Measuring the impact of a behaviour change intervention for commercial sex workers and their potential clients in Malawi

Vivien Margaret Walden, Kondwani Mwangulube and Paul Makhumula-Nkhoma

Abstract

A peer-education HIV/AIDS prevention programme for bar-based sex workers and their potential clients (long-distance truck drivers) in Malawi was evaluated for impact. A mixed method approach was used, the tools being structured questionnaires and focus group discussions. The results showed that in the active districts, the presence of sex worker peer educators led to an increase in condom use with paying partners (90.3 compared to 66.7 and 76.3% in the two other groups—non-active and average) and increased condom distribution. Condom use with regular non-paying partners of sex workers had, however, not increased since the baseline data. The truck driver peer educators were found to be generally inactive but companies where training had occurred were more likely to encourage and distribute condoms. The qualitative data gave a more in-depth view of several areas for concern: the reasons for the non-use of condoms with non-paying partners; acceptance of educators by their peers; and the sex workers’ and truck drivers’ criteria for condom use based neither on knowledge nor on their own risk awareness. These issues need to be explored further.

Introduction

The number of AIDS cases globally continues to rise, with an estimated rate of new cases of 3 million a year. Over 95% of these are in developing countries (WHO, 1996). In sub-Saharan Africa, the majority of HIV-1 cases occur in east and central Africa (PHLS, 1996). The virus has tended to follow the trade and population movements down through the continent, transmitted by the sexual habits of long-distance truck drivers and traders, and the commercial sex workers along these routes (Orubuloye et al., 1993; Pozniak, 1993; WHO, 1996; Mertens and Caraël, 1997). On the east coast, the route has been from Kenya to Tanzania, south to Zimbabwe, Malawi and South Africa (Bassett and Mhloyi, 1991).

Since the prospects of a vaccine being available in the near future are remote, the only means of preventing transmission of the virus is by changing high-risk behaviours (Bandura, 1990; Catania et al., 1990). As 80% of all transmission in sub-Saharan Africa is by heterosexual intercourse, most prevention programmes have concentrated their efforts on increased condom use and a reduction of partners among high-risk groups. Health education programmes targeting sex workers have been carried out in several countries, Cameroon (Monny-Lobe et al., 1989), Zimbabwe (Wilson et al., 1990), Tanzania (Mhalu et al., 1989) and Kenya (Plummer et al., 1989) being examples. This paper evaluates the impact of such a programme for commercial sex workers and their potential clients (long-distance truck drivers) in Malawi.

The evaluation methodology was designed to incorporate both qualitative and quantitative data—
the mixed-method approach that is now considered good practice in evaluation (Greene et al., 1989; Lewin, 1994).

**The mixed-method approach**

Data collection has been traditionally divided into quantitative (measurable and therefore deductive and objective) and qualitative (descriptive, subjective and inductive) (Debus, 1986; Steckler et al., 1992; Dootson, 1995). There has been a debate about the terminology (triangulation or mixed method) when using more than one methodology in the same study (Greene et al., 1989). Whereas the term mixed method has been applied to a methodology using at least one qualitative and one quantitative method to ‘reveal different aspects’ (Greene et al., 1989) (but not to seek convergence or validation of results), triangulation has traditionally meant using two methods to ‘strengthen the validity of inquiry results’ (Greene et al., 1989).

Denzin (Denzin, 1978) has identified four types of triangulation:

1. **Data triangulation**—the use of a variety of data sources in a study;
2. **Investigator triangulation**—the use of several different researchers or evaluators;
3. **Theory triangulation**—the use of multiple perspectives to interpret a single set of data; and
4. **Methodological triangulation**—the use of multiple methods to study a single problem or program.

The reason for these methods was the validation of findings (Patton, 1990; Flick, 1992). However, Denzin has since modified his definition and now states that ‘the goal of multiple triangulation is a fully grounded interpretive research approach’ and that ‘in-depth understanding’ and not validity is the reason for mixing methods (Denzin, 1989; Flick, 1992). He has also stated that mixed method is a part of triangulation: the fourth type of his classification.

In-depth understanding is especially important in sexual behaviour research. Sensitive issues such as condom use and the reasons for not using them can often be better explored in the more congenial environment of a focus group than by answering a questionnaire. A programme for sex workers in California has found that ‘neither quantitative nor qualitative data alone were sufficient for understanding AIDS risk for sex workers’ (Dorfman et al., 1992).

**Background**

The republic of Malawi is situated in Central Africa, between Tanzania, Mozambique and Zambia. It is a small landlocked country with a population of 10.8 million and almost one-fifth of the 118 480 km² land mass covered by the waters of Lake Malawi. The country rates among the world’s 10 least developed countries with a GNP per capita of US$200 with 85% of the rural population and 25% of urban below the absolute poverty line (UNICEF, 1995). The under-5 mortality rate is currently 221 per 1000. After 30 years of a repressive one party state under President Kamuzu Banda, the country held the first democratic elections in 1994.

AIDS was first diagnosed in Malawi in 1985 and by 1994 there were 36 236 reported cases. In 1993, it was estimated that one in five adults was affected and that 80% of commercial sex workers were found to be HIV-positive (UN and GOM, 1993). At the present time, it is estimated that one in three of urban adults and one in five of rural adults are infected.

In 1988, in response to the AIDS epidemic, the Malawi government prepared a Medium Term Plan to cover the years 1988–1993. Information, education and communication were considered to be important components and were, for the first 2 years, directed at the public in general. Studies in 1986 and 1987 had shown an increase in HIV rates among sex workers from 42 to 80% and, in 1989, a study among STD patients showed 62.4% positivity (UN and GOM, 1993). In view of these findings, the National AIDS Control Programme launched a project entitled ‘Prevention of Sexual Transmission of HIV through Information, Education and Communication’ in 1990, with funding and technical assistance from the European Com-
mission of the European Union. The project proposed to train peer educators, an approach that has been used both with adolescents (Arnold and Barnes, 1989), prison inmates (Lyons et al., 1989), prostitutes (Monny-Lobe et al., 1989) and young people in summer resorts (Weise et al., 1989).

The pilot phase and base-line survey

The education programme began with two high-risk groups, i.e. sex workers and long-distance truck drivers, the potential clients of the sex workers. Prostitution is illegal in Malawi, as it is in many African countries and therefore bar-based sex workers are defined as being women who work in a registered bar as cleaners, barmaids or resthouse attendants, occupying quarters behind the bar. In 1990, there could be up to 20 girls at each bar with an appointed head sex worker in charge. In exchange for accommodation, the women were expected to work in the bar and to encourage customers to buy drinks. If the women so wished to engage in prostitution, the customers were taken to the quarters behind the bar. Women often had to share rooms and had to wait their turn to entertain a customer. Pimping is a little-known phenomenon in Malawi and therefore the bar owners or managers received no part of the fee.

The specific objectives of the project were to promote risk-reducing behaviour and maintain low-risk behaviour among the two target groups. Peer educators would be trained in each bar and in each of the trucking companies.

The peer education intervention began with a pilot project among sex workers in three district towns, Dedza, Mponela and Mchinji. The three towns are in districts adjacent to the capital city, Lilongwe, and are on main trucking routes from Tanzania and Zambia. Ethnically and linguistically the three areas are similar.

A pre-intervention base-line Knowledge, Attitudes, Practice and Behaviour (KAPB) study was carried out on 242 sex workers using questionnaires only. The respondents were selected randomly from a list of registered bars supplied by the local health authorities. Awareness of the nature of the AIDS epidemic was high: 97.5% (236 of 242) had heard of AIDS; 64.8% (153 of 236) of respondents knew AIDS was sexually transmitted while 73.2% (99 of 137) knew that there was no cure. On methods of prevention, 56.3% (99 of 176) mentioned avoiding sex with multiple partners while 50.6% (89 of 176) mentioned condoms. Condom use—on at least one occasion—was reported by 66.5% (161 of 242) of sex workers. Among sex workers, 63.6% (154 of 242) had sex with non-paying partners (boyfriends) and of those 67.5% (104 of 154) used a condom with these men (Wynendaele et al., 1991).

During the following 4 months, peer education training was given in Dedza; a low-effort intervention (health talks) took place in Mponela while Mchinji served as the control town. The peer educators were trained for 4 days to give information about HIV/AIDS, to promote and distribute condoms, and to teach safe sex negotiation skills to their fellow sex workers. The low-impact health talks were given by health staff to groups of sex workers.

At the end of the 4 months, the same questionnaire was administered to measure the impact of the intervention. Unfortunately there was a high dropout rate and only 116 of the original 242 girls were interviewed in the follow-up. Results from the remaining respondents showed, however, that correct condom use increased from 18.9% (40 of 212) to 68% (59 of 116) and the proportion reporting having ever using condoms increased from 66.5% (161 of 242) to 100% (116 of 116) (Wynendaele et al., 1991).

As the sex workers appeared to be a group that was easily reached (through already established communities with an appointed leader), peer education was considered an appropriate approach. This assumption, plus the encouraging results from the pilot sites, led to a nationwide expansion of the interventions. Long-distance truck drivers were also targeted as potential sex worker clients. These were reached through trucking companies in the two main towns of Malawi. By the end of 1992, 1183 sex workers and 458 truck drivers had been
trained as peer educators, in most of the 24 districts nationwide.

In 1994, monitoring data showed that few of the trained peer educators had remained in place and that activity in several districts had ceased (Kajawo, 1994). District health management teams, struggling with limited resources and an ever-increasing demand on their time, have had to prioritize which projects should be supported and which donors should be accommodated; usually depending on the going allowance rate. As the responsibility for the implementation of the project at district level lies with the district AIDS co-ordinator (a part-time position), it was decided to concentrate on three districts where there was a committed worker and potential for a successful intervention. An impact evaluation for this new phase was planned and carried out in 1996.

**Evaluation methodology**

Since 1991, more and more bar-based commercial sex workers are moving away from bars and joining the ever-increasing number of so-called ‘free-lancers’ (women who are not employed by a bar, but are free to solicit where they wish and who utilize either hotel rooms or a rented room for clients). Although this phenomenon was known to the project staff, it was only during the impact evaluation that the real situation became apparent. The planned methodology for random selection of respondents had therefore to be modified, as there were considerably fewer bar-based sex workers than had been envisaged: all bar-based sex workers in the selected six districts were therefore interviewed. As the project had originally targeted bar-based workers, it was felt inappropriate to extend the evaluation to the free-lancers.

The district towns in which data was collected were chosen from two of the three regions. The decision not to include the northern region was due to logistical and financial constraints, and the fact that only 11% of the population live in the north. The chosen towns were taken from active (districts where peer education training had taken place within the last year), non-active (no training had taken place since the initial one in 1991) and average (districts where training had taken place but there was little observed activity). Two districts were chosen from each group, the criteria being determined by process evaluation reports from the District AIDS Co-ordinators and the project staff field visits reports. All bars in the district were visited and all sex workers currently employed there were interviewed. The list of bars was supplied by the District AIDS Co-ordinators. A bar-based sex worker was defined as being employed by the bar and occupying accommodation on site. In total 424 women in all were interviewed, falling short of the planned 600.

The truck drivers were also interviewed at all trucking companies in the main city of Blantyre, where most of the companies have their headquarters. The companies were listed (by the City Council Health Department), ranked according to size and, using company pay-rolls, 600 drivers were chosen—this being the calculated sample size computed by the statistical package EPI-INFO6. Three groupings were planned, i.e. active (active trained peer educator present), non-active (no trained peer educator) and average (where there was no trained peer educator but city health personnel made frequent visits).

Although the data collection period was extended, the research assistants faced problems in reaching the target figure (600 in total). Drivers, although on the pay roll, were often seconded to companies in other towns or were on sick leave. Due to these logistical problems and to economic constraints, convenience sampling was used. A total of 347 drivers was eventually reached.

Standard questionnaires, one for each group, were translated into Chichewa, the local language and were back-translated for accuracy (Brislin et al., 1973). Having been pre-tested, they were administered to all respondents by the trained enumerators. Focus group discussions were held with a random sample of the questionnaire respondents. Six groups were held for sex workers while only one was held for the truck drivers. Here a problem arose when drivers who were asked to participate, refused, due to a fear that they had
been singled out by company management for some specific purpose. The discussion was then held as part of a 1-day training course on AIDS information and correct condom use, which was more acceptable to respondents, although only 11 (randomly selected) drivers from all three groups attended. The discussion guides used during the focus groups followed the same format as the questionnaire, with some added topics.

### Results and discussion

**Sex workers mobility and spill-over effect**

When the intervention among sex workers was planned, it was envisaged that, although these women were highly mobile (there having been a 50% dropout in the 4 months of the pilot phase), they would continue with their peer education activities in the new place of employment. The impact evaluation clearly proved this assumption to be false.

The quantitative data showed that 59.2% of all sex workers had spent less than 6 months at the present bar. There was no statistically significant difference between the active, non-active and average groups so it could be assumed that this is a national trend. Sex workers stated that ‘new faces’ are always more exciting and attract more customers, hence the drive to be constantly on the move. Migrant workers and an influx of tobacco farmers to the capital during annual tobacco sales were other reasons given for the women’s mobility.

When women who had been trained as peer educators moved to a new bar, nobody listened to them: especially if the other women in the new bar had started in prostitution long before the peer educator. It was felt that she had no experience or credibility:

Yes they despise them. They (the new bar residents) tell them ‘why are you teaching us now, you were not there when I started prostitution, did you teach me prostitution?’.

A peer educator to a new district said that all she did was ‘just observe and do nothing’. Peer educators were seen by other women to be rude and lacking in respect. ‘They are selfish, they keep the information to themselves and they don’t really care about us’ was one complaint.

Sex workers are clearly not the homogenous supportive group they may appear to be. Although women may cook and eat together, and support each other in other ways, they do not necessarily listen to each other. There is a degree of jealousy: women stated that they would prefer a peer educator from outside their own bar.

There would be no problem if she came from some other bar but not from our own bar.

One trained peer educator said:

... (if) we go back to our bars and organize our fellow-sex workers, tell them what we have learnt here, they won’t listen to us, they will just say ‘that is your own business’.

As shown in Table I, although there is a significant difference between groups, when it came to hearing about HIV/AIDS from a peer educator, the total number of girls in the active districts who had contact with an educator was only 40%. Knowledge was not higher in the active districts. The largest difference was in condom distribution (see Table II). In the non-active districts, sex workers had to buy their own condoms. The peer educators’ strength lies in condom distribution rather than in actual health education. This has lead to an increase in condom use with paying partners (see Table II), though there is a significant difference between the districts on this point.

When asked if they had regular boyfriends, 77.9% of all women said yes and there was no difference between the groups. Neither was there any difference with the use of condoms with this partner, 70% said that they had used a condom during the last sexual encounter. This is only a slight increase (not significant) from the 67.5% of the baseline data. It was not possible to compare results of condom use with paying partners as the baseline had used the variable ‘ever used a condom’, whilst the impact evaluation used ‘during the last week’.
Table I. Contact with peer educators, knowledge, perceived risk and perceived ability to negotiate safer sex

<table>
<thead>
<tr>
<th></th>
<th>Active (%; N = 147)</th>
<th>Non-active (%; N = 154)</th>
<th>Average (%; N = 123)</th>
<th>$\chi^2$</th>
<th>Total (%; N = 424)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heard of HIV/AIDS from a peer educator</td>
<td>40.1</td>
<td>27.5</td>
<td>23.6</td>
<td>18.9$^a$</td>
<td>30.7</td>
</tr>
<tr>
<td>Awareness that healthy people can be HIV-positive</td>
<td>89.1</td>
<td>82.4</td>
<td>90.2</td>
<td>5.0</td>
<td>87.0</td>
</tr>
<tr>
<td>Knowledge of fatality of AIDS</td>
<td>95.9</td>
<td>96.8</td>
<td>94.3</td>
<td>1.3</td>
<td>95.8</td>
</tr>
<tr>
<td>Knowledge of use of condoms as prevention</td>
<td>92.5</td>
<td>91.6</td>
<td>88.6</td>
<td>1.3</td>
<td>91.0</td>
</tr>
<tr>
<td>Awareness of being at risk</td>
<td>85.0</td>
<td>89.6</td>
<td>91.1</td>
<td>3.3</td>
<td>88.4</td>
</tr>
<tr>
<td>Believe they can negotiate for safer sex</td>
<td>93.2</td>
<td>86.4</td>
<td>74.0</td>
<td>22.0$^a$</td>
<td>85.1</td>
</tr>
</tbody>
</table>

$^aP \leq 0.001$.

Table II. Condom use and source of condom supply

<table>
<thead>
<tr>
<th></th>
<th>Active (%; N = 147)</th>
<th>Non-active (%; N = 154)</th>
<th>Average (%; N = 123)</th>
<th>$\chi^2$</th>
<th>Total (%; N = 424)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received condoms from a peer educator since Christmas</td>
<td>40.6</td>
<td>15.6</td>
<td>19.3</td>
<td>27.5$^a$</td>
<td>25.2</td>
</tr>
<tr>
<td>Bought condoms since Christmas</td>
<td>47.2</td>
<td>62.3</td>
<td>61.2</td>
<td>8.2$^b$</td>
<td>56.8</td>
</tr>
<tr>
<td>Has a regular boyfriend (non-paying)</td>
<td>76.0</td>
<td>79.1</td>
<td>78.7</td>
<td>0.5</td>
<td>77.9</td>
</tr>
<tr>
<td>Use of condom with boyfriend during last sexual act</td>
<td>71.6</td>
<td>69.5</td>
<td>70.0</td>
<td>0.1</td>
<td>70.4</td>
</tr>
<tr>
<td>Use of condom with paying partner in last week</td>
<td>90.3</td>
<td>76.3</td>
<td>66.7</td>
<td>10.02$^b$</td>
<td>77.7</td>
</tr>
</tbody>
</table>

$^aP \leq 0.001$, $^bP \leq 0.01$.

During the focus group discussions, a different scenario emerged. Initially women agreed that they did use condoms with all men including regular partners but as the discussion continued, one girl said, ‘Let’s be honest’. What then emerged was that regular boyfriends ‘after being with them for some time’ could be trusted: as they supported the woman financially, they had to be respected. This trust and respect seemed to outweigh the risks. This phenomenon of non-condom use with regular boyfriends is not peculiar to Malawi, but has been reported elsewhere (Day et al., 1988; Wilson et al., 1990; Bloor, 1995). As the active sites showed a significant difference in condom use with paying partners, but not with regular non-paying, it must be assumed that this trend is countrywide.

What is clear from the data is that, although results are encouraging, the whole subject of condom use is complex. Sex workers have criteria for condom use that are not based on health knowledge or risk awareness. Although 87% of all sex workers answering the questionnaire agreed that people who are HIV-positive can look healthy, what emerged from the discussion was that they tend to judge clients by appearance and to use a condom accordingly. They were well aware of the signs and symptoms of AIDS such as ‘thin hair’, ‘those who look weak and skinny’ or had ‘hair like a kwashiorkor child’. However, if ‘the husband is healthy, wife is healthy, no need to use a condom’. Trust played a role as well:

You look at a man, if he takes care of his wife, the wife is well-dressed, then you know he will take good care of you.

Knowledge does not of course necessarily change behaviour. The complexities of condom use among sex workers are an important area that needs to be addressed.

Truck drivers

From the quantitative data, it became clear that the active company peer educators were no longer effective in either holding meetings or distributing
condoms. However, the data showed that a company that had a peer educator was more likely to distribute condoms (see Table III). As with the sex workers, drivers in the focus group expressed the wish to have an educator from outside the company. There were, however, two companies (active) with dedicated (not specially trained) senior staff who promoted condoms and ‘good morals’.

We are lucky in that the sales manager will invite you before you leave to advise you to behave responsibly, especially if you are married.

An in-depth interview with this manager confirmed his interest in promoting safer sex. None of the focus group participants saw this as interference from the company: all agreed that it was necessary and was heeded by the drivers:

I follow the advice when I have travelled.

**Condom use**

All the focus group participants agreed that condoms should be used with casual partners but then continued to make exceptions, based on appearance, despite the fact that 98.8% of all questionnaire respondents had stated that HIV-positive people could look healthy (see Table IV). Like the sex workers, drivers looked to the health of the partner to determine the necessity of using a condom:

If a lady is fat and healthy looking as if she does not have it [i.e. HIV] I wouldn’t use a condom. If a woman is thin, she is probably carrying the disease, use a condom.

If the woman is ‘decently married’ there was no need for protection or:

If you know the husband and he looks healthy, no need to use a condom with his wife.

None of the focus group drivers used a condom with their wives, the reason being that they would then be accused of adultery.

The drivers felt that it was the long-distance truck drivers who operated across borders and who carried ‘mataifa’ (women smugglers) that were the problem. In the non-active group of companies, 80% of drivers spent more than 10 nights away per month. As there was no significant difference between the three groups as far as having a regular girlfriend or having casual sex, the length of time of the road does not appear to influence risky behaviour. However, the fact that drivers from

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**Table III. Meeting attendance and sexual behaviour**

<table>
<thead>
<tr>
<th></th>
<th>Active (%)</th>
<th>Non-active (%)</th>
<th>Average (%)</th>
<th>χ²</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N = 109)</td>
<td>(N = 121)</td>
<td>(N = 117)</td>
<td></td>
<td>(N = 347)</td>
</tr>
<tr>
<td>Number of nights spent away from home in the last month</td>
<td></td>
<td></td>
<td></td>
<td>38.3</td>
<td></td>
</tr>
<tr>
<td>&lt; 10</td>
<td>38.7</td>
<td>19.1</td>
<td>54.5</td>
<td></td>
<td>36.9</td>
</tr>
<tr>
<td>&gt; 10</td>
<td>61.3</td>
<td>80.0</td>
<td>45.5</td>
<td></td>
<td>63.0</td>
</tr>
<tr>
<td>Heard of HIV/AIDS from a peer educator</td>
<td>11.9</td>
<td>3.3</td>
<td>3.4</td>
<td>9.6</td>
<td>6.1</td>
</tr>
<tr>
<td>Attendance at meetings held by someone else</td>
<td>28.4</td>
<td>31.4</td>
<td>36.8</td>
<td>2.8</td>
<td>32.3</td>
</tr>
<tr>
<td>Received condoms from a peer educator since Christmas</td>
<td>7.3</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>2.6</td>
</tr>
<tr>
<td>Received condoms from the company since Christmas</td>
<td>33.0</td>
<td>2.5</td>
<td>8.5</td>
<td>51.0</td>
<td>13.8</td>
</tr>
<tr>
<td>Presence of regular girlfriend</td>
<td>17.0</td>
<td>15.7</td>
<td>13.9</td>
<td></td>
<td>15.5</td>
</tr>
<tr>
<td>Use of condom with girlfriend during last sexual act</td>
<td>40.0</td>
<td>33.3</td>
<td>33.3</td>
<td>0.2</td>
<td>36.4</td>
</tr>
<tr>
<td>Casually (not girlfriend)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>last 3 weeks</td>
<td>6.4</td>
<td>8.3</td>
<td>4.3</td>
<td>0.8</td>
<td>6.3</td>
</tr>
<tr>
<td>&gt; 3 weeks</td>
<td>43.1</td>
<td>40.0</td>
<td>48.0</td>
<td></td>
<td>43.5</td>
</tr>
<tr>
<td>Use of condom during last sexual act with casual partner</td>
<td>61.4</td>
<td>40.7</td>
<td>31.7</td>
<td>12.4</td>
<td>44.3</td>
</tr>
<tr>
<td>Use of condom with wife during last sexual act</td>
<td>5.8</td>
<td>7.5</td>
<td>1.8</td>
<td>3.9</td>
<td>5.0</td>
</tr>
</tbody>
</table>

*aP ≦ 0.05, bP ≦ 0.01, cP ≦ 0.001.
Table IV. Knowledge and risk awareness

<table>
<thead>
<tr>
<th></th>
<th>Active (%; N = 109)</th>
<th>Non-active (%; N = 121)</th>
<th>Average (%; N = 117)</th>
<th>χ²</th>
<th>Total (%; N = 347)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge that infected people can look healthy</td>
<td>100.0</td>
<td>97.5</td>
<td>99.1</td>
<td>3.2</td>
<td>98.8</td>
</tr>
<tr>
<td>Knowledge of prevention methods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>condom use</td>
<td>57.8</td>
<td>50.4</td>
<td>53.0</td>
<td>1.3</td>
<td>53.6</td>
</tr>
<tr>
<td>reduction of partners</td>
<td>19.3</td>
<td>11.6</td>
<td>19.7</td>
<td>3.5</td>
<td>16.7</td>
</tr>
<tr>
<td>faithfulness</td>
<td>47.7</td>
<td>32.2</td>
<td>36.8</td>
<td>6.05a</td>
<td>38.6</td>
</tr>
<tr>
<td>abstinence</td>
<td>62.4</td>
<td>62.0</td>
<td>65.0</td>
<td>0.2</td>
<td>63.1</td>
</tr>
<tr>
<td>non-share of razors</td>
<td>33.0</td>
<td>21.5</td>
<td>26.5</td>
<td>3.9</td>
<td>26.8</td>
</tr>
<tr>
<td>believe that they are at risk</td>
<td>14.8</td>
<td>17.5</td>
<td>9.4</td>
<td>3.3</td>
<td>13.9</td>
</tr>
</tbody>
</table>

aP ≤ 0.05.

active companies were more likely to use a condom with these casual partners emphasizes the need for an intervention in the non-active group.

The focus group participants felt that there had been a change of behaviour partly due to the harsh realities of the epidemic: ‘The same drivers escort the body of friends or work mates (at the funeral) so that drives them to change’. Or ‘we discuss our late fellow drivers and conductors who have died of AIDS. We tell each other that we are the only ones remaining and it is good for us to go to the hospital and collect condoms’.

In the questionnaire, on the question of preventive measures, faithfulness was mentioned by 38.6% (134 of 347) and abstinence by 63.1% (219 of 347). The drivers in the focus group felt that faithfulness was important and that one had a shared responsibility:

No one keeps your ‘lifeparcel’ (Chichewa expression meaning health and well-being) but yourself, but today this no longer applies, your wife keeps your parcel and you your wife’s.

There was a concern for the spouse becoming infected:

You get worried and start thinking about the number of years you are going to stay alive. A thing which you do in few minutes, but you get worried for the whole year about what you have done, knowing that you could as well do it with your wife.

Abstinence on the road was considered difficult as professional sex workers presented themselves as ‘trials and temptations’. According to the focus group, these women board the long-distance buses and:

After everyone drops out of the bus, you see these women remain, maybe one women wants to sleep with the driver or conductor, so even if the driver or conductor had no plans of sleeping with a woman, he ends up doing so because the woman is there.

For one driver, the problem had been solved:

I make sure to go to places with no temptation. I drink myself to death and go to bed.

Conclusion

Reliability

There have been several studies done on the reliability and validity of self-reported sexual behaviour. James et al. (James et al., 1991) found that the information obtained from self-administered questionnaires and face-to-face interviews was largely consistent, as were data collected by Upchurch (Upchurch, 1991) from couples attending STD clinics. However, both these studies were carried out in developed countries. As stated by Catania et al. (Catania et al., 1990) ‘self-presentation bias in sex research reflects the underlying values that
a culture or specific subcultures place on revealing sexual experience to others’. There appears to be only one such study from a developing country, using self-reported condom use and the presence of a STD (Taha et al., 1996). Although this study is from Malawi, it was carried out in the teaching hospital of the commercial centre. Many clinic records from STD clinics or condom distribution forms are not reliable and cannot be used to support the evaluation data. Although some trucking companies had clinics, records were unreliable as drivers felt stigmatised if they attended these clinics. Having an ‘STD is associated with having AIDS’ and:

A while ago before AIDS was widespread, drivers would report their STD to the company clinic but now with the advent of AIDS which is associated with STDs, people no longer do so.

Possibly a cross-section study at strategic border points may be a way to determine STD prevalence and condom use among drivers (Bwayo et al., 1991).

**Evaluation results**

Given that there is a significant difference between districts in condom use for sex workers and condom distribution for trucking companies, behaviour change has occurred. It is the ‘grey areas’ such as condom use with regular non-paying partners that is of concern. No solution has yet been found to this problem (Day et al., 1988; Hooykaas et al., 1989; Pickering et al., 1993), although Wilson et al. (Wilson et al., 1990) advocates the inclusion of boyfriends in health education interventions.

The discrepancy between knowledge, risk awareness and actual behaviour is also not new but needs to be continually addressed. Future interventions need to be tailored more to meet the needs of the beneficiaries: even if this means moving away from the classic definition of peer education to something with which both commercial sex workers and long-distance truck drivers are comfortable—it is after all, their programme.

Finally the mixed-method approach has shed light on some of the complexities of behaviour change in high-risk groups: it has proved to be a useful tool for future evaluation studies.

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**References**


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