

# Level of stigma among female sex workers: comparison of two surveys of HIV behavioral data, Ethiopia

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## Abstract

**Background:** HIV and AIDS stigma and discrimination is widespread in Africa. We did a secondary data analysis of HIV and AIDS behavioral surveillance surveys (BSS) on female sex workers residing in three major cities in Ethiopia.

**Objectives:** To compare level of sigma among sex workers through the analysis of two data sources of BSS conducted in 2002 and 2005 in Ethiopia.

**Methods:** The BSS used standardized methodology to study the level of stigma among female sex workers. Female sex workers were sampled using two-stage probability sampling methods in each of the three cities. Data from a total of 2,888 female sex workers was analyzed and interpreted. We used Chi square to compare the socio-demographic variables of the two surveys and logistic regression to compare level of stigma between the two surveys.

**Results:** There is a significant difference in the level of stigma between the two surveys. This applies to most of the questions that were included in the surveys.

**Conclusion:** The proportion of female sex workers with a stigmatizing attitude is considerably high, posing threats to the HIV prevention program. Strengthening interventions on all aspects of stigma is recommended.

**Key words:** stigma, HIV, female sex workers

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## Introduction

There existed several perspectives on disease - related stigma before the advent of HIV and AIDS. Leprosy which is one of the stigmatizing diseases that the world has faced is one example <sup>1</sup>. Since the recognition of HIV, stigma has remained a fundamental focus of HIV intervention on people living with HIV and AIDS, families, and societies at large. AIDS related stigma is widely studied in terms of understanding its manifestations and coping mechanisms of people living with HIV for aspects such as discrimination, interpersonal distancing, prejudice, and hostilities <sup>2-5</sup>.

HIV and AIDS stigma and discrimination is widespread in Africa <sup>6</sup>. Stigma has deep roots in the social context of communities sustaining serious challenges for HIV and AIDS prevention and control efforts <sup>7, 8</sup>. Experience in Uganda and authors elsewhere reported that addressing stigma is essential in the prevention of HIV and AIDS <sup>9, 10</sup>.

With the evidence of HIV positive sera in 1984 in Ethiopia, most of the large scale biological and

behavioral HIV surveillance activities focused on population groups that were considered at highest risk including female sex workers <sup>11, 12</sup>. A study conducted on female sex workers drawn from 23 urban centers including Addis Ababa, the capital city of Ethiopia revealed high levels of HIV infection <sup>13, 14</sup>. As a result, female sex workers have been experiencing HIV and AIDS social sigma and discrimination for more than two decades. In the 2002 BSS it was indicated that female sex workers had a very high (88.1%) level of stigmatizing attitudes against people living with HIV and AIDS <sup>15</sup>. Moreover, population-based surveys in Ethiopia have demonstrated that stigma and discrimination is widespread in almost all segments of the population and in all parts of the country <sup>16</sup>. This study uses data from two rounds of BSS that included different population groups with aggregated sample sizes of 30,312 and 30,775 in the first and second rounds of the surveys. The surveys addressed population groups such as the uniformed services, youth (in school and out of school), long distance truck drivers, intercity bus drivers, factory workers, female sex workers, pastoralists, and others <sup>15,17</sup>. Patterns of knowledge and condom use in the different population groups of the 2005 BSS were analyzed and published elsewhere <sup>18</sup>.

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The objective of this study was to compare levels of stigma among sex workers in the three cities and detect changes through the analysis of two data sources of HIV and AIDS behavioral surveillance surveys conducted in 2002 and 2005 in Ethiopia.

## Methods

### Design

We compared data from two rounds of behavioral surveillance surveys (BSS) on HIV and AIDS. The BSS employed cross-sectional surveys with probability sampling methods that were conducted in 2002 and 2005 in three major cities in Ethiopia.

### Target populations and sites

This study focused on female sex workers residing in three major urban centers in Ethiopia namely Addis Ababa, Nazareth, and Bahirdar. Based on health facility report among antenatal care attendees, the HIV prevalence in the three cities was high. For example in 2001, HIV prevalence was 15.6%, 19% and 23.4% in Addis Ababa, Nazareth, and Bahirdar respectively<sup>19</sup>. Among the different population groups included in the BSS, female sex workers were selected because of the application of the same sampling methods in the two rounds of surveys and reports of high level of stigmatizing attitudes<sup>15,17</sup>.

### Sample sizes, sampling and survey procedures

Sample size calculation was based on comparison of two proportions considering design effect and 80% power. Sampling of study participants followed guidelines for BSS<sup>20</sup>.

Firstly, mapping of study sites and listing of bars and sites for selling local beverage were done and then the average number of female sex workers per bar/site was estimated. Secondly, a two-stage sampling technique was applied to select female sex workers for the interview. At the first stage, bars and sites (clusters) were selected using probability proportional to size and at the second stage equal numbers of female sex workers were recruited and interviewed in bar site. In bars where the number of female sex workers was few, all were taken. Street-based female sex workers were selected using time-location sampling and were limited to Addis Ababa.

### Instruments and Data Collection procedures

The BSS uses standardized questionnaires that are pre-tested and adapted to the Ethiopian situation. Almost all the questions were the same for the two rounds of surveys, except for a few modifications in the second round. The questionnaires were

translated into the local language and back translated to check for consistency with the English version. The questionnaires were field tested before use.

In the 2002 BSS the data collectors had completed high school and in 2005 most were from the Central Statistical Agency (CSA). The CSA is a national institution in charge of demographic and health surveys in collaboration with ORC Macro as well as designing, conducting and reporting of national surveys of economic and social importance.

In order to ensure confidence and convenience, the interviewers were sex matched with interviewees and were selected from different areas of the same region speaking the same language as the interviewees. This arrangement was preferred to avoid possibilities of acquaintance between the interviewer and interviewee.

### Variables

In this study we identified variables of the two rounds of surveys that were intended to be studied. All the variables of interest from the two surveys were merged and analyzed.

a) Explanatory variables: Age, city, education and marital history b) the outcome variables included: Stigma variables that consisted of seven questions and a composite indicator constructed from the seven questions, i.e. presence of one or more stigmatizing attitude. The questions are: 1) Should people living with HIV and AIDS be quarantined? 2) Are you willing to share a meal with a person infected with HIV? 3) Are you willing to give care to a female relative patient with AIDS? 4) Are you willing to give care to a male relative patient with AIDS? 5) Should an HIV infected female sex worker continue to work? 6) Are you willing to buy food from an HIV infected food seller/shop keeper? and 7) Do you want to keep secret the sero-status of an HIV-infected household member?

Then, having at least one stigmatizing attitude was reported as 'yes' for unfavorable responses to any one or more questions and "no" for favorable responses to all the seven questions.

### Data Quality

The BSS used highly supervised data collection and data handling procedures that followed manuals of the CSA. One supervisor supervised a maximum of four to six data collectors and each questionnaire was checked for completeness and consistency on the spot. All data collected were handled and processed by CSA.

## Data analysis

This analysis extracted data covering the three cities of interest. Female sex workers from other areas that were covered by the first round were excluded (n=945). The second round survey was limited to the three cities. Moreover the analysis did not differentiate the type of female sex workers such as bar-based, home-based and street-based. This was due to problems related to inconsistencies of coding for the variable in the two data sets.

Data was analyzed using SPSS version 13. The analysis focused on assessing the seven questions on stigma. We used bivariate analysis for comparing selected socio-demographic variables and then logistic regression was applied controlling for age, city, and educational status. Adjusted odds ratios and 95% confidence intervals were calculated to indicate statistical associations at 5% significance level.

## Ethical issues

The study was approved by the Research and Publication Committee of the Faculty of Medicine, Addis Ababa University.

Operational definition: a respondent was considered as having had at least one stigmatizing attitude if failing to correctly respond to all seven questions that measure stigmatizing attitude in both surveys.

## Results

In the three major cities namely Bahirdar, Nazareth and Addis Ababa, a total of 2888 female sex workers were interviewed in both surveys. Of the total female sex workers in the analysis, 52.6% were from the first round while 47.4% were from the second round. As depicted in table 1, the mean age of female sex workers was 22.1 years SD =5.2 (22.6 ±5.5 vs. 21.6 ± 4.8 years). The two groups of female sex workers were different in their age distribution, educational status, place of residence and marital status. About 57% of the first round and 48% of the second round of female sex workers reported ever being married.

**Table 1 Socio-demographic characteristics of female sex workers (N=2,888), Ethiopia, 2002 and 2005**

| Characteristics              | Survey 1 (2002)<br>n (%) | Survey 2 (2005)<br>n (%) | Total N          | Chi square | P value |
|------------------------------|--------------------------|--------------------------|------------------|------------|---------|
| <b>City (n=2888)</b>         |                          |                          |                  |            | 0.0001  |
| Bahir Dar                    | 344 (46.2)               | 400 (53.8)               | 744              |            |         |
| Nazareth                     | 688 (63.2)               | 400 (36.8)               | 1088             |            |         |
| Addis Ababa                  | 460 (43.6)               | 596 (56.4)               | 1056             | 94.9*      |         |
| <b>Age category (n=2813)</b> |                          |                          |                  |            |         |
| 15 – 19                      | 466 (47.7)               | 510 (52.3)               | 976              |            | 0.0001  |
| 20 – 24                      | 597 (53.2)               | 525 (46.8)               | 1122             |            |         |
| 25 – 29                      | 253 (55.2)               | 205 (44.8)               | 458              |            |         |
| 30 – 49                      | 165 (64.2)               | 92 (35.8)                | 257              | 24.6*      |         |
| Total                        | 1481 (52.6)              | 1332 (47.4)              |                  |            |         |
| <b>Mean age (n=2852)</b>     | 22.6 years<br>(SD=5.5)   | 21.6 years<br>(SD=4.8)   | 22.1<br>(SD=5.2) |            | 0.0001  |
| <b>Education (n=2852)</b>    |                          |                          |                  |            |         |
| Illiterate                   | 490 (45.4)               | 590 (54.6)               | 1080             |            | 0.0001  |
| Primary education            | 728 (53.8)               | 624 (46.2)               | 1352             |            |         |
| Secondary & above            | 272 (64.8)               | 148 (35.2)               | 420              | 48.2*      |         |

\*statistically significant

Figure 1 indicates the proportion of respondents' responses to seven stigma questions and one composite indicator of stigma i.e. presence of at least one stigmatizing attitude. Among each group of female sex workers, the proportion of respondents who replied that "people living with

HIV and AIDS should be quarantined" was 31.1% and 5.9% in 2002 BSS and 2005 BSS respectively. Similarly, the proportions of those who reported that they are not willing to share a meal with a person infected with HIV were 49.2% and 27.2% in 2002 BSS and 2005 BSS respectively. Those who were

not willing to provide care for an infected female relative and male relative were 12.8% vs. 8.1% and 12.8% vs. 6.9% in 2002 BSS and 2005 BSS respectively. In regard to the question “Are you willing to buy food from an HIV infected food seller/shop keeper?”, the proportion of those who said ‘no’ were very high in survey one (71 %%) compared to

2005 BSS (40.5%). The proportion of those who wanted to keep secret the sero-status of an infected family member was 18% in survey 1 and 22.2% in 2005 BSS. The level of at least one or more stigmatizing attitude was 95.7% in survey one and 91% in 2005 BSS.

**Figure 1: Comparison of female sex workers’ response to questions on stigma in survey 1 and survey 2, Ethiopia, 2002 and 2005**

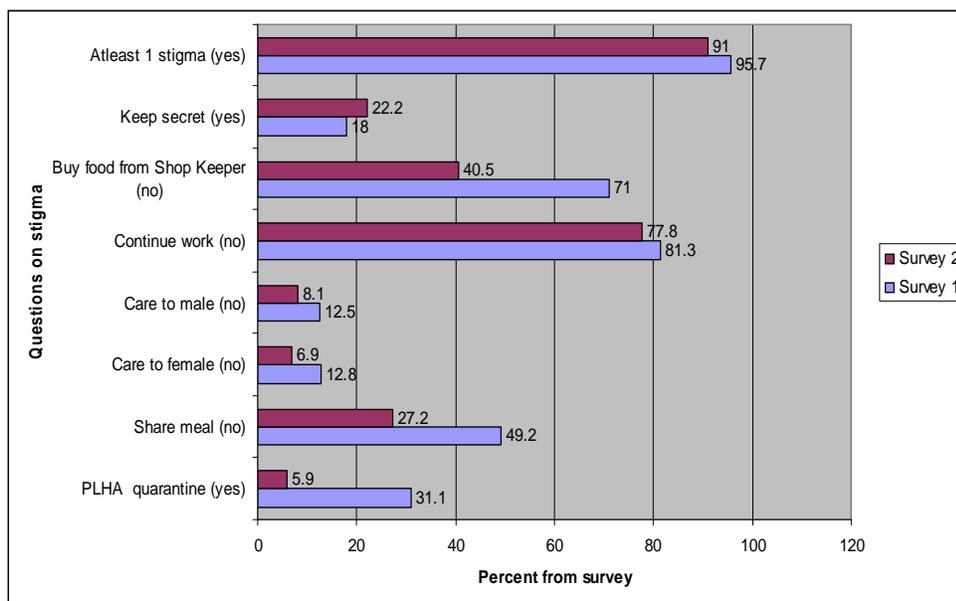


Table 2 shows logistic regression of questions of stigma in 2002 BSS and 2005 BSS. Among the seven individual questions on stigma such as: “Should an HIV positive person be quarantined?” “Are you willing to share a meal with a person infected with HIV?” “Are you willing to buy from an HIV infected shopkeeper and would you keep secret of sero-status of an HIV infected family member?” were found statistically significantly different in the two surveys.

The proportion of female sex workers who rejected that an HIV infected person should be quarantined were higher in survey 2 than survey 1 (OR=5.7; 95% CI 4.3, 7.7). Similarly, the female sex workers in survey two were less likely than in survey 1 to report negatively to the question “are you willing to share a meal with a person infected with HIV?” (OR=0.64 95% CI 0.51, 0.80) than those in surgery one.

Saying ‘no’ to the question “Are you willing to buy food from an HIV infected food seller/shop keeper was 63% lower in survey two than survey one (OR=0.37; 95% CI 0.30, 0.45). Wanting to keep secret the sero-status of an HIV-infected household

member was 34% lower in survey one than survey two (OR = 0.76 95% CI 0.60, 0.95).

Female sex workers in survey 1 were 2.3 times more likely than those in survey two to report at least one stigmatizing attitude (OR=2.3; 95% CI 1.7, 3.2).

**Table 2 Logistic regression of stigma factors in two behavioral surveys on female sex workers, Ethiopia, 2002 and 2005**

| Variable  | No (%)<br>Survey 1 | No (%)<br>Survey 2 | Crude OR<br>95% CI | Adjusted OR<br>95% CI | P-value |
|---|--------------------|--------------------|--------------------|-----------------------|---------|
| Should people living with HIV /AIDS be quarantined?                             |                    |                    |                    |                       |         |
| Yes   | 451 (31.1)         | 77 (5.9)           | 1.00               | 1.00                  |         |
| No  | 998 (68.9)         | 1237 (94.1)        | 7.26 (5.62, 9.36)  | 5.72 (4.27, 7.67)     | 0.0001  |
| Are you willing to share meal with a person infected with HIV?                  |                    |                    |                    |                       |         |
| Yes   |                    |                    |                    |                       |         |
| No  | 718 (50.8)         | 956 (72.8)         | 0.39 (0.33, 0.45)  | 0.64 (0.51, 0.80)     | 0.0001  |
|   | 695 (49.2)         | 358 (27.2)         | 1.00               | 1.00                  |         |
| Are you willing to give care to a female relative patient with AIDS?            |                    |                    |                    |                       |         |
| Yes   | 1244 (87.2)        | 1223 (93.1)        | 0.51 (0.39, 0.66)  | 0.79 (0.41, 1.50)     | 0.47    |
| No  | 182 (12.8)         | 91 (6.9)           | 1.00               | 1.00                  |         |
| Are you willing to give care to a male relative patient with AIDS?              |                    |                    |                    |                       |         |
| Yes   | 1251 (87.5)        | 1207 (91.9)        | 0.62 (0.48, 0.80)  | 1.52 (0.81, 2.86)     | 0.19    |
| No  | 179 (12.5)         | 107 (8.1)          | 1.00               | 1.00                  |         |
| Should an HIV infected Female Sex worker should continue to work?               |                    |                    |                    |                       |         |
| Yes   | 253 (18.7)         | 292 (22.2)         | 0.81 (0.67, 0.97)  | 0.86 (0.68, 1.08)     | 0.19    |
| No  | 1099 (81.3)        | 1022 (77.8)        | 1.00               | 1.00                  |         |
| Are you willing to buy food from an HIV infected food seller/shop keeper?       |                    |                    |                    |                       |         |
| Yes   | 409 (29.0)         | 782 (59.5)         | 0.28 (0.24, 0.33)  | 0.37 (0.30, 0.45)     | 0.0001  |
| No  | 999 (71.0)         | 532 (40.5)         | 1.00               | 1.00                  |         |
| Do you want to keep secret the sero-status of an HIV-infected household member? |                    |                    |                    |                       |         |
| Yes   | 247 (18.0)         | 292 (22.2)         | 1.00               | 1.00                  |         |
| No  | 1124 (82.0)        | 1022 (77.8)        | 0.77 (0.64, 0.93)  | 0.76 (0.60, 0.95)     | 0.016   |

## Discussion

Measuring stigma has remained challenging with wide variations in scale of measurement, instruments, as well as considerations of context of study environment. However, the content of the measurement was fundamentally similar in addressing negative self perception, social rejection and interaction, and internalized shame. Moreover, authors agree that addressing stigma is crucial for success of HIV and AIDS, prevention, care and support, and treatment programs<sup>21-26</sup>. This study has utilized data that was collected using standardized questionnaires and analytic methods to measure the level of stigma in HIV and AIDS behavioral surveillance surveys on female sex workers<sup>20</sup>.

The results of our analysis indicate that there was statistically significant difference in the level of stigma between the two behavioral surveillance surveys, both in individual questions of stigma as well as the composite indicator of stigma i.e. having had at least one stigmatizing attitude. In all questions of stigma except one (should an HIV infected female sex worker continue to work?), the level of stigma was lower in survey two than in survey one and

these two surveys were conducted about three years apart. A high level of difference was noted in questions related to quarantine, sharing a meal with an HIV positive person, providing care to a male - relative and buying food from a shop keeper known to be HIV infected. The Ethiopia Demographic and Health Surveys (DHS) that were conducted in 2000 and 2005 included national level data on stigma and discrimination. In general, the 2005 DHS indicated positive attitudes towards people living with HIV and AIDS compared to DHS 2000<sup>16, 27</sup>. However, even with these improvements much remains to be done as the level of stigma was high. The DHS 2005 revealed that attitudes towards HIV-infected relatives were positive (71.2% in males and 59% in females), compared to questions such as “willingness to buy fresh vegetables from a shopkeeper who has the AIDS virus”. In this case the proportion of those who were not willing was 74.6% in males and 80.1% in females. On the other hand, better acceptability was noted for some of the questions. For example, “Are you willing to care for a family member with the AIDS virus in the

respondent's home?' The proportion of those who said 'no' was 28.8% in males and 41% in females; and, those who said they do "want to keep secret that a family member got infected with the AIDS virus" was 22.6% in males and 34.8% in females. In the same DHS, the level of "accepting attitude on four indicators" i.e. no stigmatizing attitude was very low (11%), indicating a prevailing high level of stigmatizing attitude. Similar variations in response to stigma questions were reported by other authors. For example in Botswana where stigmatizing attitudes were comparably higher for questions such as "sharing a meal with an HIV infected person" compared to the questions "willingness to provide care for a family member sick of HIV in a household", where there is some tolerance and acceptability<sup>20</sup>.

Some have analytically indicated that stigma is one of the factors driving the HIV epidemic in Africa<sup>28</sup>. Therefore, significant reduction in stigma is a good sign for HIV and AIDS control and prevention programs in Africa. Uganda's success stories reveal that interventions on stigma and discrimination had their contribution<sup>29</sup>. In Ethiopia, HIV and AIDS behavioral surveillance surveys have indicated that stigmatizing attitudes were lower across the different study groups compared to the findings of the survey conducted three years earlier<sup>17</sup>. One of the limitations of this analysis is the fact that it did not differentiate and compare results among the different categories of female sex workers such as bar-based, home-based and street-based. In addition, it was difficult to control other variables that were included in the data collection tools. Moreover, the data are three years apart, making the interpretation more difficult. However as indicated in the methods section, the same sampling instruments, sampling methods and data collection procedures were applied in both surveys. It was also observed that street-based female sex workers were limited to Addis Ababa. On the other hand, it is good to note that there were statistically significant socio-demographic differences between the two groups of female sex workers. For example, among the total that were illiterate, the majority were from the second round and among those that had high school and above education, the majority were from the second round survey. This makes it a paradox in regard to the contribution of education towards the reduction of stigmatizing attitudes.

## Conclusion

In this study, we conclude that the level of stigma was lower in the second survey.

Accepting attitudes were observed in areas of care of the sick and sharing meals. However, the proportions of female sex workers with stigmatizing attitudes are considerably high in both rounds of surveys. This demonstrates the importance of prioritizing and addressing different aspects of stigma among female sex workers and other population groups in Ethiopia.

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