
- 13,534 (1.2%) males tested positive for HIV.
- HIV positivity ranged from 1% in Tanzania and Zambia to 7.2% in Namibia. In four of the five countries (new HIV diagnoses and linkage to care data were not available for Zambia):
  - 12,952 males tested HIV positive.
  - 11.1% (6.4%) of these cases were newly diagnosed.
  - 8,772 (78.3%) of those newly diagnosed were linked to HIV care and treatment.

Distribution of VMMC clients, HIV testing, HIV positivity, and linkage rates of new cases by country during the study period

<table>
<thead>
<tr>
<th>Country</th>
<th>Time period</th>
<th># VMMC</th>
<th>% Tested</th>
<th># Tested</th>
<th>% HIV positive</th>
<th>% New HIV positive</th>
<th>% Linked to care and treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botswana</td>
<td>Juni 2011 to Juli 2013</td>
<td>14,338</td>
<td>94.6%</td>
<td>13,665</td>
<td>78.7%</td>
<td>58.7%</td>
<td>76.2%</td>
</tr>
<tr>
<td>Mozambique</td>
<td>Juli 2009 to April 2013</td>
<td>1,673,615</td>
<td>89.5%</td>
<td>1,510,776</td>
<td>78.4%</td>
<td>48.8%</td>
<td>98.9%</td>
</tr>
<tr>
<td>Namibia</td>
<td>No Data</td>
<td>No Data</td>
<td>No Data</td>
<td>No Data</td>
<td>No Data</td>
<td>No Data</td>
<td>No Data</td>
</tr>
<tr>
<td>Tanzania</td>
<td>Juni 2011 to Juli 2013</td>
<td>2,917</td>
<td>94.4%</td>
<td>2,758</td>
<td>81.5%</td>
<td>70.4%</td>
<td>71.3%</td>
</tr>
<tr>
<td>Zambia</td>
<td>Juni 2011 to Juli 2013</td>
<td>1,797,209</td>
<td>97.9%</td>
<td>1,771,508</td>
<td>92.3%</td>
<td>62.7%</td>
<td>90.2%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>6,390,127</td>
<td>94.4%</td>
<td>6,094,957</td>
<td>87.8%</td>
<td>54.3%</td>
<td>89.0%</td>
</tr>
</tbody>
</table>

Occupations and linkage rates were generally low in the five VMMC programs assessed, especially for those under 25.

- The HIV-positive rate was generally low in the five VMMC programs assessed, especially for those under 25.
- This low HIV prevalence is consistent with the primary aim of VMMC services, which is to provide VMMC to HIV-negative men to maximize the HIV prevention benefit.
- However, VMMC services in these five countries also provided HTS to nearly 13,000 HIV-positive males during the study period. In the countries that tracked new diagnoses, more than 11,000 new HIV diagnoses were made, with an overall linkage to care rate of just under 80%.
- Testing in VMMC settings provides a unique opportunity to reach males who may not be diagnosed through other HTS approaches.

We need to have better systems in place to ensure that all males who test positive through VMMC services are linked to HIV care and treatment.

Conclusions

VMMC provides a unique opportunity to offer HTS for men who are hard to reach through other HTS approaches.

- Although overall HTS yield may be relatively low (1-2%), VMMC is successful at identifying new HIV infections among clients who did not previously know their status, and linking them to HIV care and treatment.

- Stronger data on linkage from VMMC services will contribute significantly to achieving the HIV 90-90-90 targets, especially for those under 25.

Some challenges to linkage to HIV care and treatment from VMMC services, as reported by the programs, include:

- Linkage to care and treatment services is sometimes needed where there are no antiretroviral treatment services (e.g., lower-level and remote facilities frequently lack antiretroviral treatment services).
- In outreach or mobile settings, VMMC services are only provided for a specified period and providers move to the next destination, so they can't follow up with referred clients.
- Some delay seeking services due to denial of the results. (Clients may decide not to go to the care and treatment site or facility.)
- Some clients change their mobile numbers regularly, so they cannot be traced for linkage.
- In migrant communities, clients may leave catchment area, served by facility, prior to initiation of care and treatment services.
- Some clients may prefer to access services far away from their testing center due to fear of breach of confidentiality by the providers who know them.

Strategies to Ensure Linkage from Programs with High Referral Rates

- Escort clients physically from VMMC services to the care and treatment clinic (if located within the same facility).
- Follow up with a phone call to the care and treatment site to ensure that client accessed services; document the file number.
- Request written referral feedback from the care and treatment center.
- Complete regular and continuous follow-up with referred clients to check if they are retained to care and treatment services, and check their progress.

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