# End line Evaluation of the USAID TransACTION Prevention and Care Services for at-risk Mobile Populations Programs in Ethiopia

**June 2014**

This publication was produced at the request of the United States Agency for International Development. It was prepared independently by, consulting firm MELA PLC, managed by the Implementing Partner Save the Children Inc

# End line Evaluation of the USAID TransACTION Prevention and Care Services for at-risk Mobile Populations Programs in Ethiopia

## USAID TransACTION

## June, 2014

**Cooperative Agreement No.663-A-00-09-00410-00**



**Table of Contents**

## ACRONYMS

| | |
|---|---|
| AED | Academic for Educational Development |
| AIDS | Acquired Immuno-Deficiency Syndrome |
| ART | Antiretroviral Viral Therapy |
| CI | Confidence Interval |
| CSW | Commercial sex workers |
| FGD | Focus Group Discussion |
| FP | Family planning |
| HAC | HIV/AIDS Committee |
| HAPCO | HIV and AIDS Prevention and Control Office |
| HCT | HIV Counseling and testing |
| HIV | Human Immunodeficiency Virus |
| IDI | In-depth Interview |
| IGA | Income Generating Activity |
| IPC | Information and prevention center |
| KII | Key Informants Interview |
| LNGO | Local Non-governmental Organization |
| MARPs | Most at risk populations |
| MEO | Micro Enterprise Operators |
| MOH | Ministry of Health |
| NGO | Non Governmental Organization |
| OI | Opportunistic Infection |
| OR | Odds Ratio |
| OSY | Out-of-school youth |
| PE | Peer Education |
| PHFs | Private Health Facilities |
| PICT | Provide Initiated Counseling and Testing |
| PLHIV | People living with HIV |
| PR | Prevalence Ratio |
| PRA | Participatory Rapid Appraisal |
| PSI | Population Service International |
| PSU | primary sampling unit |
| SC/US | Save the Children/USA |
| SSG | Self-Help Saving Groups |
| STI | Sexually Transmitted Infection |
| USAID | United States Agency for International Development |

## Executive summary

USAID TransACTION was a five year, USD 40 million program to prevent new HIV and other sexually transmitted infections (STIs) among key population/most-at-risk populations (MARPs) such as commercial sex workers, male and female daily laborers, long distance transport Workers and other vulnerable populations (Waitresses and Petty Traders) in 119 towns along the major transportation corridors of Ethiopia. The program was multifaceted and comprehensive by design, encompassing a structured peer education that was linked to clinical services for HIV Counseling and Testing (HCT) and Sexually Transmitted Infections (STIs). The intervention was supplemented by an economic strengthening component that promoted and facilitated saving and engagement into micro-finance activities. In order to address the root causes of vulnerability in the community, the program also implemented a community mobilization approach with emphasis to the gender-dimension of transactional sex.

TransACTION prevention intervention was evaluated for expected outcomes of the program in terms of expanding access to prevention & care & support service to most at risk population; strengthening quality prevention service; increasing demand & supportive environment & strengthening of institutional & technical capacity of local entities; using a mixed method approach that combined quantitative and qualitative methods. The evaluation was conducted in 10 program implementation towns in February 2014 where a similar baseline survey was fielded in March 2010 before the start of the intervention program. Several programmatic indicators were compared between the baseline and end line surveys using rigorous statistical techniques, including univariate and multivariate methods. The qualitative facet of the study was based on focus-group discussions, in-depth interviews, key informant interviews and case stories documentation.

Findings of this evaluation demonstrated that the overall goals of the USAID TransACTION prevention intervention were largely met. The results showed that correct and consistent use of condoms increased significantly among the target groups since the baseline. Likewise, target groups' access, awareness and uptake of HCT and STI services also increased significantly compared to the baseline. Whilst several facilitating factors and the creation of supportive environment play their part for program success, this evaluation attributed the recorded success largely to the peer education program, improved access to clinical services, and the integration of the two. And summary findings of the major outcome results of the end line evaluation for most at risk population are:

- **Commercial sex workers** who attended all the eight peer education sessions were 20% more likely than those at baseline to adopt consistent condom use with all paying clients in the previous seven days. And also, sex workers who attended all the eight peer education sessions were 20% more likely than those at baseline to adopt consistent condom use with all paying clients in the previous seven days. With regards to Sexually transmitted infections (STIs) ,the end line data revealed that the vast majority of the sex workers (92%) reported to have heard of STIs, which represents a significant increase from 52.5% reported for the same at baseline ($p<0,.0001$); And At baseline, only 14.5% of the sex workers reported to have had STI check-up in the previous month. The end line data also revealed a dramatic increase in STI check up by sex workers at end line - 66.7% ($p<0.0001$).

- **The Evaluation result also revealed that with in Female daily laborers( FDLs)** the reporting of condom use with the most recent regular partner increased significantly from the baseline 18.7% to 40% ($p<0.0001$). Likewise, consistent condom use of FDLs with all regular partners increased significantly from a low of 16.5% to 35.6% ($p<0.0001$) during the same period. With regards to **Sexually transmitted infections (STIs),** The proportion of FDLs who heard about STI was notably low at baseline (39.3%), and this has increased significantly to 89.5% at end line ($p<0.0001$) and The recognition of one or more STI symptoms also increased significantly from a low of 54.8% to 87.7% and 97.6% across the three groups, respectively. The end line data, on the other hand, recorded a dramatic increase in the proportion of female daily laborers (43.2%) and their partners (38.3%) who have had STI check up in the previous six months.

- **The Evaluation result also revealed that with in Male daily laborers( MDLs)** The proportion that reported using condom with the most recent live-in partner increased from the baseline 34.8% to 59.5% at end line ($p<0.0001$). Likewise, consistent condom use with all live-in partner last year increased significantly from 24.3% to 54%, respectively. The proportion of the male daily laborers that had HCT in the last six months increased significantly from the baseline 45% to 69.2% at end line ($p<0.0001$). With regards to **Sexually transmitted infections (STIs),** Only 62.5% of the baseline respondents have heard of STI and this has increased significantly to 91.5% at end line ($p<0.0001$). Likewise, the recognition of one or more STI symptoms also increased significantly from 57.4% to 93.1% and 96.3%. In general, the proportion of the male daily laborers and their partners that had STI checkup in the previous six months increased significantly form the baseline - i.e. from 6.9% to 45% among the male daily laborers and from 8.6% to 40.8% among their sexual partners.
- **The Evaluation result also revealed that with in Waitresses** Condom use with the most recent live-in partner increased from a low of 30.9% at baseline to 60.2% at end line ($P<0.0001$). Consistent condom use with the live-in partners also showed similar trend from 18.7% to 54% during the period. Temporal trend in HCT (last 6 months) is apparent among the waitresses from the baseline 50% to 79.7% at end line ($p<0.0001$). Multivariate result also found increased likelihood of HCT by the waitresses in relation to attendance of peer education sessions. Compared to the baseline, the likelihood of testing in the previous 6 months increased by 25% among the waitresses who attended a median of 3 sessions. This has increased by 36% among those who attended a median of 7 sessions. With regards to **Sexually transmitted infections (STIs),** The proportion of waitresses who ever heard of STI increased from 54% to 82% ($p<0.0001$) during the period. the proportion of waitresses that had an STI checkup in the previous 6 months increased by more than fourfold since the baseline - from 10.2% to 47.7% ($p<0.0001$). Similar trend is also

recorded for partners of the waitresses - from 6.4% at baseline to 45.2% at end line ($p<0.0001$), as reported by the waitresses

- **The Evaluation result also revealed that with in Truckers** The proportion of truckers who reported using condom with the most recent sex worker and non-regular partner at end line were 98.9% and 87%, respectively. The corresponding figures at baseline were 96.5% and 82 At baseline, only a third (33.8%) of the truckers reported to have had HCT in the previous six months, and this has increased significantly to 60.5% at end line ($p<0.0001$). With regards to **Sexually transmitted infections (STIs),** The proportion that heard of STIs increased significantly from the baseline 86.6% to 96% at end line ($p<0.0001$). the proportion that reported to have had STI checkup in the previous six months increased significantly from the baseline 6.7% to 19.2% ($p<0.0001$).

It is generally believed that, among other risk reduction strategies, increase in condom use, and increase in HCT and STI services use in a population can lead to a reduction in HIV and STI incidences. One can thus posit that the TransACTION intervention would contribute to the overall reduction in HIV and STI incidences among the target groups and general population in the implementation towns and beyond.

It is therefore imperative that the current impetus is maintained in order to sustain and intensify the gains achieved by the program. By design the TransACTION intervention has laid the ground for program sustainability. The core dimensions of sustainability such as active involvement of the community and building the capacity of the community and implementing partners have been realized by the program, which underpin community ownership. In addition, the presence of a government structure in each of the implementation towns (town HAPCO) and the relevance of the intervention for the national and regional HIV/AIDS prevention and control efforts should be emphasized as part of ensuring program sustainability. Besides, program sustainability has already been assured at least for the coming few years as USAID already committed and continued supporting a similar intervention program on at-risk populations under the program, MULU/MARP.

This evaluation also identified a number of challenges in program implementation that need to be addressed in order to intensify the gains achieved by the program. Founded on the gaps and strengths identified, the following recommendations are put forward to help improve similar intervention efforts in the country. While the main text provides the details, the core areas of recommendations revolve around the following:

- Address the low condom use of sex workers with non-paying partners
- Promote regular HCT in the target groups with greater emphasis on sex workers
- Reinforce regular STI check-up in the target groups with greater emphasis on sex workers
- Devise strategy to address high partner change and paid sex among truckers
- Address low participation in and high dropout from the peer educations
- Provide more options for the target groups to access HCT and STI services in public facilities and other service delivery approaches besides the private facilities

- Spell out clearly the primary aim of the economic strengthening facet of the intervention and ensure common understanding among the various stakeholders
- Make sure to adequately involve important gate keepers in the town level HIV/AIDS committees

# I. Introduction

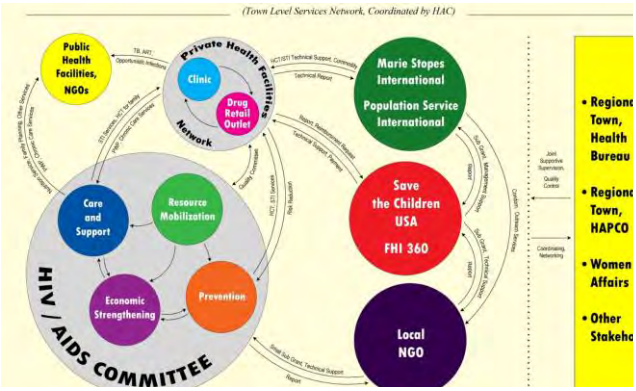
## 1.1. Background

USAID TransACTION was a five year, USD 40million program to prevent new HIV and other sexually transmitted infections (STIs) among key population/most-at-risk populations (MARPs) such as commercial sex workers, male and female daily laborers, long distance transport Workers and other vulnerable populations (Waitresses and Petty Traders) in 119 towns along the major transportation corridors of Ethiopia (Box 1).

Box 1. TransACTION program implementation areas/towns


The program was funded by PEPFAR through a USAID Cooperative Agreement (CA) No. 663-A-00-09-00410-00, and managed by a consortium of international organizations led by Save the children International. The international partners include FHI 360 (formerly as AED), Population Services International (PSI) and Marie Stopes International. Fourteen local non-governmental organizations (LNGOs) directly implemented the program with the support of town level HIV/AIDS Committees (HACs) led by Ethiopia Government's HIV Prevention and Control Offices (HAPCO) or town Mayors. TransACTION was implemented in collaboration with Federal, Regional and local structures consistent with Government strategy of Multi-Sectoral HIV/AIDS response and in collaboration with other USAID-funded programs, to ensure coverage, ownership and sustainability. Program implementation structure and service linkage in each town in shown in Box 2.

Box 2. Town-level implementation structure/service linkage




The program employed a combination of behavioral, biomedical and structural interventions. The behavioral program component of TransACTION was designed to increase knowledge, and foster healthy attitudes and practices among targeted MARPs involved in commercial and informal/ transactional sex. The biomedical intervention of the program included access to quality STI and HIV counseling and testing service provision and linkage using private health facilities (clinics and drug retail outlets) including for-profit and not-for profit entities within the health care network. The structural intervention of the program focused on strengthening local ownership and

building the institutional and technical capacity of local institutions – such as local Non-Governmental Organizations, HIV/AIDS Committees (HACs), Private Health Facilities (PHFs) and PLHIV Associations so that they could actively get involved in the day to day implementation of the program activities at community level. TransACTION prepared a number of HIV and STI education materials including BCC strategy, counseling flip charts, cue cards for different target groups, activity log book, M & E tools, M & E plan, coupons, registration books for PHFs, referral slips, IEC/BCC materials, Quality improvement guide, Saving books, Gender community dialogue guide among others, to support the behavioral change communication strategy and the clinical services.

The TransACTION program has carried out a number of studies to help design activities, to assess progress of implementation and to help guide and develop program strategies including formative assessment, baseline study and mid-term evaluation. At the end of the program, an outcome evaluation was conducted to assess the outcome of the program during the four years and eight months (May 2009 – December 2013) of implementation in terms of its contribution in reducing the HIV and STI transmission among key populations /MARPs in towns situated along the transport corridor routes of Ethiopia. This report presents findings from the outcome evaluation.

### 1.2. Description of the TransACTION core program activities

TransACTION has designed five programmatic components, gender being the cross-cutting theme: (1) HIV/AIDS and STI Prevention Education; (2) Clinical Service Delivery using private providers (3) care & Support (4) Economic Strengthening and (5) Capacity Building. This section summarizes the program components.

### 1.3. Program Branding and the peer education cue cards

TransACTION has developed five branded programs under the umbrella name *Addis Mela* (new strategy) for the different target groups. These are: (1) Addis Mela *Le Hiwot* (for sex workers), (2) Addis Mela *Le Siket* (for male and female sex workers). (3) Addis Mela Le Guzo (for truckers), (4) Addis Mela *Le Idget* (for waitresses) and (5) Addis Mela *le Tesfa* (for PLHIVs). The peer education cue cards and the IEC/BCC materials for each target groups were also branded accordingly. The peer education sessions for each target groups were designed to accommodate several sessions and topics including basics about HIV/AIDS, condom, HCT, STIs, risky behaviors, communication and negotiation skills with partners, pregnancy, saving, among others. The peer education sessions for sex workers, male and female daily laborers and waitresses were designed to accommodate eight sessions in eight weeks. The truckers' peer education model was different and was based on one-to-many and many-to-one approach and had five sessions. That means a trucker can be trained by one or more peer educators for the different sessions and, at the same time, a single peer educator can train more than one trucker. The peer education sessions for the PLHIVs was designed to accommodate 25 sessions that primarily focused on positive prevention.

### General Objective of the Evaluation:

The objective of the evaluation is to assess the outcomes of Prevention and Care Services for At Risk Mobile Populations Program achieved during its four years and eight months (May 2009 – December 2013) implementation period and its contribution towards reducing the HIV and STI

transmission among Key populations /MARPs in towns situated along the transport corridor routes of Ethiopia.

**Specific Objectives:**

1. To evaluate TransACTION performance according to the four outcome result areas indicated i and also in referencing to the Program's M&E Plan/PMP and baseline data.
2. To assess the effectiveness and relevance of the design and implementation of the different program components in terms of meeting the intended objectives;
3. To examine the sustainability of the program's interventions ;
4. To explore and suggest methodologies, approaches and components of TransACTION which can be effectively scale –up based on the available knowledge.

**Outcome Results:**

1. Outcome Result 1: Expanded access to a network of key prevention, care and support services for most at risk population
2. Outcome Result 2: Strengthened quality of prevention services, behavior change communication (BCC) and community-based care and support for most at risk populations
3. Outcome Result 3: Increased demand and supportive environment for provision and use of prevention, care and support service among key population/MARPs
4. Outcome Result 4: Strengthened institutional and technical capacity of local NGOs, private facilities and target client groups to manage and provide quality targeted prevention, care and support

**Key Evaluation Question**

The following key evaluation questions are proposed to be included in the end line evaluation:

1. How effective and relevant was the design of the BCC strategy in terms of bringing the required change in sexual behavior and meeting the needs of Key populations/MARPs?
2. Did the behavioral change communications (BCC) result in increased demand for information/HCT and STI services? What were the gaps between demand creation and clinical uptake, if any?
3. What changes were observed in terms of knowledge, attitude and practice of the target MARPs in relation to HIV and STI prevention, Care and Support and Treatment, including the availability of services (such as VCT, STI symptoms, diagnosis and treatment ,and FP/RH etc), and mode of transmission?
4. What are the changes in sexual and other risky behaviors, including risk perception, negotiation skills, condom utilization that minimizes the risk of HIV and STI infection?
5. Did the quality of behavior change education/information, prevention services, and community-based care/support improve? What approaches were employed and how successfully they were?
6. How was the access to information/ services related to prevention/care/support of HIV and STIs expanded for targeted MARP groups and to what extent they are satisfied with the service?

7. How successful was the implementation of Economic Strengthening (ES) activities in terms of enabling target groups accumulate and diversify asset base, supporting the SSG members move to viable IGAs, reducing vulnerability due to economic stress, linking Income Generating activities (IGAs) to government support mechanism (training/fund), or Micro-Finance Institutions (MFIs), or private employers.
8. How the linkage to care and support services was strengthened and what new initiatives were introduced?
9. To what extent gender norms contributing to increasing vulnerability were addressed and how was Gender integrated into LNGO program activities/strategies?
10. How successful was the program in building local ownership and strengthening the institutional and technical capacities of PHFs, local NGOs and communities support mechanisms (including HIV/AIDS committees, PLHIV and target group associations)?
11. Were the program approaches and structures relevant for the achievement of the program objectives?
12. What was the contribution of the program in terms of creating enabling and supportive environment to improve use of prevention and care services by Key population/MARPs, including the strengthening public-private partnership?
13. Is there evidence which suggest the positive contribution of the program towards reducing new HIV and STI infection?
14. To what extent did the USAID TransACTION program play in establishing, maintaining and building public private partnership to MARPs focused HIV/AIDS and STIs programming?

# II. Methodology

The study employed a mix of quantitative and qualitative methods. The quantitative method was designed to examine temporal changes in key outcome indicators between the baseline and end line. It was also designed to assess the likely effect of exposure to the program intervention (e.g. peer education) on several key outcomes using rigorous statistical method such as multivariate logistic regression model.

The qualitative methods allowed for gaining a better insight into and in-depth understanding of the impact of the TransACTION intervention from the perspectives of program beneficiaries, communities, program implementers, among others. Both the quantitative and qualitative facets of this evaluation collected data in 10 TransACTION program implementation towns.

## 2.1. Quantitative methods

*Study design:*
The quantitative part of the evaluation primarily relied on pre-and post-intervention comparison of key TransACTION program indicators including condom use, HCT, STI knowledge, STI checkup and selected sexual behaviors of the target groups; namely sex workers, male and female daily laborers, waitresses and truckers. The baseline survey did not involve a control or comparison group in the non-TransACTION area; neither did the end line survey. In order to complement the drawbacks of the pre-and post-test design in impact evaluation, and also to tease out the likely effect

of the intervention on the aforementioned outcome indicators, we employed a Plausibility Design at the data analysis stage. This approach did not involve an external (non-intervention area) control rather it employed internal controls. Internal controls are those individuals who, despite living in the program area, were not reached by the intervention or did not participate in the program due to different reasons. We compared the key outcomes between those end line survey respondents who were exposed and unexposed to the program intervention using rigorous statistical techniques.

*Sampling:*
A multi-stage cluster sampling was employed at end line, exactly as in the baseline survey. This involved selection of clusters and then individual target group members for interview. A cluster (or a primary sampling unit) is a small village containing a high concentration of the target groups e.g. sex workers. For the purpose of this study an area/village/locality to be considered as a cluster a minimum of 25 individuals or establishments should be found in that locality. The baseline survey adopted this definition.

*Updating baseline clusters*:
We updated the baseline clusters as well as mapped new clusters in the 10 study towns prior to the actual data collection for the end line. An ethnographic or social mapping was employed to construct the locations for the different target groups in each of the 10 study towns. As part of cluster mapping, we gathered and compiled the specific localities (village names) of the cluster, the boundaries, special landmarks, the total number of establishments or target group members in a given cluster, whether a given cluster was covered by the TransACTION Addis Mela program intervention and, if so, whether it was fully or partially covered by the program, among others. The mapping process involved key informant interviewing, observation and spending time "walking the community" in the company of key informants. A cluster mapping guide was prepared for the purpose and implemented. In the 10 towns, we mapped 58 sex workers clusters, 33 female daily laborers clusters, 49 male daily laborers clusters and 24 Waitresses clusters. For truckers, this procedure was not applied. The truckers were interviewed in two sites along the Ethio-Djibuti transport corridor. The resulting list of clusters for each target group served as sampling frame for subsequent selection of sample clusters.

*Selection of sample clusters:*
We employed a Probability Proportion to Size (PPS) approach to draw sample clusters in each target group with the exception of truckers. As in the baseline, we sampled 16 clusters per target group and, in each cluster we sampled and interviewed 25 individuals. In each target group, we interviewed 400 individuals via a 16 by 25 factorial design. Of note, the sampling frame excluded clusters that were not covered by the TransACTION program intervention.

*Selection of respondents:*
Listing of all establishments or individual members of the target groups in each of the sampled clusters was done in order to generate sampling frames for the subsequent selection of individual respondents for the interviews. Individual respondents were selected from the lists using either simple random or systematic random sampling. Ransom sampling procedure, however, was not implemented on the truckers due to mobility rather a "take-all" approach was employed to sample truckers.

*Sample size:*

The same sample size for each target group was set at 400, as in the baseline. The baseline sample size was computed based on scientific formula. Indeed, this sample size is large enough to detect significant changes in all outcome indicators with acceptable power and precision.

*Questionnaires*:
Akin to the baseline survey, separate questionnaires were used for each target group. The questionnaires were designed to collect information on common themes including socio-demographics, mobility, sexual behaviors, HIV/AIDS knowledge and risk perceptions, psychosocial issues, STIs knowledge, self-reported incidence of STIs, perception and utilization of health services in relation to HCT and STI, among others. The questionnaires were largely pre-coded with fixed-response categories and were administered in Amharic. In order to maintain comparability of baseline-end line indicators, we maintained the baseline questionnaires in the end line. However, the end line questionnaires added a section on program exposure that collected information on individual's participation in the Addis Mela intervention. In particular, this section gathered information on whether the individuals have participated in the Addis Mela peer education sessions, the number of peer education sessions attended, whether the individuals visited Addis Mela clinic for HCT and STI checkup as well as participation in the Addis Mela saving scheme.

### 2.2. Qualitative methods

The qualitative methods encompassed focus group discussion (FGD), in-depth interview (IDI), key informants interview (KII), and case story. We conducted 25 FGDs and 92 IDIs with members of the target groups who have participated in the peer educations, in the community dialogue, the lay counselors, and IPC workers across the ten towns. Key informants who responded to our interviews emerged from the HACs, town HAPCO, local implementing NGOs, Addis Mela private health facilities, drug retail outlets, PLHIV associations, town sector offices, among others. In total we conducted over 115 key informant's interviews.

FGDs and IDIs participants were recruited in close consultation with the local implementing NGOs in each of the towns. We employed the principle of "homogeneous strangers" to enroll participant for the FGDs. The FGDs were facilitated by a moderator and a raporter both of whom were not residents of the study sites or members of the target groups. FGD and IDI guides were prepared for each target group and translated to Amharic for ease administration. All discussions were tape recorded after getting verbal consent from the study participants and notes were also taken. The recorded information was transcribed verbatim.

### 2.3. Data management and analysis

*Quantitative data:*
The data from the questionnaire were computerized using EPI-INFO by five highly experienced data entry clerks. We employed double data entry to assure data quality. Data cleaning and post coding were also part of the data quality assurance procedures. We appended the baseline and end line data and created one data file system for analysis. This was possible because the two surveys collected similar information with the exception of the exposure section that was added at the end line. Data analysis primarily focused on comparing key outcome indicators between the baseline and end line using descriptive statistics and multivariate methods. The relationship between exposure to the program intervention, as measured by the number of peer education sessions attended, and the program outcomes for each target group was examined using univariate and multivariate methods.

All associations/ correlations were tested for significance; a p value<0.05 suggests statistical significance. Log binomial model was employed for high prevalence indicators (i.e. exceeding 50%) while Logistic regression models for low prevalence indicators to adjust for potential confounding factors, as deemed necessary. Data analysis was performed using STATA 11.

*Qualitative information:*
The qualitative analysis was designed to provide an in-depth and better understanding of the dynamics of change among the different target groups and communities that participated in the intervention program. In analysing the qualitative information, our aim was to identify common themes, convergent and divergent ideas in the transcribed documents. The processes required us to code, summarize, categorize, and constantly triangulate the various sources of information so as to derive patterns of response by target groups and other characteristics of respondents.

### 2.4. Organization of the study

*Training of data collectors and survey teams:*
The training was held during January 29-Februaury 2, 2014 in Addis Ababa. Two different training venues were used for the training - one for the quantitative and one for the qualitative. The 5-day training was attended by 15 quantitative interviewers, 3 quantitative supervisors, 6 qualitative interviewers/researchers and 3 qualitative coordinators. It was organized to accommodate different methodologies including presentation of key terms, concepts and procedures, item-by-item review of questionnaires, mock (pair) interviews, Questions & Answers (Q&A), and feedback sessions. The training was assisted by a number of tailor-made manuals, questionnaire modules, forms/checklists, TransACTION cue cards and IEC/BCC materials. The trainings were facilitated by four trainers. TransACTION team also played an important part in monitoring the progress of the training as well as in providing technical inputs in the different sessions of the qualitative training.

*Survey team formation and site assignment:*
For the purpose the fieldwork we formed three survey areas; each survey area made up of 3-4 towns. In each survey area one quantitative and one qualitative teams were deployed. Each quantitative team was comprised of 5 interviewers and 1 supervisor. While a qualitative team was composed of 2 interviewers/moderators and 1 coordinator. In total, 27 individuals participated in data collection. The fieldwork was conducted during February 4-28, 2014.

*Fieldwork monitoring and quality assurance:*
Supervision of the end line data collection took various layers. The main task of supervision rested on the team supervisors/coordinators. At the second level, the core Mela research team was in charge of supervising the performance of teams including the team supervisors.
Another layer of survey quality control came from the office editing process that verified filled questionnaires for their completeness, legibility of responses, and consistency. The supervision and quality assurance at the cluster level consisted of the following major activities - (1) on-spot observing interviews (2) re-interview, as deemed necessary (3) conducting review meetings, (4) questionnaire editing and (5) hand tally of selected indicators. Supervisors used tailor made guidelines and checklists during survey supervision.

### 2.5. Ethical aspects of the study

The study received ethical approval from the regional health bureaus of Tigray, Amhara, Oromia and SNNP regions by the respective regional health bureaus ethical review boards.
As part of the training, the entire study team was given orientations and written instruction on how to maintain the ethical aspect of the study. Participants of the individual interviews, FGDs, IDI and KII were given complete information as to the objective of the study and their benefits/risks and only following their consent were they participated in the study. FGD and IDI participants were compensated with a modest fee [50 Birr~2.5USD] for the time they spent in the discussion. There was no similar compensation for the other respondents who participated in the quantitative survey as well as the key informants. The information collected was anonymous and no personal identification, such as names, was collected which could be used for tracing purpose after the data collection. All the information and data was accumulated, organized, stored, analyzed, and retrieved guaranteeing confidentiality.

### 2.6. Study limitations

The following limitations of the study deserve mentioning:

- Due to outmigration, early attendees of the peer education sessions may not be equally represented in the sample. It is however unknown how this sampling bias would influence the findings of the survey.
- Baseline–End line comparison of outcome indicators can be influenced by some unobserved confounders although main confounding factors were adjusted for in the multivariate analysis
- As in any other behavioral study, information on sexual behaviors often subjected to social desirability bias.

# III. HIV and STI Prevention: Key Program Outcomes

This chapter is divided in to seven sections. Sections 3.1-3.5 present baseline-end line comparison of key outcome indicators using the quantitative data, separately for each target group. The sections also present data and analysis on the relationship between exposure to the peer education and the different outcomes for each target group.

Section 3.6. presents beneficiaries' view on the impact of the peer education program on individuals' behaviors using analysis of the qualitative information. This section also provides in-depth information on how the peer education and the clinical services influence individual's behavior in relation to condom use, HCT and STI. The section also illuminates important gaps and challenges to achieving some of the desired behavioral changes in relation to the different outcomes. Some of the challenges of the peer education program and the clinical services were also identified and discussed.

Section 3.7 presents the qualitative findings on positive prevention among PLHIVs who participated in the Addis Mela program intervention.

## 3.1. Commercial sex workers

### 3.1.1. Background characteristics of sex workers

The study interviewed 400 sex workers in 10 TransACTION program implementation towns. As shown in Table 1, more than half (56.2%) of the sex workers were sampled from large-sized towns followed by those sampled from medium- and small sized towns at 25% and 18.8%, respectively. Sex workers operating in different sex work venues were included in the sample - 39% in bars or hotels, 36% in local drink houses and 25% in red light houses.

Sex workers whose age ranged from 15 years to 48 years were interviewed with a mean age of 21.4 years. The majority of the sex workers (46.5%) were ages 25 years or older; while only 2.7% were 18 years or younger. About two-third of the sex workers had some education with only about 13% having had 10 years or higher level of schooling. About a quarter had elementary education (grade 1-6) and 29% 7-9 years of schooling. The sex workers sampled were nearly equally split between the never married (50.7%) and those divorced/widowed (48%). only very few, 1.2%, were married. The distribution of sex workers by the number of years in sex work depicted that a little bit over half (56%) reported to have worked for a maximum of two years. About 23% operated as sex workers for five or more years and a tenth had less than one year experience in sex work.

Table 1. Selected background characteristic of sex workers, TransACTION end line survey, February 2014

| | % | N |
|---|---|---|
| Study town | | |
| Large-sized (pop: >100,000) | 56.2 | 225 |
| Medium-sized (pop: 30,000-99,000) | 25.0 | 100 |
| Small-sized (pop:<30,000) | 18.8 | 75 |
| Type of Venue: | | |
| Bar/Hotel | 39.0 | 156 |
| Red light house | 25.0 | 100 |
| Local drink house | 36.0 | 144 |
| Age of respondent: | | |
| 15-18 | 2.7 | 11 |
| 18-20 | 23.0 | 92 |
| 21-24 | 27.7 | 111 |
| 25-48 | 46.5 | 186 |
| Mean age (95% CI) | 21.4 (20.8-21.9) | |
| Educational Status: | | |
| Cannot read/write | 32.6 | 129 |
| 1-6 Grade | 25.5 | 101 |
| 7-9 Grade | 29.0 | 115 |
| 10+ grade | 12.9 | 51 |
| Marital Status: | | |
| Never married | 50.7 | 203 |
| Currently Married | 1.2 | 5 |
| Divorced/ Widowed | 48.0 | 192 |
| Duration in sex work | | |
| <1 year | 10.3 | 75 |
| 1-2 | 45.7 | 331 |
| 3-4 | 21.5 | 156 |
| 5+ | 22.5 | 163 |

3.1.2. Participation in the Addis Mela Peer Education (PE)

The main pillar of the Addis Mela intervention for sex workers was the structured peer education program that was organized in eight sessions, guided by a tailored cue card. It was organized to accommodate 10 sex workers in one group. We asked sex workers if they have ever attended any peer education session, and if so when was the first session attended and how many sessions. As shown in Table 2, 90% of the sex workers interviewed reported to have attended one or more peer education sessions. Over 80% of the sex workers reported to have attended the peer educations in 2012 (53.8%) and 2013 (27%) whilst 19.2% in 2010/2011. The relatively lower representation of the sex workers who have attended the peer education in the early years of the program in our sample was partly due to outmigration of early attendees to other towns.

Among sex workers who joined the peer education program, only 40.3% reported to have attended all the eight sessions. 37% of the sex workers reported to have attended a maximum of four sessions, and 22.7% of the sex workers reported to have attended 5-7 sessions. This information was used to categorize sex workers as (1) not exposed, (2) moderately exposed and (3) highly exposed in relation to the Addis Mela intervention. Accordingly, those who did not attend any peer education session were considered as the non-exposed group; while those attended peer education but did not

complete all the sessions were considered as having moderate exposure to the program. Only those who completed all the eight sessions were considered as highly exposed to the program. As shown in Table 2, of the 400 sex workers interviewed 10% did not attend the peer education session and thus are considered unexposed group while 49.7% attended some peer education sessions (attended a median of 4 sessions) and are considered as having moderate exposure to the program. Of all sex workers, 40.3% are categorized as highly exposed. Subsequent sections examine the relationship between the number of peer education sessions attended and selected outcome indicators.

Table 2. Participation in the Addis Mela peer education, Sex workers, TransACTION end line survey, February 2014

| Peer education attendance | % |
|---|---|
| | N=400 |
| Attended at least one peer education (PE) sessions | 90.0 |
| **Year peer education (PE) attended** | N=359 |
| 2010-2011 | 19.2 |
| 2012 | 53.8 |
| 2013-2014 (January) | 27.0 |
| **Number of PE sessions attended** | N=359 |
| 1 | 1.9 |
| 2 | 8.1 |
| 3 | 9.7 |
| 4 | 17.2 |
| 5 | 9.7 |
| 6 | 9.4 |
| 7 | 3.6 |
| 8 | 40.4 |
| **Exposure definition** | N=400 |
| Did not attend any PE session | 10.0 |
| Attended some sessions (a median of 4 sessions) | 49.7 |
| Completed all the 8 sessions | 40.3 |

3.1.3. Sexual partnership

Sex workers' sexual partners can be broadly categorized as paying clients and non-paying partners. As shown in Table 3, 79.5% of the sex workers reported to have had at least one paying client in the seven days prior to interview. This was lower but not significantly compared to the reported 85% for the same at baseline. On average, the sex workers interviewed at the end line reported to have had 5.7 clients per week; and this was significantly higher than the mean number of clients of 4.3 reported at baseline ($p<0.001$). Seven or more clients in the last seven days was reported by 30.8% of the sex workers at end line. This represents a twofold increase compared to the 15.7% reported at baseline ($p<0.001$).

We defined non-paying partners of sex workers as those who do not pay in exchange for sex. They can be live-in regular partners, boyfriends, or causal partners of the sex workers. A little bit over a fifth (21%) of the sex workers reported to have had a non-paying partner in the previous three

months at end line and this was significantly higher than the 35.3% reported for the same at baseline ($p<0.0001$). Two or more non-paying partners in the previous three months were reported by 4.3% and 2% of the sex workers, respectively, at baseline and end line. The difference was not statically significant.

Table 3. Percentage of respondents who had sex with paying clients in the seven days preceding the interview and those who had sex with non-paying partners in the last three months, commercial sex workers, TransACTION baseline (March 2010) and end line survey (February 2014).

| | Baseline N=400 | End line N=400 |
|---|---|---|
| Paying clients (last 7 days) | | |
| % had sex with any paying client (last 7 days) | 85.0 | 79.5 |
| Number of paying clients (last 7 days): | | |
| 0 | 15.0 | 20.5 |
| 1 | 7.0 | 6.7 |
| 2 | 16.3 | 12.8 |
| 3 | 19.0 | 10.2 |
| 4 | 12.7 | 8.8 |
| 5 | 8.0 | 6.7 |
| 6 | 6.3 | 3.5 |
| 7+ | 15.7 | 30.8** |
| Mean (95% CI) number of paying clients | 4.3(3.8-4.8) | 5.7 (5.1-6.3)** |
| Non-paying partners (last 3 months) | | |
| % had sex with a non-paying partner (last 3 months) | 35.3*** | 21.0 |
| Number of non-paying clients (last 3 months): | | |
| 0 | 64.7 | 79.0 |
| 1 | 31.0 | 19.0 |
| 2+ | 4.3 | 2.0 |

**p<0.05; **P<0.001; ***p<0.0001*

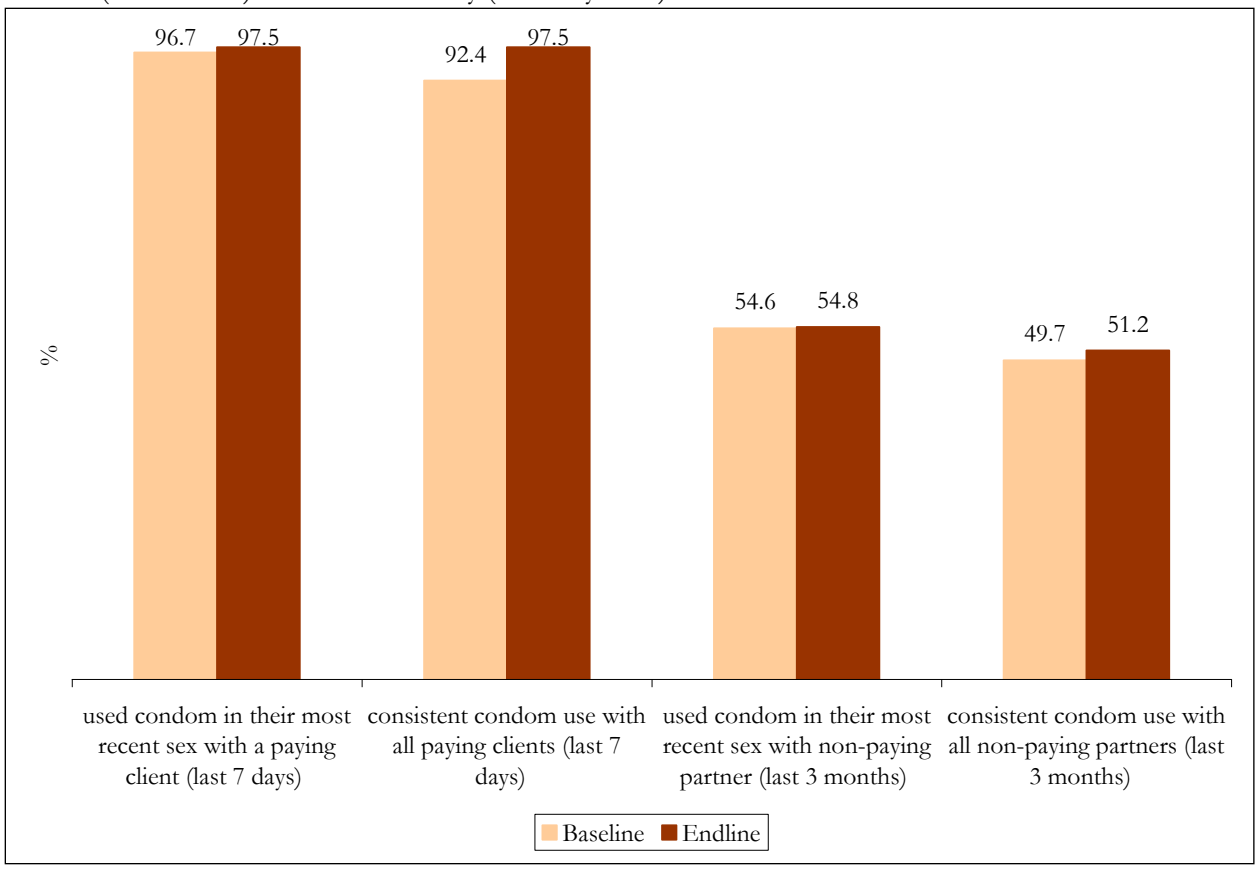
3.1.4. Condom use

*Condom use - - baseline vs. end line*:
Figure 1 compares sex workers' condom use with paying clients and non-paying partners between the baseline and end line. In general, condom use with the most recent paying client in the previous seven days was nearly universal and remained unchanged since the baseline. Data show 96.7% and 97.5% of the sex workers at baseline and end line, respectively, reported to have used condom with their paying clients in the previous seven days. Nevertheless, the reporting of consistent condom use with all paying clients in the previous seven days has increased significantly from 92.4% at baseline to 97.5% at end line ($p=0.003$).

On the other hand, condom use with non-paying partners not only remained low but also unchanged since the baseline (Figure 1). The proportion of sex workers who reported using condom during their most recent sex with a non-paying partner was 54.6% and 54.8%, respectively, at

baseline and end line. Likewise, consistent condom use with such partners was reported at 49.7% and 51.2%, respectively.

Figure 1. Condom use with paying clients and non-paying partners, commercial sex workers, TransACTION baseline (March 2010) and end line survey (February 2014).



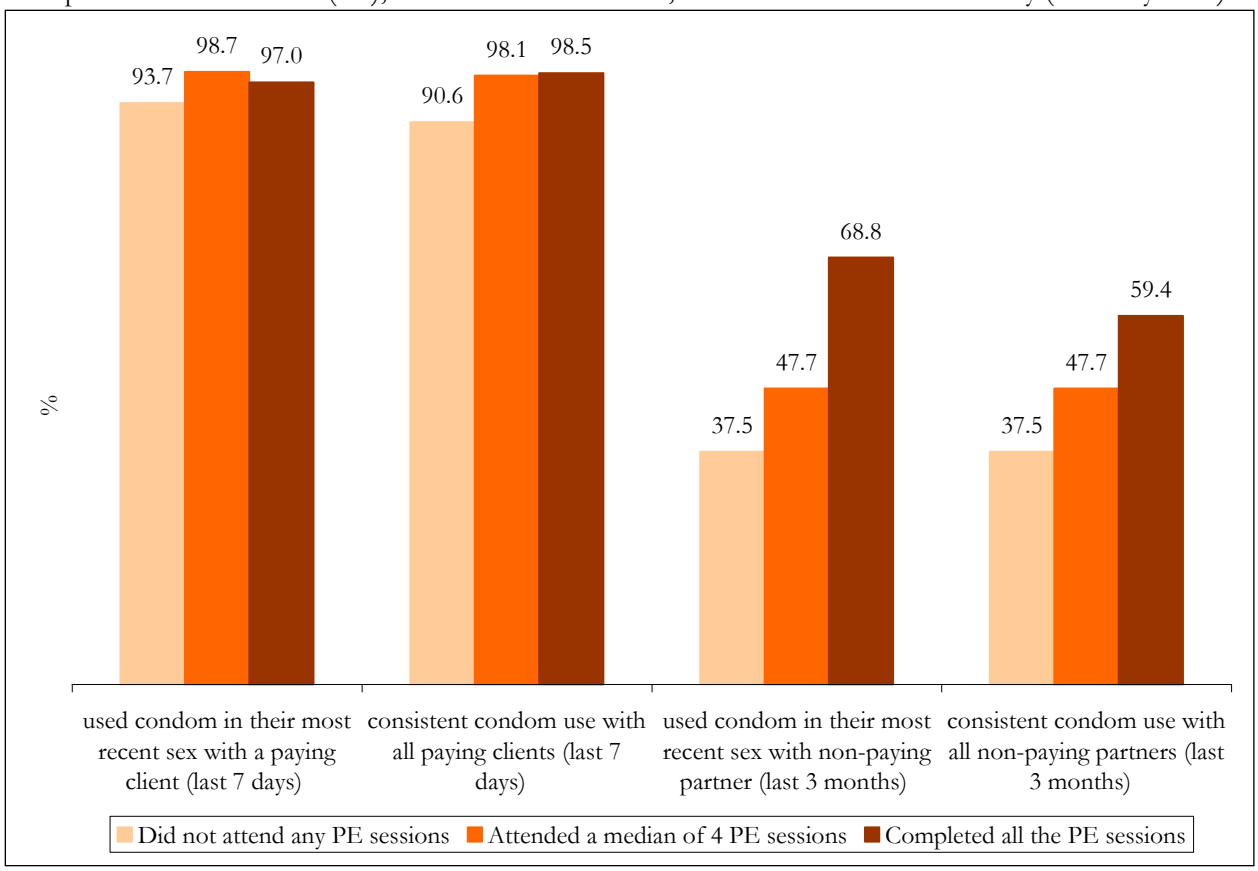

*Peer education and condom use:*

Analysis shows that consistent condom use with all paying clients and non-paying partners was associated significantly with the number of peer education sessions attended. As shown in Figure 2, the proportion of sex workers who reported to have used condom with all paying clients in the previous seven days increased significantly from a low of 90.6% among those who did not attend any peer education session to 98.1% and 98.5%, respectively, among those who attended some sessions (a median of 4 sessions) and those who completed all the sessions (p=0.03). It is important to note that those end line sex workers who did not attend the peer education session were not significantly different than those at baseline in terms of their use of condom with paying clients (90.6% and 92.4%). This finding is further corroborated by the multivariate Log-Binomial Model presented in Table 5 that adjusted for the age, education of sex workers, duration in sex work, size of town, and type of sex work establishment. Accordingly, sex workers who attended all the eight peer education sessions were 20% more likely than those at baseline to adopt consistent condom use with all paying clients in the previous seven days. Attendance of some peer education sessions (a median of 4 sessions) also carries significant positive effect on consistent condom use with paying clients although the effect was less stronger. The likelihood of using condom with all paying clients in the previous seven days increased by 3% among those who attended some peer education

sessions compared to those at baseline. The multivariate analysis also confirmed the lack of significant temporal change in consistent condom since the baseline among those who did not attend any peer education session.

While there was no overall trend in condom use with non-paying partners during the period, participation in the peer education appeared to be associated with a significantly higher condom use with non-paying partners. The data even suggests a dose-response relationship between participation in the peer education and the reporting of condom use with non-paying partners. As shown Figure 2, the proportion who reported using condom during their most recent sex with a non-paying partner increased from a low of 37.5% among those who did not attend any peer education session to 47.7% among those who attended some sessions (a median of 4 sessions) and to 68.8% among those who completed all the sessions ($p<0.05$). Consistent condom use with a non-paying partner also increased from 37.5% to 47.7% and 59.4%, respectively. The multivariate result in Table 5 revealed that, after adjusting for a number of potential confounding factors, completion of a peer education session was significantly associated with an increased use of condom with non-paying partners. The likelihood of using condom increased by 15% among sex workers who completed all the peer education sessions compared to those at baseline.

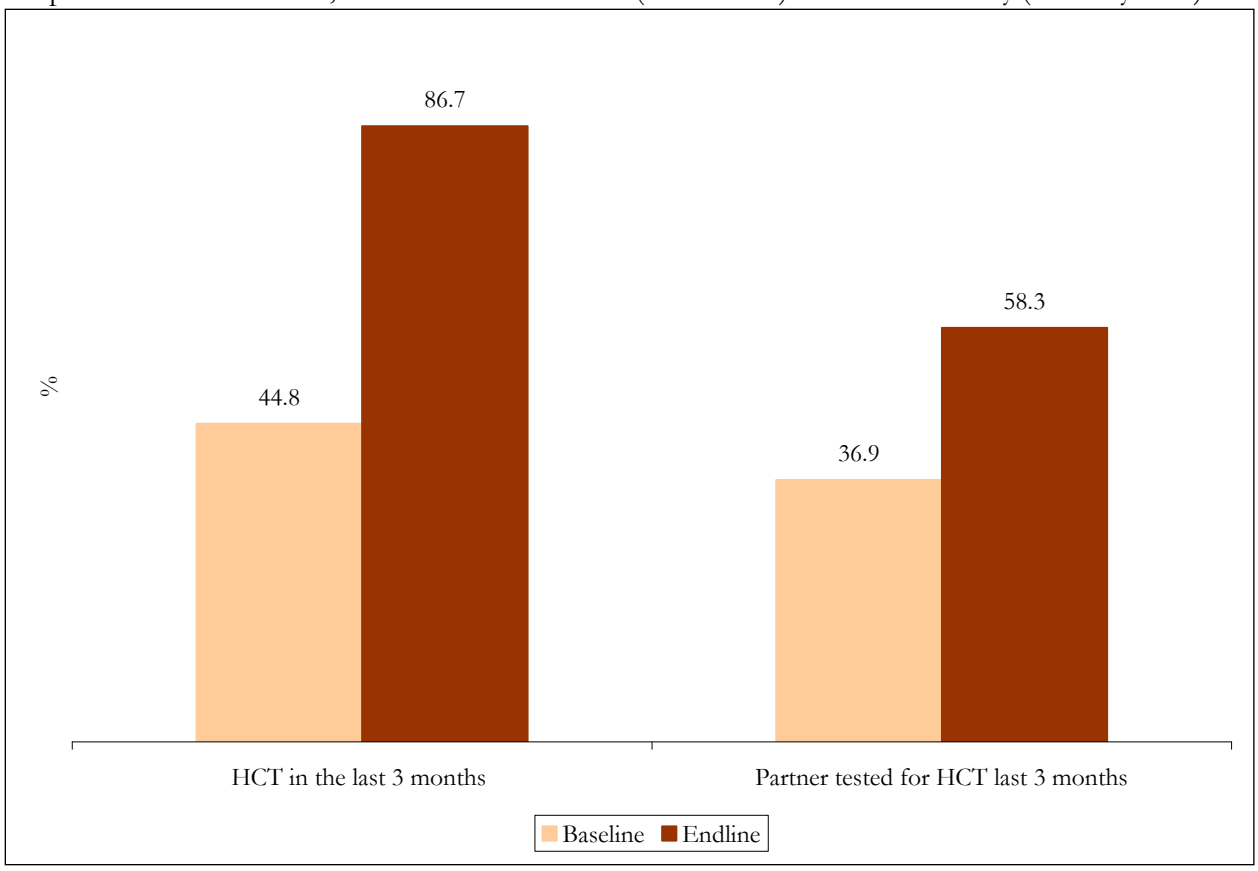
Figure 2. Condom use with paying clients and non-paying partners according to participation in the Addis Mela peer education session (PE), commercial sex workers, TransACTION end line survey (February 2014).



3.1.5. HIV counseling and testing (HCT)

*HCT uptake- baseline vs. end line*:
Among the key components of the TransACTION prevention intervention is the promotion of HCT as well as creation of favorable environment for quality HCT services. The end line data suggests a dramatic and significant increase in the uptake of HCT among sex workers and their non-paying partners. As shown in Figure 3, the proportion of sex workers who had HCT in the three months prior to the survey increased from 44.8% to 86.7% ($p<0.0001$) during the period. Similarly, the reporting of HCT (previous 3 months) by a non-paying partner increased significantly form the baseline 36.9% to 58.3% at end line ($p<0.0001$).

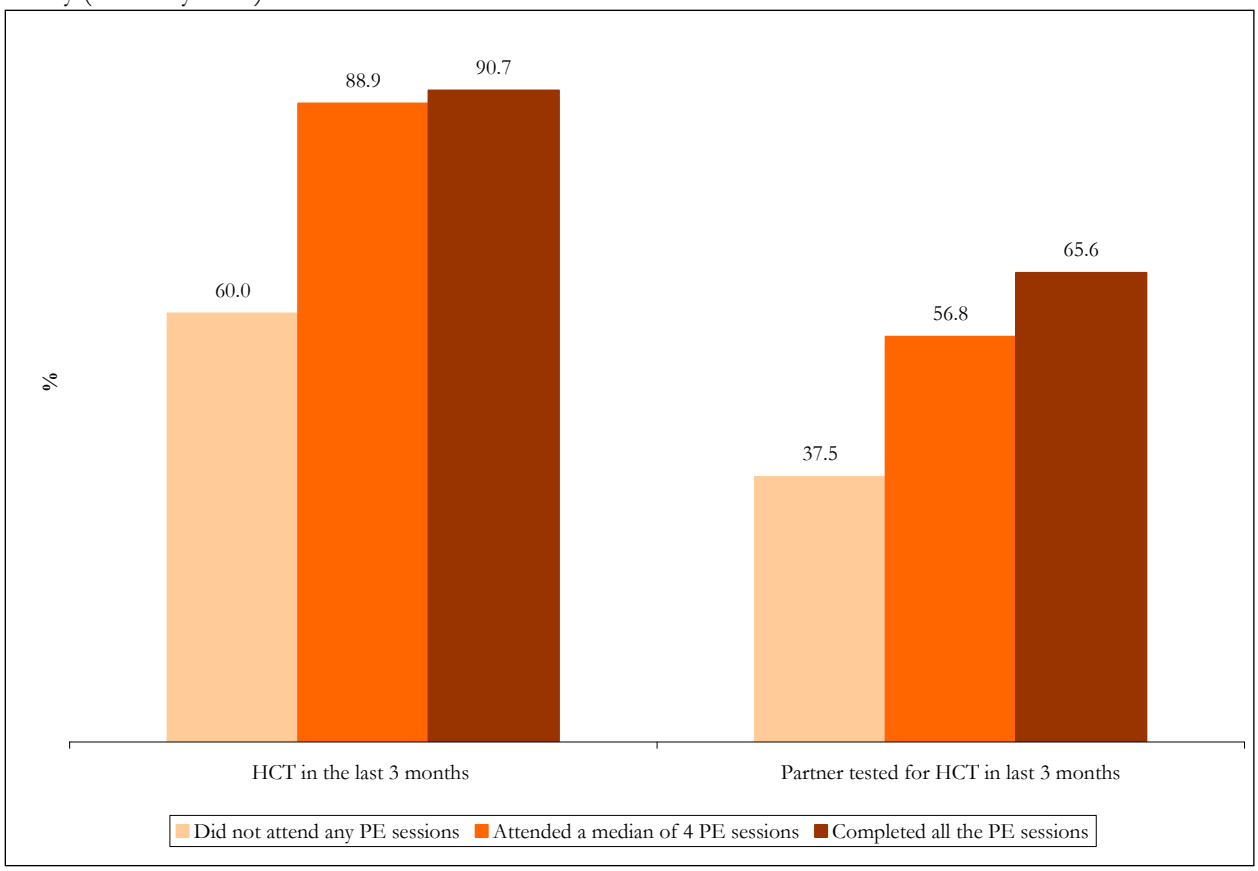
Figure 3. HIV counseling and testing (HCT) among sex workers and their non-paying partners in the previous three months, TransACTION baseline (March 2010) and end line survey (February 2014).




*peer education and HCT:*
The relationship between participation in the peer education session and the uptake of HCT among the sex workers and their non-paying partners depicted an interesting pattern. As shown in Figure 4, the proportion who reported having had HCT increased from 60% among those who did not attend any peer education sessions to 88.9% and 90.7%, respectively, among those who attended some (median of 4 sessions) and all PE sessions. A dose-response relationship can be apparent between number of PE sessions attended and the testing of partners; - the proportion of partners tested increasing form a low of 37.5% among sex workers who did not attend peer education to 56.8% and 65.6%, respectively, among those sex workers who attended some and all the sessions. Multivariate results further confirmed the univariate results, as shown in Table 5. Attendance of

some (median of 4 sessions) or all peer education sessions appeared to be associated with a higher likelihood of up taking HCT compared to the baseline - i.e. an increase by one-third. On the other hand, higher partner HCT testing is associated significantly only with completion all the peer education sessions (a 30% increased likelihood compared to the baseline). Whilst the multivariate analysis revealed the lack of significant difference in the likelihood of partners having had an HCT between the baseline and those who attended a median of 4 sessions. In particular, the multivariate result emphasized that the likelihood of having an HCT by sex workers as well as by their non-paying partners did not differ significantly between the baseline and those end line respondents who did not attend any of the Addis Mela peer education sessions.

Figure 4. HIV counseling and testing (HCT) among sex workers and their non-paying partners according to participation in the Addis Mela peer education session (PE), TransACTION end line survey (February 2014).




3.1.6. Sexually transmitted infections (STIs)

The TransACTION intervention envisaged to improve target groups' knowledge of STIs, promoted regular check-up of STIs and also facilitated easy access to STIs services including treatment via the Addis Mela private clinics and drug retail outlets in the implementation towns. This section compares baseline and end line data on sex workers' knowledge of STIs and STI checkup in health facilities. It also examines the relationship between exposure to the Addis Mela peer education and sex workers' knowledge of STI and service seeking behavior.

*Knowledge of STIs - baseline vs. end line*:
The end line data revealed that the vast majority of the sex workers (92%) reported to have heard of STIs, which represents a significant increase from 52.5% reported for the same at baseline (p<0,.0001). Sex workers' knowledge of the different symptoms of STIs also improved significantly since the baseline. On average, sex workers were able to spontaneously report close to four types of symptoms at end line and this was significantly higher than the reporting of an average of one STI symptom at baseline (p<0.0001). The most commonly recognized STI symptoms by the end line respondents was genital discharge (74.5%), followed by pain/burning during urination (65.5%), foul smelling discharge (54.5%) and itching in genital area (54%). It should be noted that sex workers have limited knowledge on other symptoms including lower abdominal pain, swelling in groin/genital area, and genital rash.

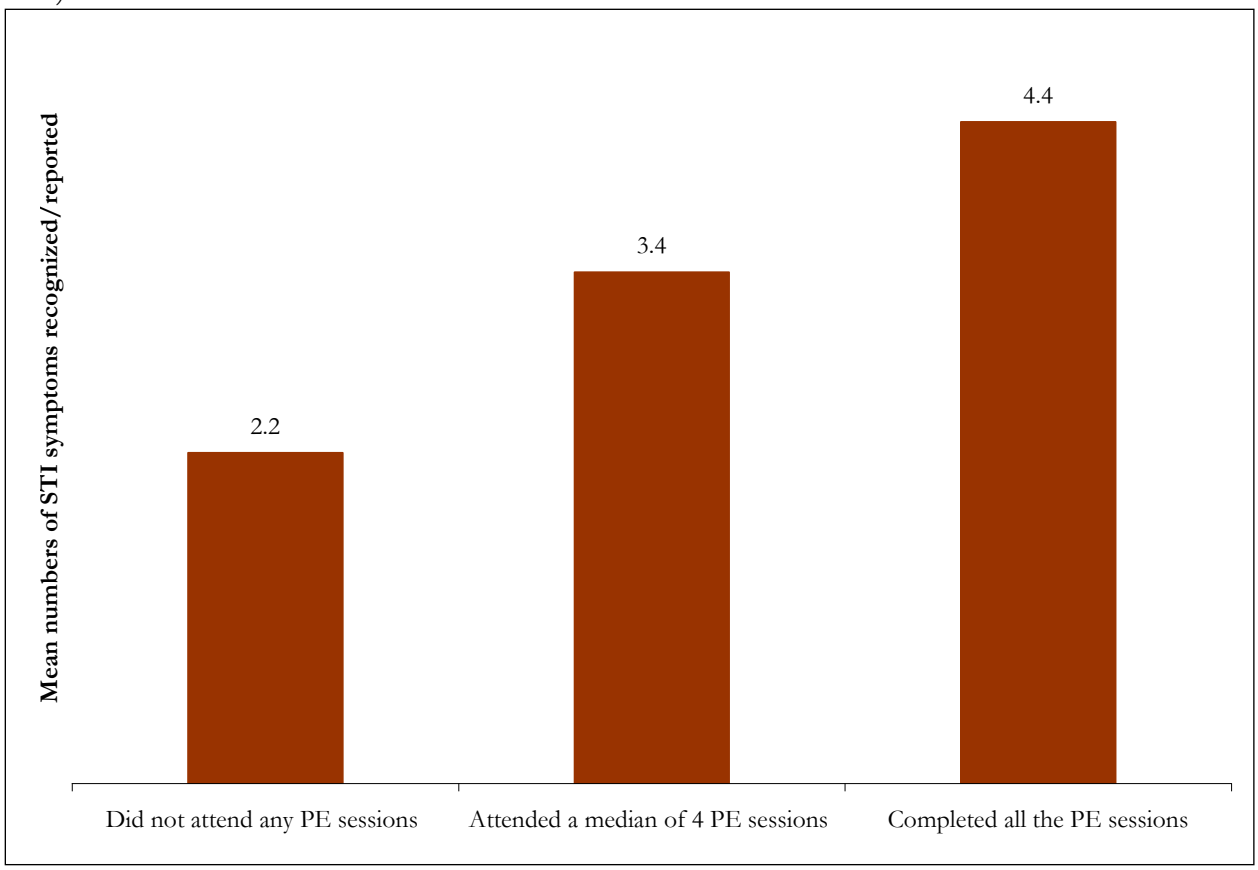
*Peer education and Knowledge of STI*
Participation in the Addis Mela peer education is associated with an increased recognition of STI symptoms by sex workers. Sex workers who did not attend the peer education sessions reported on average 2 symptoms of STIs. This was significantly increased to 3 and 4 symptoms of STIs, respectively, among those who attended a median of 4 sessions and all the 8 sessions (Figure 5).

Table 4. Proportion of sex workers who heard about STIs and know symptoms of STIs, TransACTION baseline (March 2010) and end line survey (February 2014).

| | Baseline N=400 | End line N=400 |
|---|---|---|
| % Ever heard of STIs | 71.5 | 97.5*** |
| % Who know where to get STI service | 52.5 | 92.0*** |
| Knowledge of STI symptoms: | | |
| % who reported | | |
| Genital discharge | 24.0 | 74.5*** |
| Lower abdominal pain | 3.5 | 13.8*** |
| Foul smelling discharge | 18.0 | 54.5*** |
| Genital ulcer | 29.0 | 49.2*** |
| Genital rash | 11.0 | 35.5*** |
| Pain/burning during urination | 21.8 | 65.5*** |
| Swelling in groin/genital area | 13.0 | 22.7** |
| Itching in genital area | 21.0 | 54.0*** |
| Mean (955 CI) numbers of STIs symptoms reported | 1.4 (1.2-1.6) | 3.7 (3.5-3.9)*** |
| % reported knowing at least one STI symptom | 52.0 | 92.5*** |

***p<0.001; ***p<0.0001*

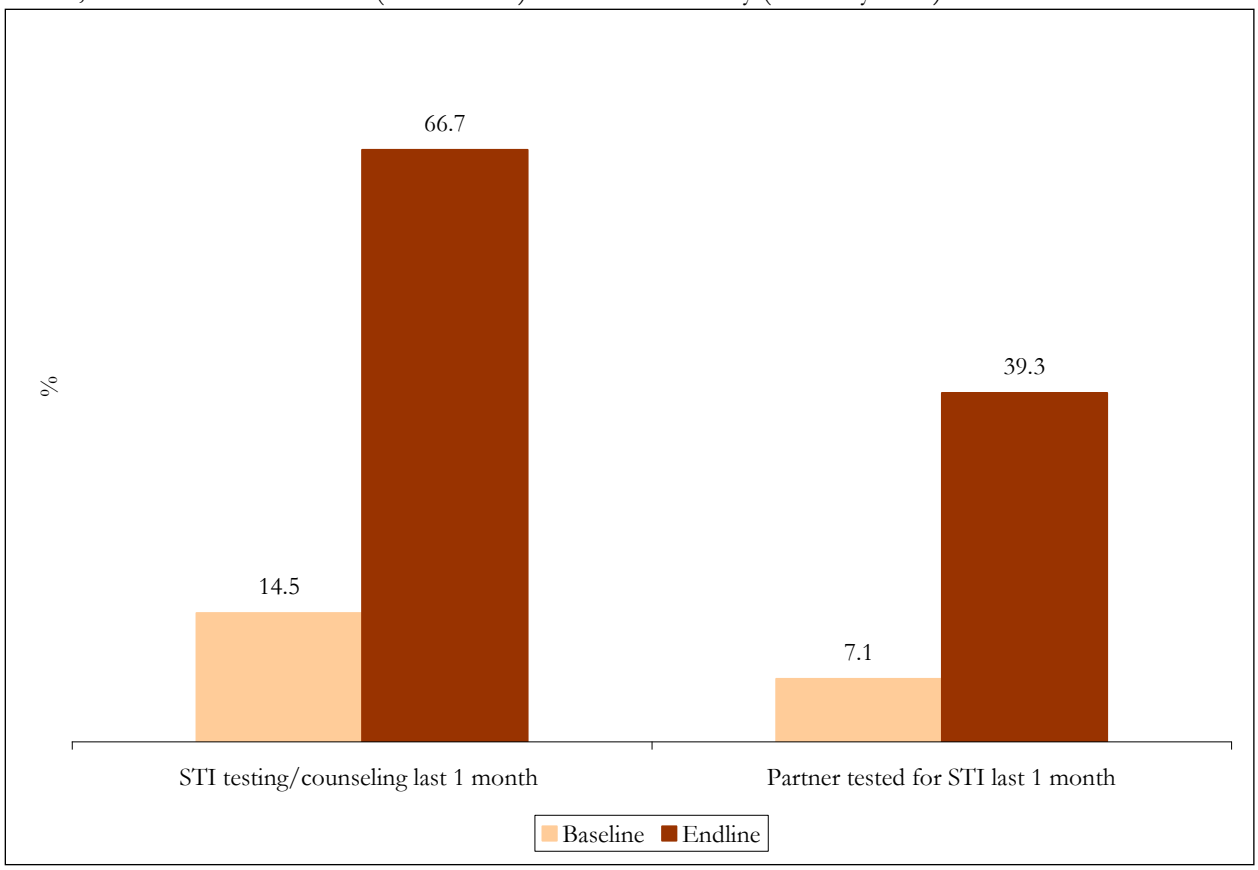
Figure 5. Mean number of STI symptoms spontaneously reported by sex worker according to participation in the Addis Mela peer education session (PE), TransACTION end line survey (February 2014).




*STI check-up - baseline vs. end line*:

Sex workers were asked if they had a check-up for STI in health facility in the previous one month of interview. This indicator corresponds with the Addis Mela intervention approach that promoted STI checkup for sex workers on monthly basis. At baseline, only 14.5% of the sex workers reported to have had STI check-up in the previous month. The data in Figure 6 revealed a dramatic increase in STI check up by sex workers at end line - 66.7% ($p<0.0001$). Likewise, the proportion of sex workers that reported their non-paying partners had an STI check up in the previous one month has also increased significantly from a low of 7.1% at baseline to 39.3% at end line ($p<0.0001$).

Figure 6. Proportion of sex workers and their non-paying partners who had STI checkup in the previous month, TransACTION baseline (March 2010) and end line survey (February 2014).




*Peer education and STI checkup:*

Data also show a dose-response relationship between attendance of the Addis Mela peer education sessions and having had an STI check-up among the sex workers. As shown in Figure 7, sex workers who attended all the peer education sessions reported to have had the highest likelihood of checkup for STI (71.6%), followed by those who attended a median of 4 sessions (69.7%) and the lowest at 32.5% was reported among those who did not attend any peer education session ($p<0.0001$). The reporting of a non-paying partner having had an STI check-up increased from nil among those who did not attend any of the peer education sessions to 40.9% and 46.9%, respectively, among those who attended a median of 4 and all of the 8 sessions ($p<0.0001$). After adjusting for sex workers' age, duration in sex work, education, town size and type of establishment in a multivariate setup, the likelihood of STI checkup by the sex workers and their non-paying partners increased significantly with the number of sessions attended (Table 5). The likelihood of having had an STI check-up in the previous one month increased by 2.3 and 2.4 times, respectively, among sex workers who attended a median of 4 sessions and all the peer education sessions, as compared to the sex workers interviewed at baseline. It should be emphasized that there was no significant difference in the likelihood of having had an STI check-up between the sex workers interviewed at baseline and those end line respondent sex workers who did not attend the peer education. Likewise, the multivariate

analysis further confirmed the positive and significant effect the peer education had on STI check-up in clinics among non-paying partners of the sex workers.

Figure 7. Proportion of sex workers and their non-paying partners who had STI checkup in the previous month, according to participation in the Addis Mela peer education session (PE), TransACTION end line survey (February 2014).

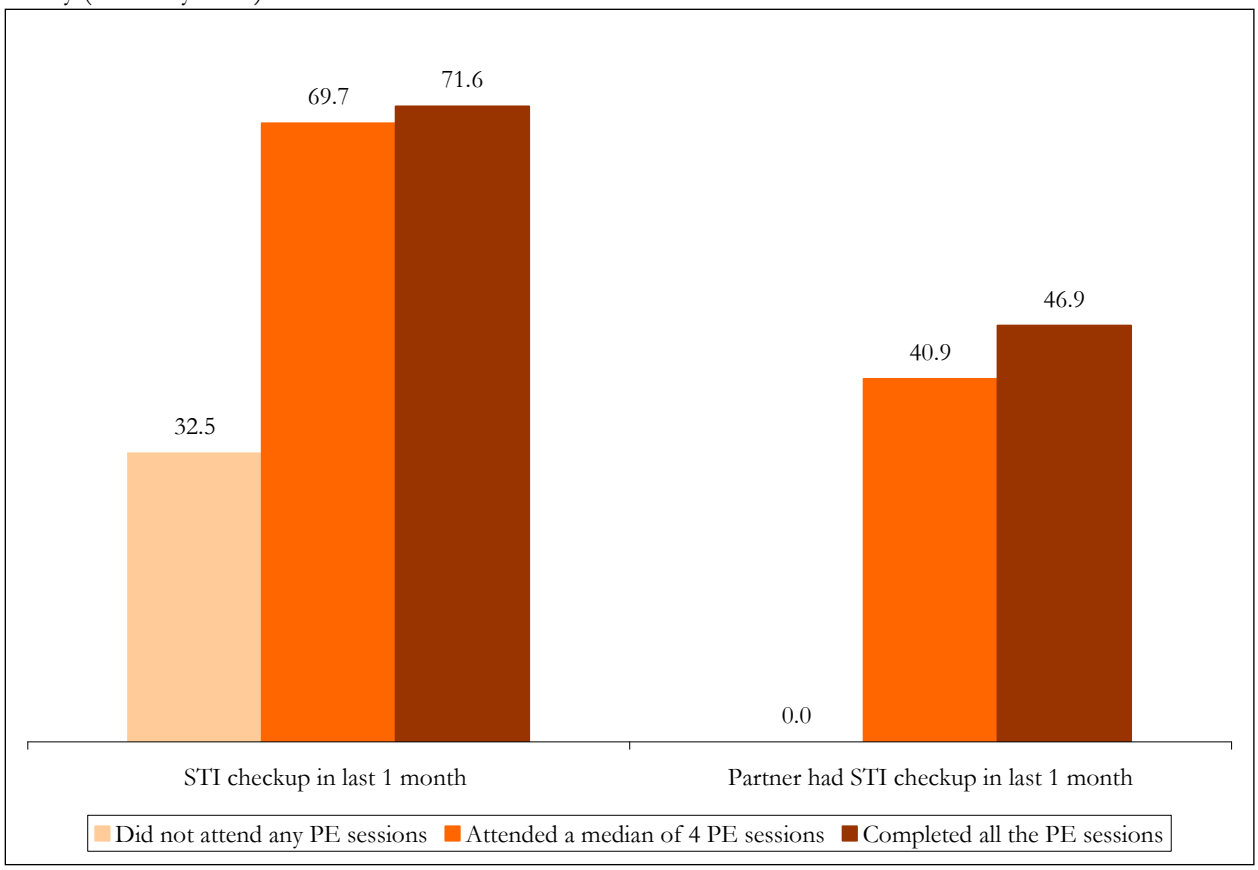


Table 5. Adjusted multivariate prevalence ratio (PR) and p-value of selected outcome indicators according to participation in Addis Mela peer education (PE) sessions and selected background characteristics, Sex Workers, TransACTION baseline (n=400) and end line (n=400) surveys

| | Condom use | | HCT | | STI | | |
|---|---|---|---|---|---|---|---|
| | Consistent condom use with all paying clients in the last 7 days (Adjusted PR) | Condom use with the most recent non-paying partner (Adjusted PR) | Had HCT in the past 3 months (Adjusted PR) | Partner had HCT in the past 3 months (Adjusted PR) | Had STI test in the past 1 month (Adjusted PR) | partner had STI checkup in the past 1 month (Adjusted PR) | Know at least one STI symptom (Adjusted PR) |
| **Exposure to Addis Mela** | | | | | | | |
| Baseline (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| End line-did not attend PE | 0.99 | 0.52 | 0.87 | 0.63 | 0.86 | 0.57 | 0.79 |
| End line -attended a median of 4 PE sessions | 1.03* | 0.92 | 1.33*** | 0.91 | 2.26*** | 2.39*** | 1.22*** |
| End line- attended all PE sessions | 1.20* | 1.15* | 1.32*** | 1.30* | 2.38*** | 3.39*** | 1.24*** |
| | | | | | | | |
| **Age** | | | | | | | |
| An increase of 1 year | 0.99 | 1.01 | 1.00 | 0.98 | 1.00 | 0.96 | 1.00 |
| **Duration in sex work** | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| An increase of 1 year | 1.01 | 1.00 | 1.00 | 1.03 | 1.03* | 1.08* | 1.01* |
| **Education** | | | | | | | |
| No formal education (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Grade 1-6 | 1.02* | 0.78 | 1.03 | 1.22 | 1.00 | 0.43 | 1.03 |
| Grade 7+ | 1.03* | 1.27* | 1.12** | 1.31* | 1.11 | 0.96 | 1.07** |
| **Town size** | | | | | | | |
| Large-sized town (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Medium-sized town | 0.98 | 1.16 | 0.67** | 0.59 | 0.86 | 0.50 | 0.99 |
| Small-sized town | 0.92 | 1.10 | 0.96 | 1.02 | 0.94 | 0.85 | 0.92* |
| **Type of sex work establishment** | | | | | | | |
| Bar/hotel (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Red-light house | 1.03 | 0.40 | 1.00 | 1.22* | 1.12 | 1.27 | 1.00 |
| Local drink house | 1.00 | 0.54* | 1.03 | 1.08 | 0.96 | 1.14 | 1.01 |

**p<0.0.5; **p<0.001; ***p<0.0001; ref =reference category*

### 3.2. Female daily laborers

3.2.1. Background characteristics

The end line survey sampled and interviewed 400 female daily laborers in towns of varying size. The majority (56.2%) were sampled from large-sized owns, and about a quarter from small-sized towns (Table 6). The female daily laborers included in our sample were predominantly engaged in building construction related works (47%), followed by road construction (27.8%), loading/unloading in market areas (12%) and other labor-demanding activities, such as in coble stone production sites, among others where Addis Mela implemented its program intervention. Most worked as daily laborers for 24 months or longer (56.2%); and a good portion of them (16%) have been engaged in this job for less than six months.

They were predominantly young with a mean age of about 25 years; and half of them were in the age range of 21-34 years. A small percentage (7%) were under 18 years of age. Education attainment of this population represents a relatively wider range - from those who couldn't read/write (18.8%) to those who completed grade 10 or higher years of schooling (40%). Whilst half of them were never married (50.8%) there were a little bit over a third (35.2%) who were married and 14% were divorced/widowed.

Table 6. Selected background characteristic of respondents, female daily laborers, TransACTION end line survey, February 2014

| | % | N |
|---|---|---|
| Study town | | |
| Large-sized | 56.2 | 225 |
| Medium-sized | 18.8 | 75 |
| Small-sized | 25.0 | 100 |
| Type of workplace : | | |
| Building construction | 47.0 | 188 |
| Road construction | 27.8 | 111 |
| Loading and unloading | 12.0 | 48 |
| Others | 13.2 | 53 |
| Age of respondent: | | |
| <18 | 7.0 | 28 |
| 18-20 | 28.2 | 113 |
| 21-24 | 24.0 | 96 |
| 25-34 | 26.8 | 107 |
| 35+ | 14.0 | 56 |
| Mean age (95% CI) | 24.7 (24.0-25.4) | |
| Educational Status: | | |
| Cannot read/write | 18.8 | 75 |
| 1-6 Grade | 19.0 | 76 |
| 7-9 Grade | 22.2 | 89 |
| 10+ Grade | 40.0 | 160 |
| Marital Status: | | |
| Never married | 50.8 | 203 |
| Widowed/Divorced | 14.0 | 56 |
| Married/live-in | 35.2 | 141 |
| Duration of work (in months) | | |
| <6 months | 16.0 | 64 |
| 6-11 months | 7.0 | 28 |
| 12-23 months | 20.8 | 83 |
| 24 + months | 56.2 | 225 |

3.2.2. Participation in the Addis Mela peer education

The Addis Mela peer education program for the female daily laborers, as in the other groups, was designed to accommodate eight sessions in eight weeks. We asked the female daily laborers concerning their participation in the peer education, and if so the date they joined the program and the number of sessions they have attended. The vast majority of the respondents (83.5%) have attended one or more peer education sessions and thus are considered as having exposed to the intervention program. While 16.5% did not attend the peer education program. About 87% of the respondents who have attended at least one session said they attended the sessions in 2012 (52.1%) and 2013 (31.5%). Whereas 16.4% said they attended in 2010/2011.

Data on the distribution of the female daily laborers by the number of peer education sessions attended depicted that about 49% have completed all the eight sessions. On the other hand, 29% have attended a maximum of four sessions and discontinued afterwards.

In order to examine any association between the level of participation in the peer education sessions and selected program outcome indicators, we defined exposure based on participation in the peer education sessions. Accordingly, 41.3% of the female daily laborers were considered as having high exposure to Addis Mela because they have completed all the eight peer education sessions; while 42.2% were considered as having moderate exposure (attended a median of 4 sessions) and 16.5% are considered unexposed and will serve as internal controls in subsequent analysis.

Table 7. Participation in the Addis Mela peer education, Female daily laborers, TransACTION end line survey, February 2014

| Peer education attendance | % |
|---|---|
| | N=400 |
| Attended at least one peer education (PE) sessions | 83.5 |
| **Year peer education (PE) attended** | N=334 |
| 2010-2011 | 16.4 |
| 2012 | 52.1 |
| 2013-2014(January) | 31.5 |
| | N=334 |
| **Number of PE sessions attended** | 3.3 |
| 1 | 4.2 |
| 2 | 9.6 |
| 3 | 10.8 |
| 4 | 6.6 |
| 5 | 10.2 |
| 6 | 6.0 |
| 7 | 49.4 |
| 8 | |
| | N=400 |
| **Exposure definition** | |
| Did not attend any PE session | 16.5 |
| Attended some sessions (median 4 sessions) | 42.2 |
| Completed all the 8 sessions | 41.3 |

3.2.3. Sexual behaviors

*Type and number of partners:*
Selected indicators of sexual behaviors of the female daily laborers at baseline and end line is presented in Table 8. In general, there was no significant difference in a number of sexual behaviors indicators for the female daily laborers between the baseline and end line. Of all female daily laborers interviewed at end line, 69.3% said they ever had sex in their life time and 58.7% said they had sex last year. The reporting of two or more sexual partners in the previous year can be considered low at 3.8% and this was similar with the reporting for the same at baseline.

Sexual partners of female daily laborers can be broadly categorized as marital, regular (live-in partners) and non-regular partners. A little bit over a fifth (22.5%) of the end line respondents said they had sex with a regular (live-in) partner last year. This was not significantly different from the reporting for the same at baseline (26.2%). The reporting of sex with a non-regular partner was a little bit higher at end line (8.7%) compared to the baseline (6.2) but not significantly. Of note, concurrent sexual relationship (having sex with two or more partners in the last month) reported to be virtually non-existence (<1%) in both the baseline and end line.

Table 8. Percentage of respondents who ever had sex, who had sex in the last 12 months, and the total number of sexual partners and types of partners (last 12 months), female daily laborers, TransACTION baseline (March 2010) and end line survey (February 2014).

| | Baseline N=400 | End line N=400 |
|---|---|---|
| Ever had sex | 63.3 | 69.3 |
| Had sex in the last 12 months | 51.8 | 58.7 |
| Total Number of sexual partners (last year) | | |
| 0 | 48.2 | 41.2 |
| 1 | 48.0 | 55.0 |
| 2+ | 3.8 | 3.8 |
| Type of sex partner in the last 12 months | | |
| Marital partner | 21.5 | 30.5* |
| Regular partner (live-in) | 26.2 | 22.5 |
| Non-regular partner | 6.2 | 8.7 |
| Two or more sexual partners (last 1 month) | 0.5 | 0.5 |

**p<0.05*

*Cross-generational sex:*

Cross-generational sex generally refers to sexual relationships between older men and younger women. Studies provide data on higher HIV prevalence in young women whose partner is 10 or more years older compared with young women whose partner is less than five years older.

As shown in Table 9, among end line female daily laborers who had a live-in partner, about 7% said that their most recent live-in partner was at least 10 years older and this was not different from the reporting for the same at baseline. There appears a decline in the prevalence of cross-generational sex with non-regular partner though not significantly. At baseline 28% of the female daily laborers reported their non-regular partners' age at 10 years or older and this has decline (though not significantly) to 11.4% at end line. Small sample size influence the level of statistical significance.

*Transactional sex:*

Transactional sex here denotes situations, including those in on-going relationships or otherwise, where sex is exchanged for money/gift and where there is an understanding that

if the money/gift are not forthcoming, the sex will stop. We asked the female daily laborers if they ever had received money or gift from a non-regular partner last year. The small sample size limits our interpretation of the findings since only 35 and 25 respondents at end line and baseline, respectively, reported to have had a non-regular partner the previous year (Table 9). With the caution of a possibility of high sampling error due to small sample size, the data suggest that a substantial portion of the female daily laborers (end line; 37%) were engaging into transactional sex and, notably, this behavior appears to remain unchanged over the years (baseline; 36%).

In order to get a better insight into the presence of transactional sexual relationship, the perception of the female daily concerning transactional relationship with their most recent non-regular partner was assessed. When asked *"do you agree that your most recent non-regular partner has expectations of you having sex with him in exchange for the gifts he gives you?*" 52% of the end line respondents reported affirmatively to this question. Though not statistically significant, this represents a higher rate than the baseline 35%. On the other hand, when asked the question "*Do you agree that you have expectations of your most recent non-regular partner providing you with gifts as you are giving him sex in exchange?*" the same proportion of the end line respondents agreed with this statement. The corresponding figure for the same was 45% at baseline. Despite the small sample size, taken together, the data point to the abundance of transactional sexual relationship with no sign of decline over the years.

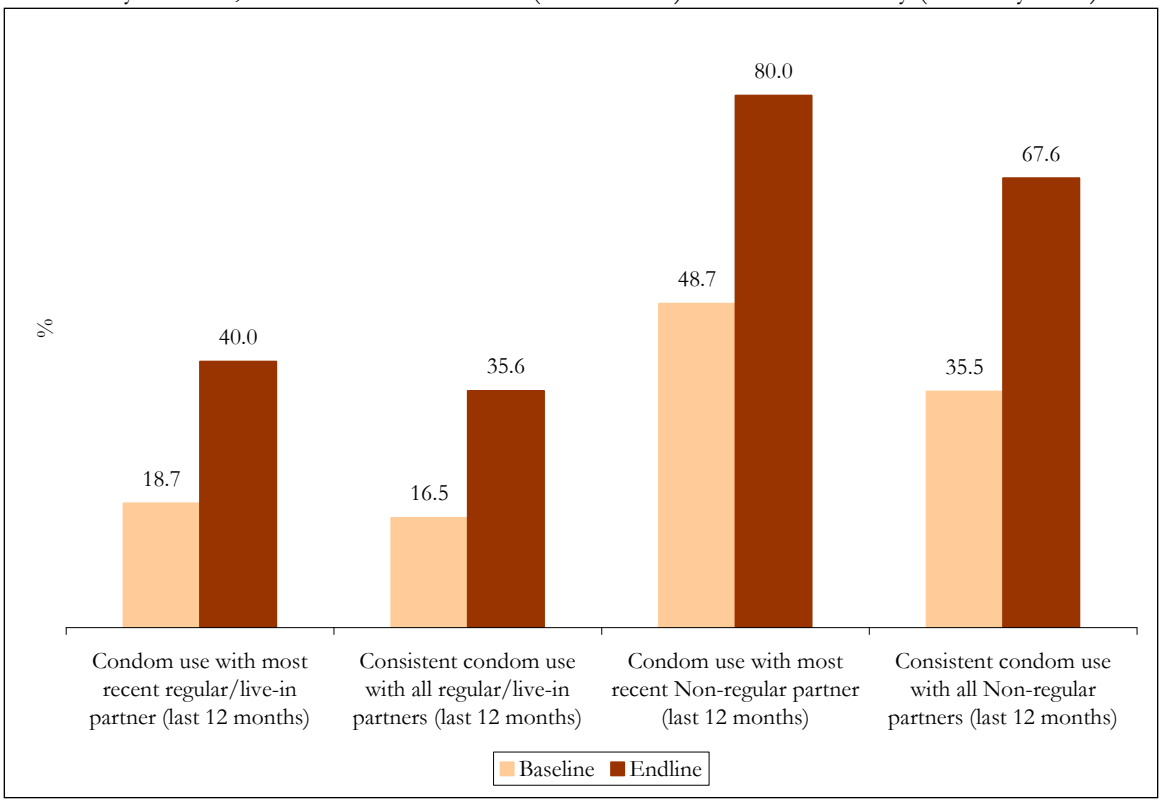
Table 9. Cross generational and transactional sexual relationships, female daily laborers, TransACTION baseline (March 2010) and end line survey (February 2014).

| | Baseline | End line |
|---|---|---|
| Cross-generational sex (with live-in and non-regular partner) | | |
| Live-in partner 10 years older | N=76<br>6.5 | N=76<br>6.8 |
| Non-regular partner 10 years older | N=25<br>28.0 | N=35<br>11.4 |
| Transactional sex: | | |
| Ever received money/gift from a non-regular partner | N=25<br>36.0 | N=35<br>37.1 |
| *Perception on transactional sex:* | | |
| Do you agree that your most recent non-regular partner has expectations of you having sex with him in exchange for the gifts he gives you? | N=25 | N=35 |
| Disagree | 60.0 | 33.3 |
| Unsure | 5.0 | 14.3 |
| Agree | 35.0 | 52.4 |
| Do you agree that you have expectations of your most recent non-regular partner providing you with gifts as you are giving him sex in exchange? | | |
| Disagree | 55.0 | 42.9 |
| Unsure | 0.0 | 4.8 |
| Agree | 45.0 | 52.4 |

3.2.4. Condom use

*Condom use - baseline vs. end line*:
In the whole, the use of condom by the female daily laborers with their regular (live-in) partners as well as with their non-regular partners has increased significantly since the baseline. As shown in Figure 8, the reporting of condom use with the most recent regular partner (non-marital but live-in) increased significantly from the baseline 18.7% to 40% ($p<0.0001$). Likewise, consistent condom use with all regular partners increased significantly from a low of 16.5% to 35.6% ($p<0.0001$) during the same period. Using condom with regular partners has always been a challenge mainly due to emotional barriers such as "trusting for love" as revealed by the baseline and other previous studies and the recorded positive change by this present study should be emphasized. Notably, condom use with the most recent non-regular partner has also shown significant increase from a low of 48.7% at baseline to 80% at end line ($p<0.0001$). Consistent condom use with non-regular partners also improved significantly from 35.5% to 67.6% (Figure 8).

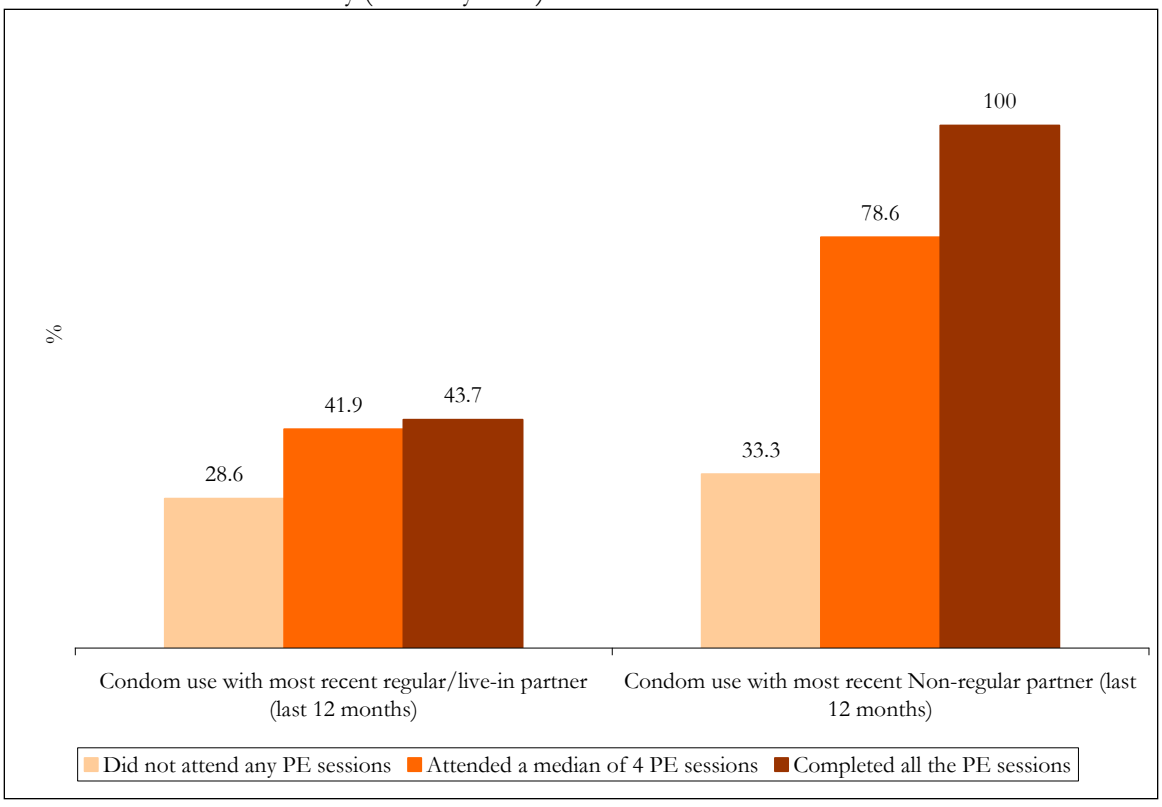
Figure 8. Condom use with regular (live-in) and non-regular partners in the last 12 months among female daily laborers, TransACTION baseline (March 2010) and end line survey (February 2014)




*Peer education and condom use:*
Program people are interested to know if there is any relationship between exposure to intervention and key outcomes. Figure 9, depicts interesting association between exposure to the Addis Mela peer education program and condom use by the female daily laborers. The data suggest a dose-response relationship between exposure and outcome. For instance, the reporting of condom use with the most recent regular (live-in) partner was the highest (43.7%) among those female daily laborers who completed all the eight peer education

sessions and this was followed by a rate of 41.9% among those who have attended a median of 4 sessions. Whilst the lowest condom use with a regular partner was documented among those female daily laborers who did not attend any of the Addis Mela peer education. In particular, the dose-response relationship appeared much more vivid for condom use with non-regular partners. Condom use with a non-regular partner increased from a low of 33.3% among those who did not attend any peer education session, to 78.6% and 100%, respectively, among those who attended some (a median of 4 sessions) and all the 8 sessions ($p<0.0001$). The observed univariate association retained in a multivariate analysis that adjusted for potential confounders including town size, age, education, and marital status as shown in Table 11. Compared to the baseline, the adjusted prevalence ratio suggested that condom use with regular partners increased by 46% among those female daily laborers that have attended all the peer education sessions. The corresponding increased likelihood among those who attended some sessions was 41%. Of note, there was no significant difference in condom use with regular partners between those female daily laborers who did not participate in the peer education sessions and those interviewed at baseline. Likewise, high condom use with non-regular partners was independently and significantly associated with attendance of all peer education sessions. The likelihood of using condom with the most recent non-regular partner was higher by 27% among those female daily laborers who completed all the sessions compared to those interviewed at baseline. After adjusting for the potential confounders, the observed effect of moderate exposure (i.e. a median of 4 PE sessions) on condom use with non-regular partners in the univariate analysis waned (Table 11).

Figure 9. Condom use with regular (live-in) and non-regular partners in the last 12 months, according to participation in the Addis Mela peer education session (PE), Female daily laborers, TransACTION end line survey (February 2014).

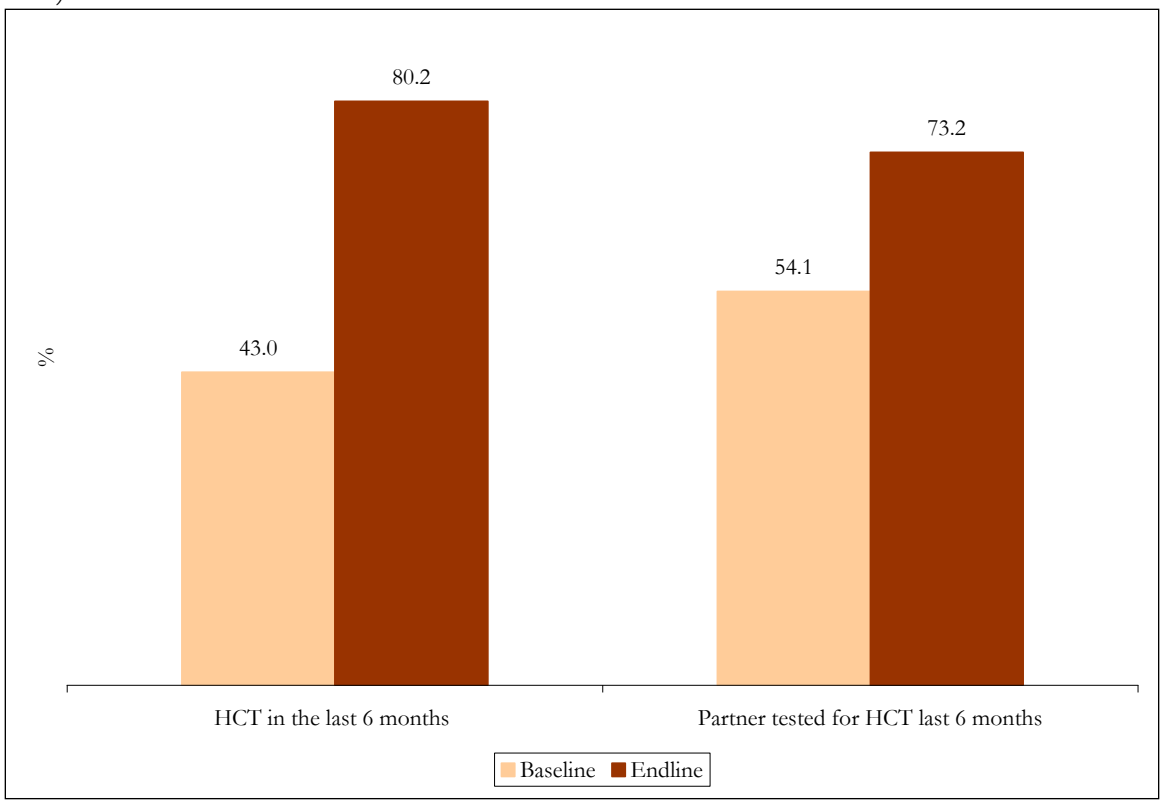


3.2.5. HIV counseling and testing (HCT)

*HCT uptake- - baseline vs. end line:*
HIV testing in the previous six months of interview compared between the baseline and end line among the female daily laborers and their primary sexual partners. Since the baseline employed a 6-month reference period for HCT we stick to the same reference period in order to maintain comparability of indicators between the two surveys. Nevertheless, it is important to note that the Addis Mela intervention promoted regular HCT every three months.

The data on Figure 10 revealed a dramatic increase in testing since the baseline. The proportion of female daily laborers who received HCT in the previous six months increased significantly from 43% to 80.2% during the period ($p<0.0001$). Likewise, the proportion who reported their partners had HCT in the previous six months increased from the baseline 54.1% to 73.2% at end line ($p<0.0001$).

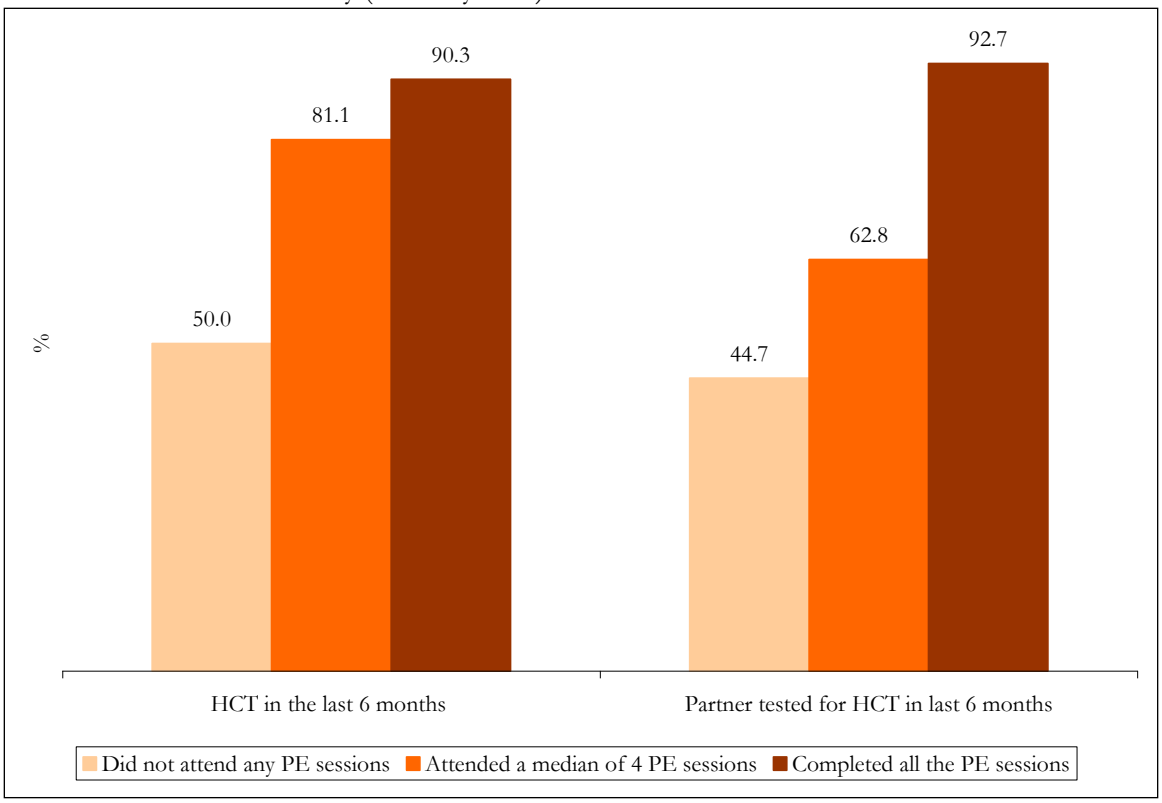
Figure 10. HIV counseling and testing (HCT) in the previous six months among female daily laborers and their sexual partners, TransACTION baseline (March 2010) and end line survey (February 2014).




*Peer education and HCT:*
In order to tease out the likely effect of the Addis Mela intervention on HCT uptake by the female daily laborers we compared HCT uptake across the different level of participation in the peer education program. Both univariate and multivariate analysis confirmed that attendance of the peer education program was significantly and independently associated with a higher likelihood of HCT among the female daily laborers and their partners (Table

11). The proportion who had HCT in the previous six months increased from a low of 50% among those who did not attend any peer education to 81.1% and 90.3%, respectively, among those who attended some (i.e. a median of 4 sessions) and all the sessions (Figure 11). This association retained in a multivariate analysis that adjusted for age, education, marital status and size of town of the female daily laborers. The likelihood of HCT among the female daily laborers increased by 30% and 27%, respectively among those attended some and all peer education sessions as compared to the baseline. There was no significant difference in HCT uptake between the female daily laborers who did not attend any peer education session and those at baseline.

Figure 11. HIV counseling and testing (HCT) in the previous six months, according to participation in the Addis Mela peer education session (PE), Female daily laborers and their sexual partners, TransACTION end line survey (February 2014).




3.2.6. Sexually transmitted infections (STIs)

*Knowledge of STIs- baseline vs. end line*:
In general, female daily laborers' knowledge of STI symptoms and places where to get the service improved significantly since the baseline. The proportion who heard about STI was notably low at baseline (39.3%), and this has increased significantly to 89.5% at end line ($p<0.0001$). A remarkable increase in the proportion of female daily laborers who reported knowing places where to get STI services can be apparent from the data - from 20% at baseline to 83.5% at end line ($p<0.0001$).

At end line, 86.8% of the female daily laborers spontaneously reported to recognize one or more STI symptoms. This represents a significant increase from the 21% reported for the

same at baseline (p<0.0001). Recognition of STI symptoms improved significantly for the different types of symptoms. The most commonly reported STI symptoms by the end line respondents in order of priority include burning during urination (64.7%), genital discharge (58%), itching in genital area (53.7%), genital ulcer (45.5% and foul smelling discharge (44.2%). The recognition of other symptoms such as lower abdominal pain, swelling in genital area, though improved significantly from the baseline, has remained notably low.

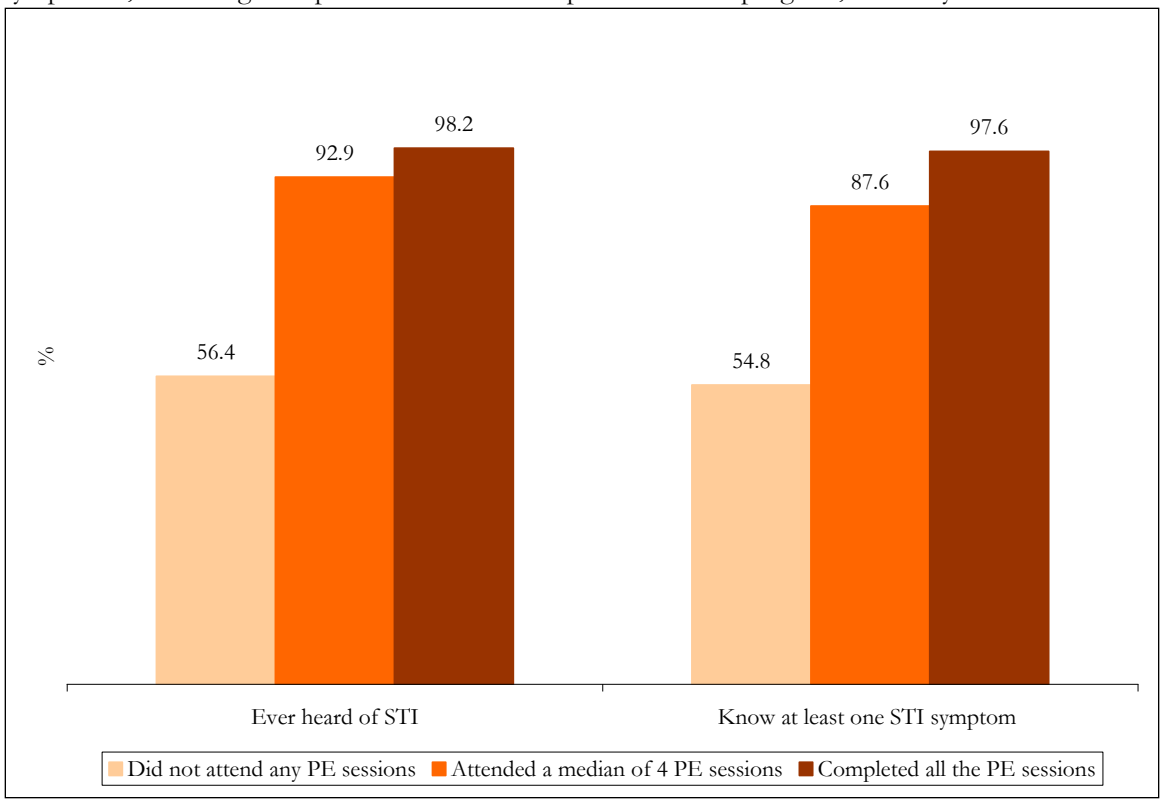
*Peer education and STI knowledge:*

Figure 12 takes the analysis one step further and compares STI knowledge across end line female daily laborers with varying level of participation to the Addis Mela peer education program. The proportion who ever heard of STIs increased from a low of 56.4% among those who did not attend the peer education sessions to 92.9% and 98.2%, respectively, among those who attended some (a median of 4 sessions) and all sessions (p<0.0001). Likewise, the recognition of one or more STI symptoms also increased significantly from a low of 54.8% to 87.7% and 97.6% across the three groups, respectively.

Table 10. Proportion of female daily laborers who heard about STIs and know symptoms of STIs, TransACTION baseline (March 2010) and end line survey (February 2014).

| | Baseline N=400 | End line N=400 |
|---|---|---|
| % Ever heard of STIs | 39.3 | 89.5*** |
| % Who know where to get STI service | 20.0 | 83.5*** |
| Knowledge of STI symptoms: | | |
| % who reported | | |
| Genital discharge | 8.3 | 58.0*** |
| Lower abdominal pain | 0.5 | 10.0*** |
| Foul smelling discharge | 3.5 | 44.2*** |
| Genital ulcer | 9.0 | 45.5*** |
| Genital rash | 4.8 | 35.2*** |
| Pain/burning during urination | 6.3 | 64.7*** |
| Swelling in groin/genital area | 5.5 | 28.0*** |
| Itching in genital area | 5.3 | 53.7*** |
| % reported knowing at least one STI symptom | 21.0 | 86.8*** |

Figure 12. The proportion of female daily laborers who heard about STIs and know at least one STI symptoms , according to exposure to Addis Mela peer education program, February 2014




*STI check-up - baseline vs. end line:*

The baseline survey revealed a tiny portion of the female daily laborers (4.8%) and their partners (3.4%) had STI check up in the health facility during the six months preceding the survey (Figure 13). The end line data, on the other hand, recorded a dramatic increase in the proportion of female daily laborers (43.2%) and their partners (38.3%) who have had STI check up in the previous six months.

*Peer education and STI checkup:*

A dose-response relationship can be noted between exposure to the peer education and the likelihood of having had an STI checkup. In a Univariate analysis (Figure 14), the proportion of female daily laborers who had STI checkup increased significantly from a low of 11.3% among those who did not attend the peer education to 29.3% among those who attended some peer education sessions (i.e. a median of 4 sessions) and to 58.2% among those who had completed all the sessions ($p<0.0001$). Partner STI checkup also showed a similar pattern. The noted Univariate associations are further confirmed in THE multivariate analysis (Table 11). After adjusting for potential confounder in a multivariate setup, the likelihood of having an STI checkup among the female daily laborers who attended some peer education and all peer education sessions increased by 3.3 and 3.8 times, respectively, as compared to the baseline. The adjusted prevalence ratio for partner checkup was 2.2 and 5.3, respectively. Of note, there was no significant difference in the likelihood of having STI checkup by the female daily laborers as well as their partners between the baseline and those end line female daily laborers who did not attend any of the peer education sessions.

Figure 13. Proportion of female daily laborers and their partners who reported to have had STI checkup in the previous six months, TransACTION baseline (March 2010) and end line survey (February 2014).

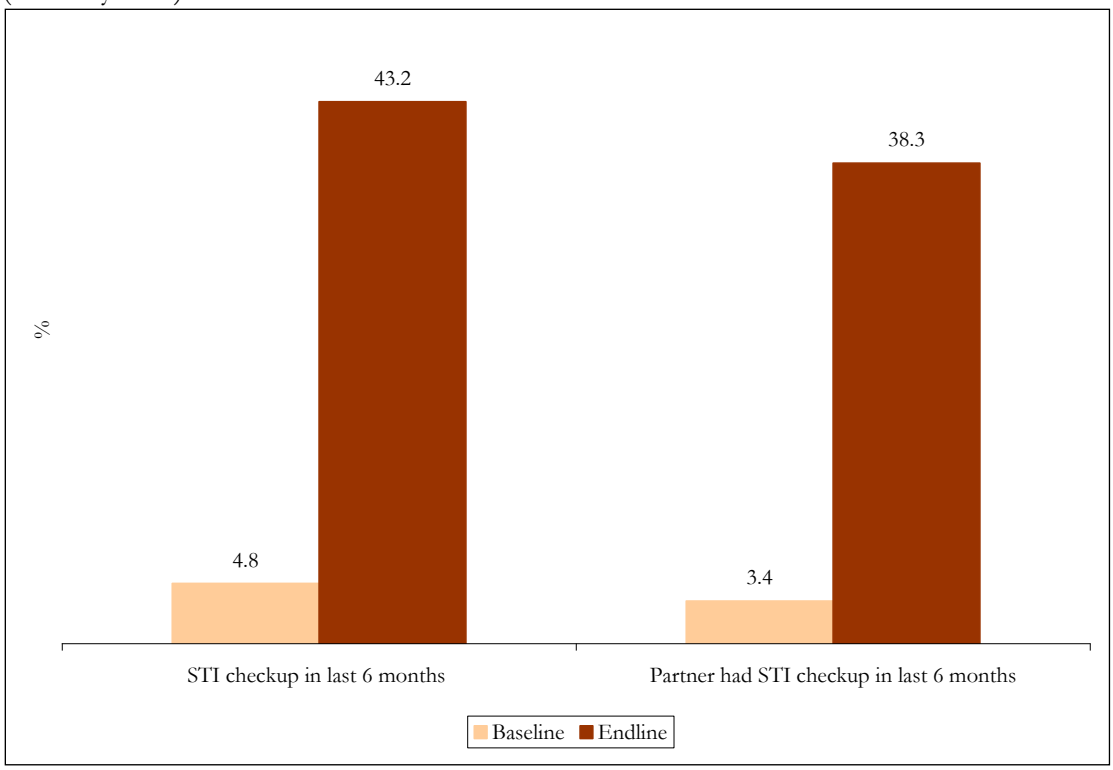



Figure 14. Proportion of female daily laborers and their partners who had STI checkup in the previous six months, according to exposure to Addis Mela peer education program, TransACTION, February 2014.

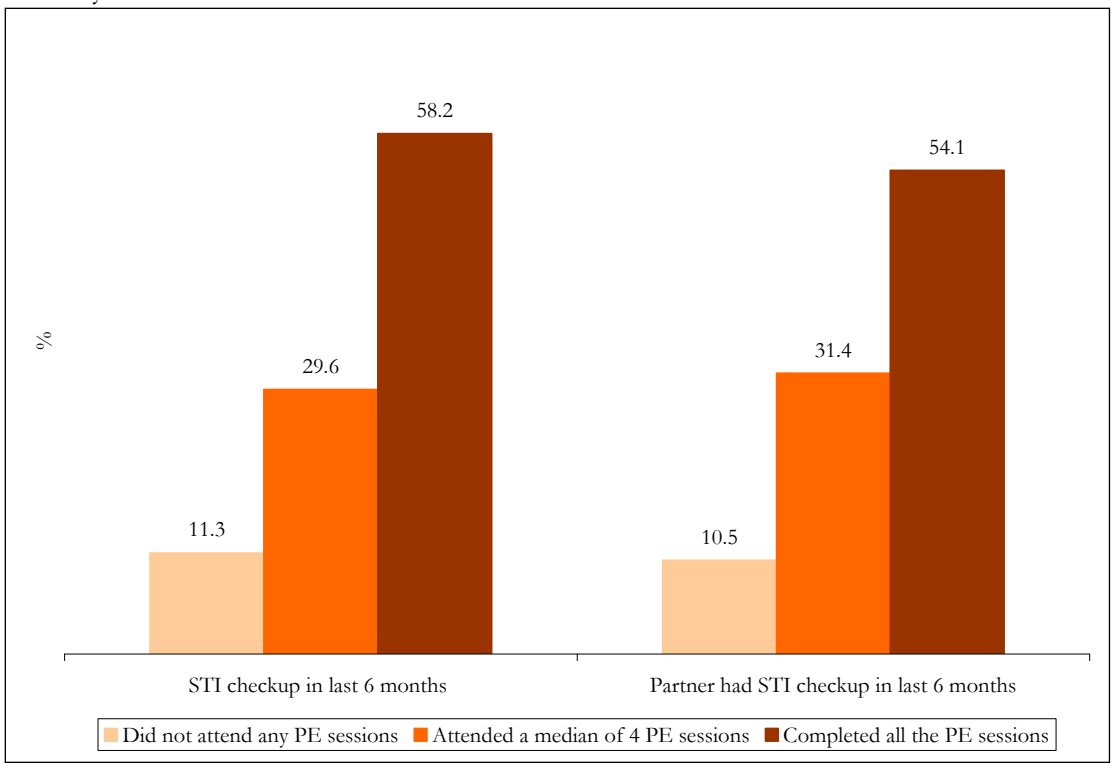


Table 11. Adjusted multivariate prevalence ratio (PR) and p-value of selected outcome indicators according to participation in Addis Mela peer education (PE) sessions and selected background characteristics, Female Daily Laborers, TransACTION baseline (n=400) and end line (n=400) surveys, 2010 and 2014.

| | Condom use | | HCT | | STI | | |
|---|---|---|---|---|---|---|---|
| | Condom use with most recent live-in (non-marital) partner (Adjusted PR) | Condom use with most recent non-regular partner (Adjusted PR) | had HCT in the past 6 months (Adjusted PR) | partner had HCT in the past 6 months (Adjusted PR) | had STI checkup in the past 6 months (Adjusted PR) | partner had STI checkup in the past 6 months (Adjusted PR) | Know at least one STI symptom (Adjusted PR) |
| **Exposure to Addis Mela** | | | | | | | |
| Baseline (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| End line-did not attend PE | 0.69 | 0.47 | 0.64 | 0.56 | 0.74 | 0.67 | 1.21*** |
| End line- attended a median of 4 PE sessions | 1.41* | 1.10 | 1.27*** | 0.82 | 3.30*** | 2.23*** | 1.93*** |
| End line- attended all PE sessions | 1.46* | 1.27* | 1.30*** | 1.18*** | 3.86*** | 5.25*** | 1.89* |
| | | | | | | | |
| **Age** | | | | | | | |
| An increase of 1 year | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| **Education** | | | | | | | |
| No formal education (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 1-6 grade | 1.25 | 1.25 | 1.05 | 0.91 | 0.63 | 1.13 | 1.10 |
| 7-8 grade | 1.89* | 1.18 | 1.05 | 1.09 | 0.36 | 1.14 | 0.98 |
| 9+ grade | 1.88* | 1.09 | 1.07* | 1.13** | 0.93 | 1.18 | 1.22*** |
| **Marital status** | | | | | | | |
| Never married (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Currently married | 0.25* | 0.94 | 1.03 | 1.05 | 1.16 | 1.41** | 1.10 |
| Widowed/divorced | 0.31* | 0.93 | 1.02 | 0.69 | 1.27* | 0.79 | 1.09 |
| **Town size** | | | | | | | |
| Big town-sized (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Medium-sized | 0.30* | 0.81 | 1.05 | 0.84 | 0.49 | 0.80** | 0.69 |
| Small-sized | 0.43 | 0.85 | 1.03 | 1.06 | 1.21*** | 1.04 | 0.97 |
| **p<0.0.5; **p<0.001; ***p<0.0001; ref =reference category* | | | | | | | |

### 3.3. Male daily laborers

3.3.1. Background characteristics

We interviewed 400 male daily laborers in large-sized (43.8%), medium-sized (37.5%) and small-sized towns (18.7%). Most (45.2%) were working in building construction sites at the time of interview (Table 12). Their major type of work included loading and unloading of construction materials, mixing cements, carrying mixed cements, assisting carpenters, other professional workers at the construction sites. Next to building construction, about a quarter were working in road construction sites. We also interviewed male daily laborers who were involved in loading and unloading works in market areas (17.1%). The remaining, 12.3% of the male daily laborers interviewed represented those who were working in different labor-demanding works in market areas.

The mean age of the male daily laborers were 26 years and the majority (60%) were in the age range 20-30 years and 16.2% were under the age of 20 years. Close to 89% of the male daily laborers have some education and can read or write. A substantial proportion of them (40%) have achieved 9 or more years of schooling and 16.5% completed grade 12. The majority (68.5%) were never married and 29.5% were currently married.

In terms of the duration work as daily laborers, 54% worked for 2-4 years; while 14.5% for 10 years or longer. There were 13% of them in our sample with less than 2 years of work experience as daily laborer.

Table 12. Selected background characteristic of respondents, male daily laborers, TransACTION end line survey, February 2014.

| | % | N |
|---|---|---|
| Study town | | |
| Large-sized | 43.8 | 175 |
| Medium-sized | 37.5 | 150 |
| Small-sized | 18.7 | 75 |
| Type of workplace : | | |
| Building construction | 45.2 | 181 |
| Road construction | 25.4 | 102 |
| Loading/unloading | 17.1 | 68 |
| Others (market place) | 12.3 | 49 |
| Age of respondent: | | |
| <20 | 16.2 | 65 |
| 20-24 | 34.3 | 137 |
| 25-29 | 25.5 | 102 |
| 30+ | 24.0 | 96 |
| Mean age (95% CI) | 26.2 (25.4-26.9) | |
| Educational Status: | | |
| Cannot read/write | 11.2 | 45 |
| 1-6 Grade | 21.8 | 87 |
| 7-8 Grade | 21.0 | 84 |
| 9-11 Grade | 29.5 | 118 |
| 12+ Grade | 16.5 | 66 |
| Marital Status: | | |
| Never married | 68.0 | 272 |
| Currently Married | 29.5 | 118 |
| Widowed/Divorced | 2.5 | 10 |
| Duration of work (in Year) | | |
| 0-1 year | 13.0 | 52 |
| 2-4 years | 54.0 | 216 |
| 5-9 years | 18.5 | 74 |
| 10 + years | 14.5 | 58 |

3.3.2. Participation in the Addis Mela peer education

Of all the male daily laborers interviewed, 84.7% have attended one or more Addis Mela peer education sessions. Most (86.2%) joined the peer education sessions in 2012 and 2013 (Table 13). About 14% in 2010/2011. Only 40.1% reported to have completed all the eight peer education sessions. Notably, this compilation rate is lower than the rate documented for the female daily laborers. About a third of the male daily laborers reported to have attended a maximum of four sessions and discontinued afterwards. We categorized the male daily laborers into three groups based on their participation in the Addis Mela peer education - 15.3% did not attend any peer education session at all (unexposed), 50.7% were categorized

as having moderate exposure (i.e.. attended a median of 4 sessions) while 34% were categorized as having high exposure (completed all the sessions).

Table 13. Participation in the Addis Mela peer education, Male daily laborers, TransACTION end line survey, February 2014

| Peer education attendance | % |
|---|---|
| | N=400 |
| Attended at least one peer education (PE) sessions | 84.7 |
| | |
| **Year peer education (PE) attended** | N=339 |
| 2010-2011 | 13.8 |
| 2012 | 54.6 |
| 2013-2014(January) | 31.6 |
| | |
| | N=339 |
| **Number of PE sessions attended** | 2.4 |
| 1 | 10.0 |
| 2 | 8.3 |
| 3 | 12.1 |
| 4 | 7.7 |
| 5 | 8.3 |
| 6 | 11.2 |
| 7 | 40.1 |
| 8 | |
| | N=400 |
| **Exposure definition** | |
| Did not attend any PE session | 15.3 |
| Attended some sessions (median 4 sessions) | 50.7 |
| Completed all the 8 sessions | 34.0 |

3.3.3. Sexual behaviors

Table 14 presents and compares selected sexual behavior indicators of the male daily laborers interviewed at baseline and end line. Data show 76.2% of the daily laborers interviewed at end line reported that they have ever had sex and 70.5% had sex last year. Both compare well with the reported for the same at baseline. On the other hand, the proportion that reported two or more sexual partners last year decreased significantly from the baseline 21.2% to 13.5% at end line ($p<0.05$). At end line 17.5% and 4.8% of the male daily laborers, respectively, reported to have had sex with a non-regular partner and sex worker. Whilst there was no significant difference in the reporting of a regular (spouse or live-in) and non-regular partners by the male daily laborers interviewed at baseline and end line, the proportion that reported having had sex with sex workers declined significantly from 14.7% to 4.8% ($p<0.0001$) during the period. Multivariate analysis that adjusted for age, education, town size and marital status further confirmed these significant trends for both indicators. The likelihood of having two or more sexual partners in the previous years decreased by 34% at end line as compared to the baseline. Likewise, the likelihood of a daily laborer having sex with a sex worker declined by 66% at end line compared to the baseline. On the other hand, there was no relationship between attendance of peer education and the

reporting of two or more sexual partners as well as having sex with a sex worker by the male daily laborers (Figure 15). This may well suggest the presence of a general trend towards partner reduction in the male daily laborers population irrespective of their participation in the Addis Mela intervention.

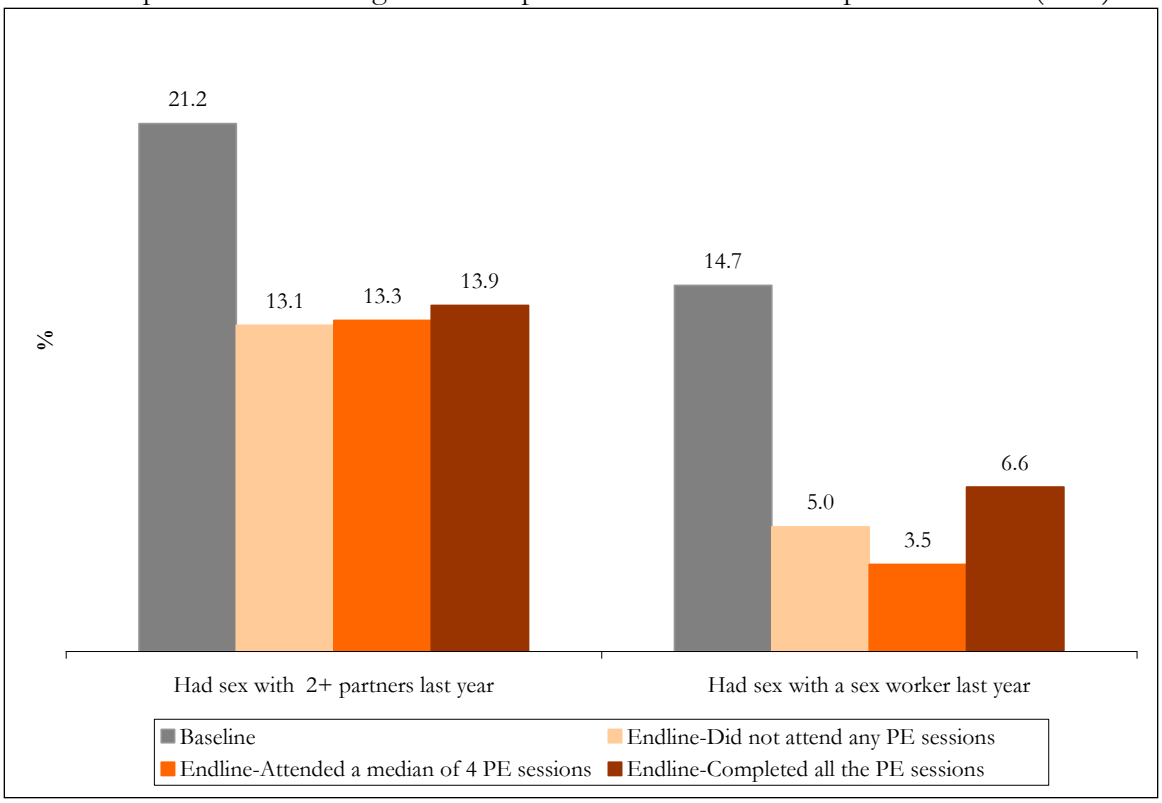
Concurrent sexual partnership (i.e. having sex with 2 or more partners last month) reported by 3% of the male daily laborers at end line, which was not different statistically compared to the 5.3% reported for the same at baseline.

Table 14. Percentage of respondents who ever had sex, who had sex in the last 12 months, and the total number of sexual partners and types of partners (last 12 months), male daily laborers, TransACTION baseline (March 2010) and end line survey (February 2014).

| | Baseline N=400 | End line N=400 |
|---|---|---|
| Ever had sex | 73.8 | 76.2 |
| Had sex in the last 12 months | 69.5 | 70.5 |
| Total Number of sexual partners (last year) | | |
| 0 | 30.5 | 29.5 |
| 1 | 48.3 | 57.0 |
| 2+ | 21.2* | 13.5 |
| Type of sexual partner in the last 12 months | | |
| Marital partner | 21.8 | 27.0 |
| Live-in partner (Not married) | 28.7 | 31.5 |
| Non-regular (excluding sex workers) | 18.5 | 17.5 |
| Sex worker | 14.7*** | 4.8 |
| Two or more sexual partner (last 1 month) | 5.3 | 3.0 |

*p<0.05; ***p<0.0001

Figure 15. The proportion of male daily laborers that reported having had 2 or more sex partners last year and those who had sex with sex workers (last year), Baseline (2010), and end line respondents according to their exposure to the Addis Mela peer education (2014).




3.3.4. Condom use

*Condom use- baseline vs. end line:*
Condom use was assessed with three types of partners of the male daily laborers- (1) live-in (but non marital), (2) sex worker, and (3) non-regular/non-sex worker (other women). Figure 16 presents trend in condom use during the most recent sex with any of these partners as well as consistent condom use in the previous one year.

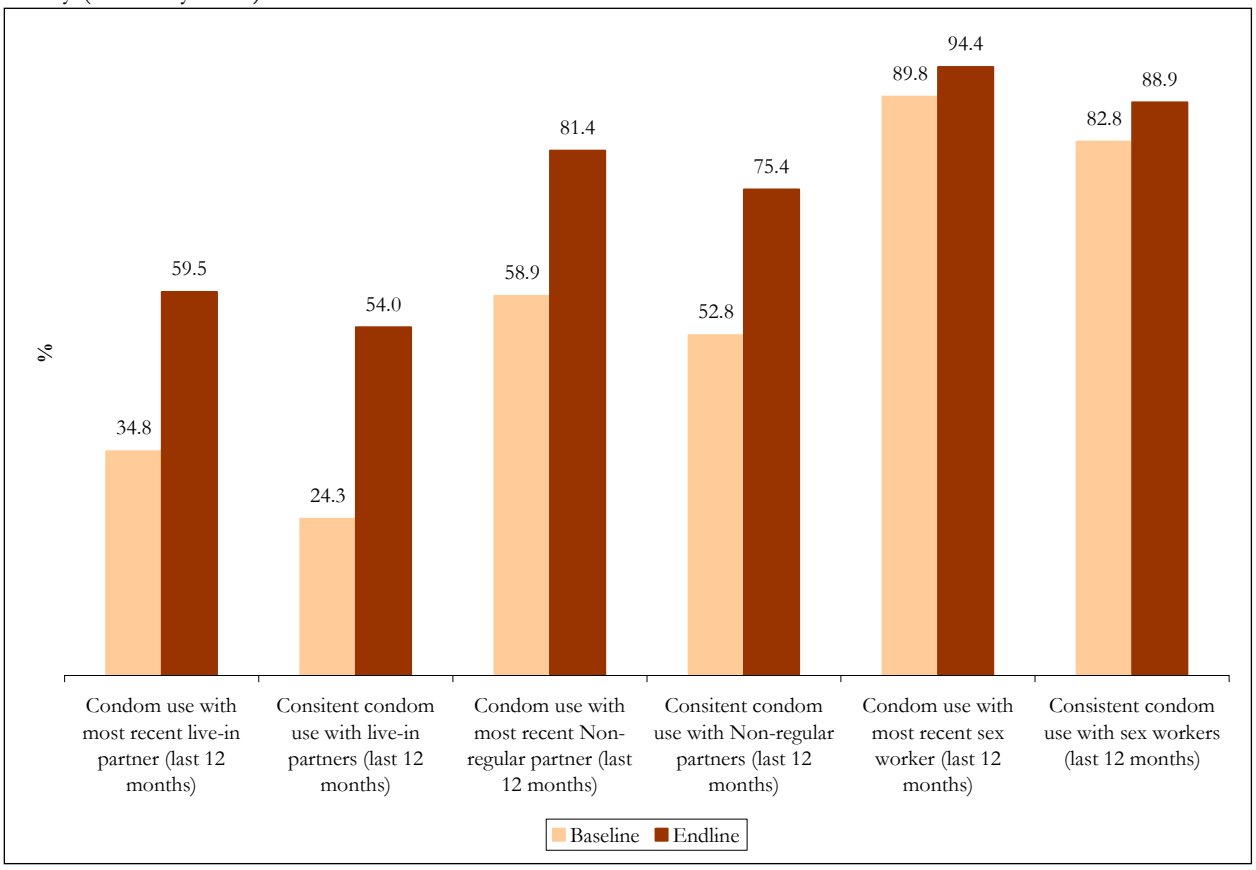
In general, condom use with a live-in partner is expected to be low due to the nature of the relationship. Despite this, however, end line data documented increasing trend in condom use by the male daily laborers with a live-in partner. The proportion that reported using condom with the most recent live-in partner increased from the baseline 34.8% to 59.5% at end line ($p<0.0001$). Likewise, consistent condom use with all live-in partner last year increased significantly from 24.3% to 54%, respectively.

Baseline and end line data both consistently show relatively high condom use with sex workers by the male daily laborers . Besides, the slight increase in condom use with sex workers documented at end line compared to the baseline was not statically significant. The proportion that reported using condom during their most recent sex with a sex worker increased from the baseline 89.8% to 94.4% at end line though not statistically significant.

The reporting of consistent condom use with all sex workers last year did not change significantly between the baseline (82.8%) and end line (88.9%).

A substantial portion of the male daily laborers reported to have had sex with a non-regular partner (non-sex workers) at baseline (18%) and end line (17%). When asked their condom use behavior with such partners, 81.4% of the end line respondents said they have used condom during their most recent sex and 75.4% reported to have used condom with such partners consistently last year. Both indicators increased significantly compared to the baseline. Condom use with the most recent non-regular partner was reported at 58.9% during the baseline and that 52.8% of the baseline respondents reported consistent condom use with all non-regular partners.

Figure 16. Condom use with regular (non marital but live-in), non-regular partners and sex workers in the last 12 months among male daily laborers, TransACTION baseline (March 2010) and end line survey (February 2014)




*Peer education and condom use:*

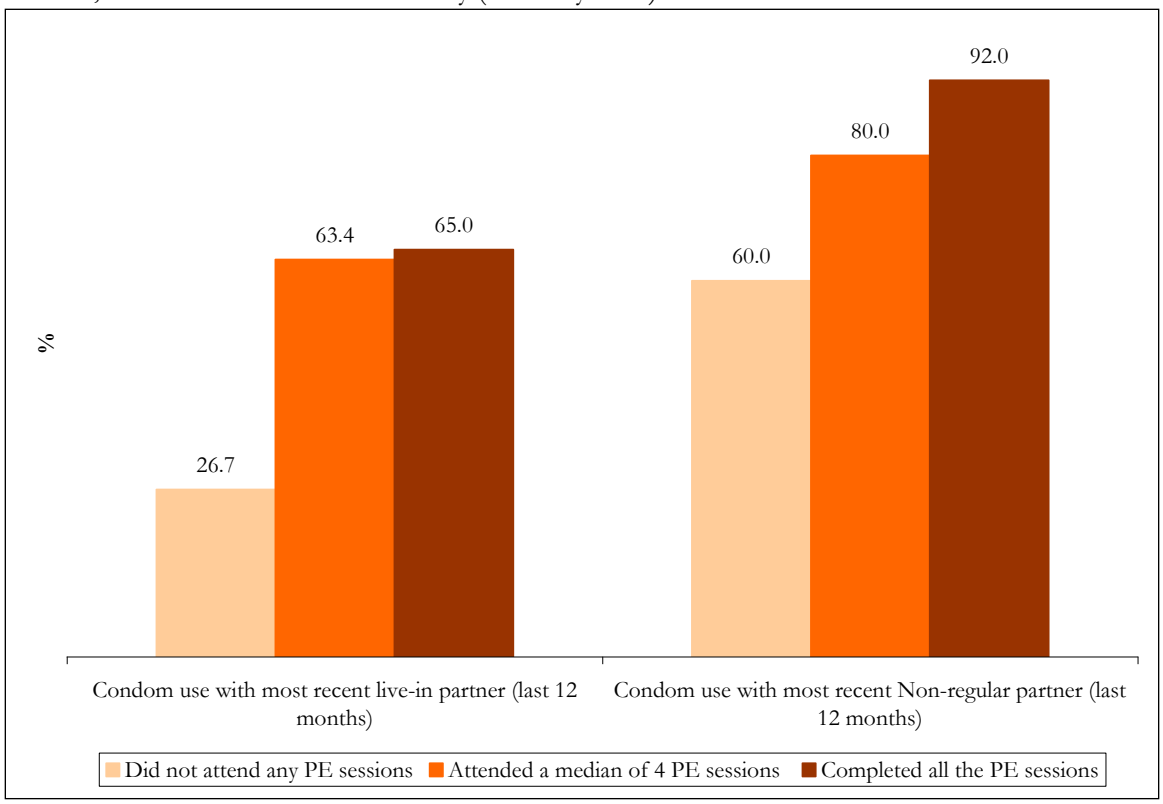
Figure 17 compares end line male daily laborers' condom use behavior across the three categories of exposure to the peer education sessions. A dose-response relationship between exposure to the Addis Mela peer education and the use of condom with different partners can be apparent; and this was more so for condom use with non-regular partners.

Only 26.7% of the male daily laborers who did not attend the peer education reported to have used condom during their most recent sex with a live-in partner. This has increased significantly to 63.4% and 65%, respectively, among those who attended a median of 4 sessions and all the 8 sessions. Multivariate analysis further confirmed this association after adjusting for selected potential confounder. The likelihood of using condom during the most recent sex with a live-in partner increased by 24% and 26%, receptively, among those male daily laborers who attended a median of 4 and all peer education sessions as compared to those interviewed at baseline (Table 16). Of note, the use of condom with the most recent live-in partner did not differ significantly between the baseline and those end line respondents who did not attend the peer education sessions (34.8% vs. 26.7%; p=0.532).

The dose-response relationship between exposure to the peer education and condom use with non-regular partners by the male daily laborers appeared more vivid - from 60% among those who did not attend any peer education to 70.6% among those who attended a median of 4 PE sessions and to 88% among those who completed all the sessions ($p<0.0001$). This association has retained in the multivariate analysis that adjusted for some potential confounders (Table 16). Condom use with the most recent non-regular partner increased by 12% and 19%, respectively, among those male daily laborers who attended a median of 4 sessions and all the sessions, compared to the baseline. On the other hand, there was no significant different in condom use with the non-regular partner between the baseline and unexposed end line respondents (those who did not attend any peer education sessions) - 58.9% vs. 60%.

Due to the small number of male daily laborers that reported sexual encounter with a sex worker last year (n=19), we couldn't present an analysis of the relationship between exposure to the Addis Mela peer education sessions and condom use with sex workers. Of note, 15 male daily laborers who attended some or all peer education sessions reported to have had sex with sex workers last year; and all of them (100%) reported using condom.

Figure 17. Condom use with regular (non marital but live-in) and non-regular partners in the last 12 months, according to participation in the Addis Mela peer education session (PE), male daily laborers, TransACTION end line survey (February 2014).

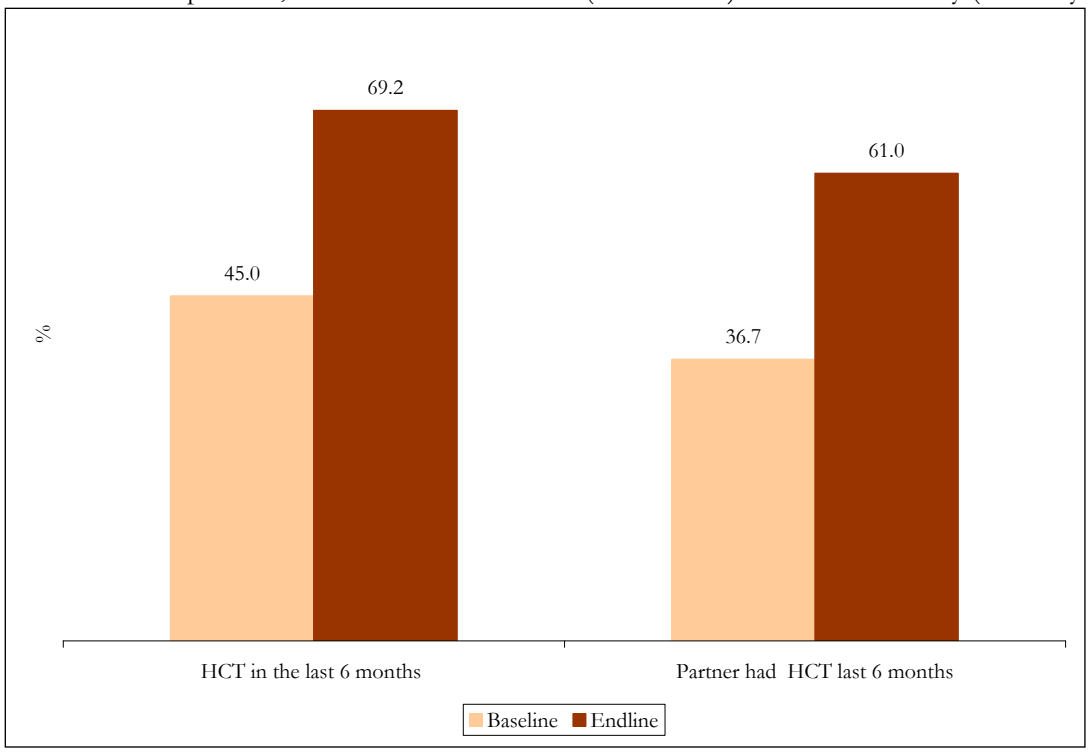



3.3.5. HIV counseling and testing (HCT)

*HCT- baseline vs. end line*

Significant increasing trend in the uptake of HCT among the male daily laborers and their sexual partners can be apparent since the baseline (Figure 18). The proportion of the male daily laborers that had HCT in the last six months increased significantly from the baseline 45% to 69.2% at end line ($p<0.0001$). Likewise, the proportion of partners of the male daily laborers that tested increased from 36.7% to 61% during the same period ($p<0.0001$). Despite the significant positive trend, the documented rate of HCT uptake by the male daily laborers can be considered modest, especially when compared to their female counterparts.

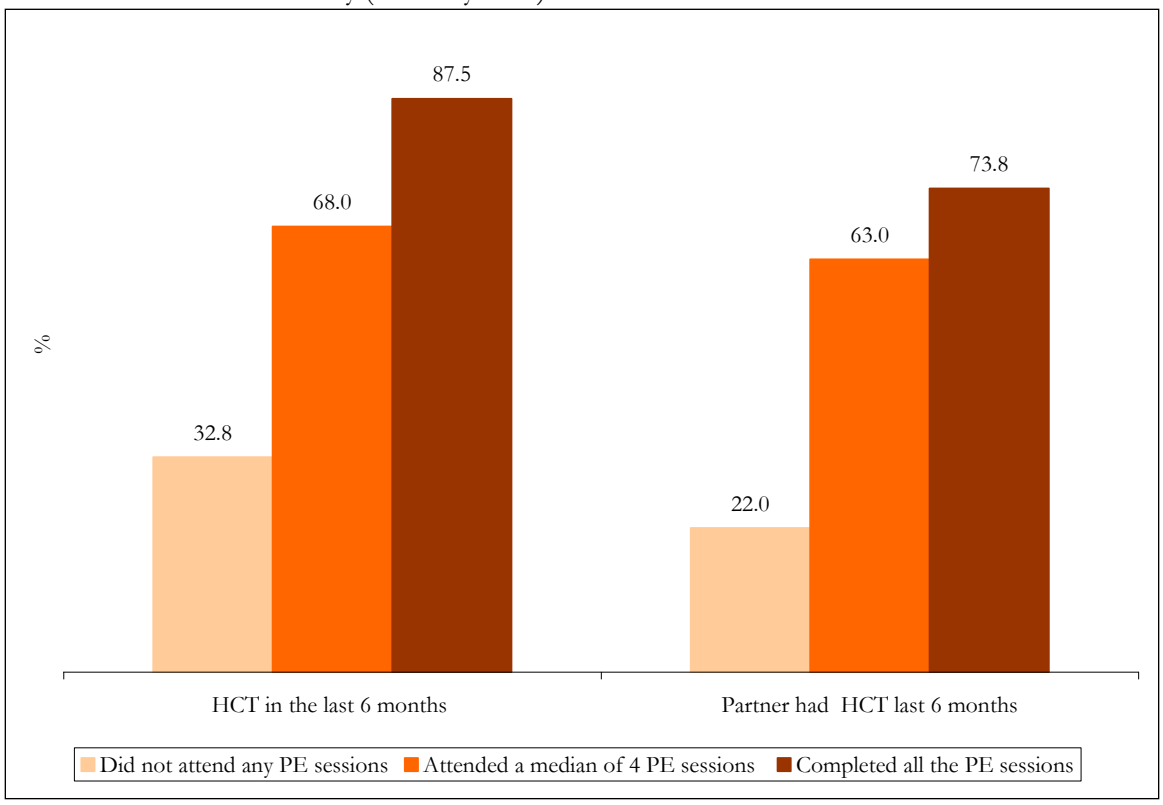
Figure 18. HIV counseling and testing (HCT) in the previous six months among male daily laborers and their sexual partners, TransACTION baseline (March 2010) and end line survey (February 2014)




*Peer education and HCT:*

Higher exposure to the Addis Mela intervention, as measured by the number of peer education sessions attended, was associated with higher uptake of HCT by the male daily laborers and their partners (Figure 19). The proportion that had HCT in the previous six months increased from a low of 32.8% among those who did not attend the peer educations to 68% among those who had attended a median of 4 PE sessions and, to 87.5% among those who attended all the sessions ($p<0.0001$). Similarly, the reporting of partner testing in the last six months increased from 22% to 63% and 73.8%, respectively, across the three categories of exposure. Multivariate analysis suggested that only high exposure to the Addis Mela peer education (i.e. attendance of all the peer education sessions) carried a significantly higher (27% higher) likelihood of having had an HCT compared to the baseline. Moderate exposure to the intervention (i.e. attending a median 4 sessions) did not carry a significantly higher likelihood of HCT uptake compared to the baseline. On the other hand, the multivariate analysis shows an increased likelihood of partner testing by 23% and 29%, respectively, among those who attended a median of 4 and all peer education sessions, as compared to the baseline (Table 16). It can be postulated that since most male daily laborers form sexual partnership with their fellow female daily laborers, the higher uptake of HCT by partners of the male daily laborers may well signal program synergy, as the Addis Mela peer education targeted both the male and female daily laborers.

Figure 19. HIV counseling and testing (HCT) in the previous six months, according to participation in the Addis Mela peer education session (PE), male daily laborers and their sexual partners, TransACTION end line survey (February 2014).




3.3.6. Sexually transmitted infections (STI)

*Knowledge of STI- baseline vs. end line*

In the whole, male daily laborers' awareness of STIs, their knowledge of the symptoms and places where to get the service increased significantly since the baseline (Table 15). Only 62.5% of the baseline respondents have heard of STI and this has increased significantly to 91.5% at end line ($p<0.0001$). Awareness about places where to get the service also improved significant from a low of 33.5% at baseline to 83.5% at end line ($p<0.0001$). The male daily laborers were asked to spontaneously respond to the question *"Can you describe any signs or symptoms of sexually transmitted diseases (STDs) that men or women may have? "* and, 88.7% of the end line respondents mentioned one or more correct STI symptoms. This represented a significant increase ($p<0.0001$) from the 43.5% reported for the same at baseline. Some STI symptoms appeared to be more recognized than others. At end line, the male daily laborers frequently mentioned pain/burning during urination (73.2%), followed by genital discharge (55.8%), itching in genital area (49.7%), and genital ulcer (47.2%) among the symptoms. On the other hand, although the recognition of the different types of symptoms improved at end line, symptoms such as lower abdominal pain, genital rash, and swelling in groin were less likely to be reported by the male daily laborers.

Table 15. Proportion of male daily laborers who heard about STIs and know symptoms of STIs, TransACTION baseline (March 2010) and end line survey (February 2014).

| | Baseline N=400 | End line N=400 |
|---|---|---|
| % Ever heard of STIs | 62.5 | 91.5*** |
| % Who know where to get STI service | 33.5 | 83.5*** |
| Knowledge of STI symptoms: | | |
| % who reported | | |
| Genital discharge | 18.0 | 55.8*** |
| Lower abdominal pain | 3.0 | 14.7*** |
| Foul smelling discharge | 9.5 | 36.5*** |
| Genital ulcer | 22.3 | 47.2*** |
| Genital rash | 7.5 | 33.0*** |
| Pain/burning during urination | 13.5 | 73.2*** |
| Swelling in groin/genital area | 18.3 | 34.0*** |
| Itching in genital area | 9.3 | 49.7*** |
| % reported knowing at least one STI symptom | 43.5 | 88.7*** |

*Peer education and knowledge of STIs:*

Male daily laborers' knowledge of STIs appeared to increase with participation in the Addis Mela peer education program. The proportion that heard of STI increased from a low of 63.9% among those who did not participate in the Addis Mela peer education to 95.6% and 97.8%, receptively, among those who attended some sessions (a median of 4 sessions) and all of the sessions. Likewise, the recognition of one or more STI symptoms also increased significantly from 57.4% to 93.1% and 96.3%, respectively, across the three exposure categories. Multivariate results that adjusted for potential confounders also found higher likelihood of knowing one or more STIs symptoms associated with participation in Addis Mela peer education program (Table 16).

*STI checkup- baseline vs. end line:*

The male daily laborers were asked if they had STI checkup in health facilities in the previous six months. In general, the proportion of the male daily laborers and their partners that had STI checkup in the previous six moths increased significantly form the baseline - i.e. from 6.9% to 45% among the male daily laborers and from 8.6% to 40.8% among their sexual partners (Figure 22).

Figure 21. Proportion male daily laborers who ever heard of STIs and know at least one STI symptoms, according to participation in the Addis Mela peer education session (PE), TransACTION end line survey (February 2014).

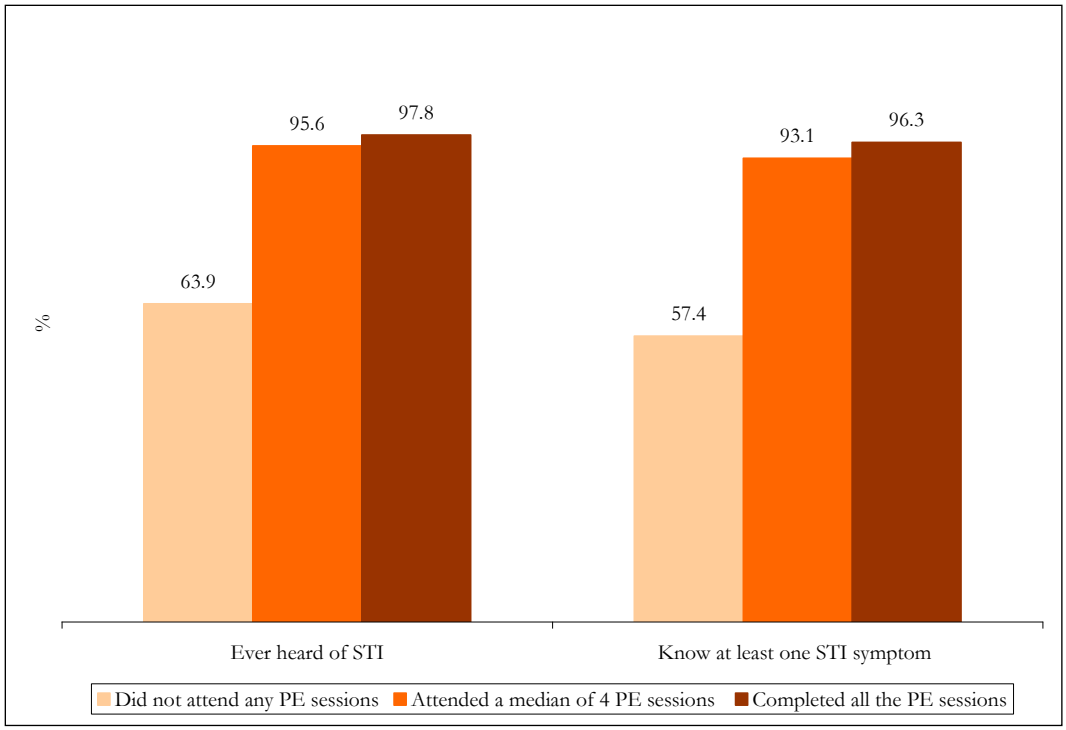
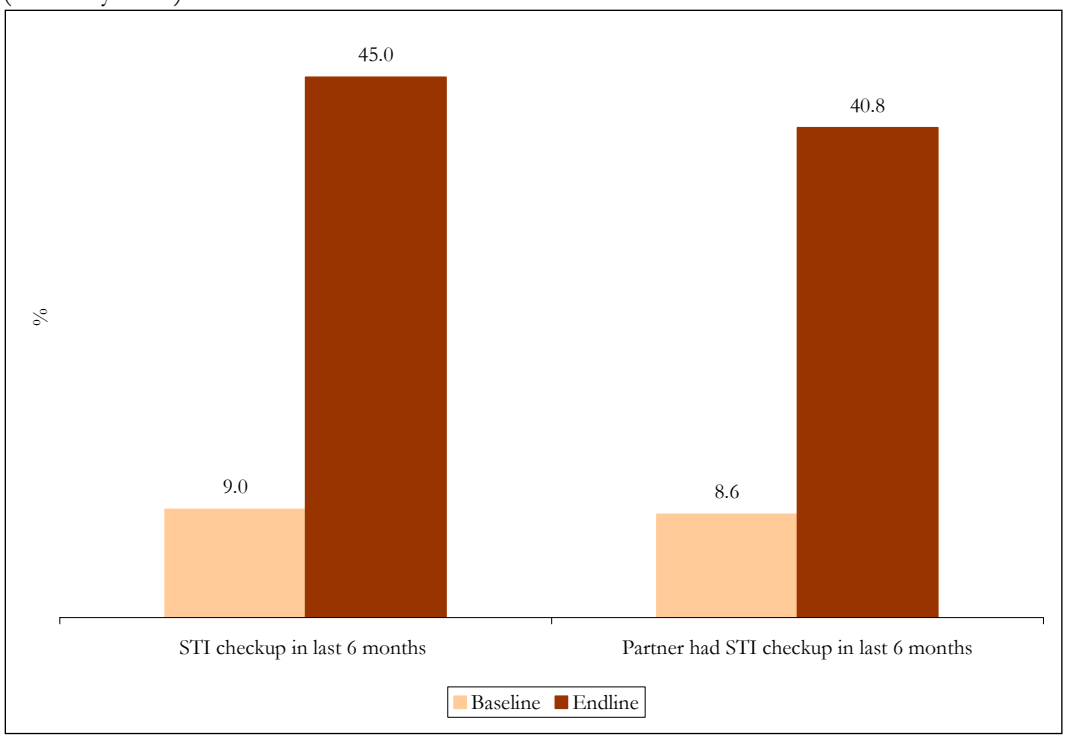



Figure 22. Proportion of male daily laborers and their partners who reported to have had STI checkup in the previous six months, TransACTION baseline (March 2010) and end line survey (February 2014).



*Peer education and STI checkup*

A dose-response relationship can be apparent between attendance of the peer education sessions and the uptake of STI checkup in health facilities. For instance, the proportion that had STI checkup in the previous six months was only 9.8% among those male daily laborers who did not attend any of the peer education sessions. This has increased significantly to 41.4% and 66.2%, respectively, among those who attended a median of 4 sessions and and all the sessions ($p<0.0001$). This trend also holds for partner testing by exposure to peer education - from 2.4% to 42% and 54.5%, respectively, across the three exposure categories (Figure 23). The observed univariate association retained in the multivariate analysis that adjusted for potential confounder (Table 16). The male daily laborers' likelihood of having had an STI check-up increased by 3.13 and 3.65 times, respectively, among those who attended a median of 4 sessions and all the sessions, as compared to those at baseline. A similar effect of peer education on attendance is apparent for partner check-up for STI.

Figure 23. Proportion of male daily laborers and their partners who had STI checkup in the previous six months, according to exposure to Addis Mela peer education, TransACTION end line survey February 2014.

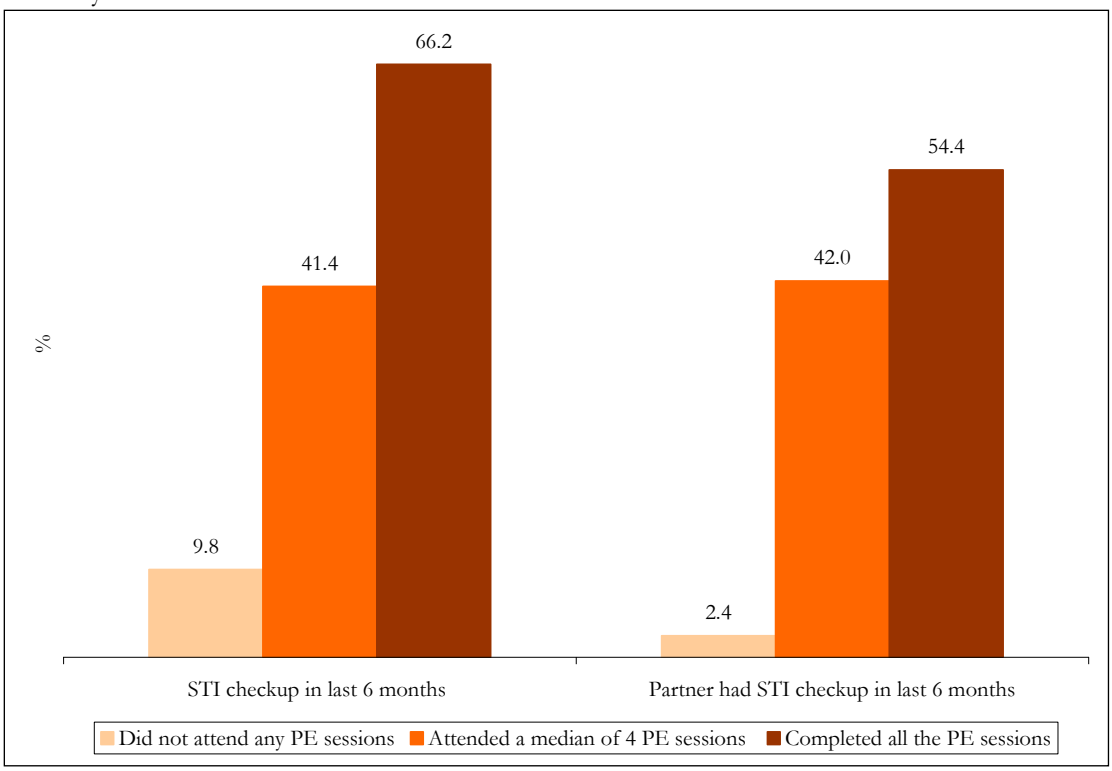


Table 16. Adjusted multivariate prevalence ratio (PR) and p-value of selected outcome indicators according to participation in Addis Mela peer education (PE) sessions and selected background characteristics, Male Daily Laborers, TransACTION baseline (n=400) and end line (n=400) surveys, 2010 and 2014.

| | Condom use | | HCT | | STI | | |
|---|---|---|---|---|---|---|---|
| | Condom use with most recent live-in partner | Condom use with most recent non-regular partner | had HCT in the past 6 months | partner had HCT in the past 6 months | had STI checkup in the past 6 months | partner had STI checkup in the past 6 months | Know at least one STI symptom |
| **Exposure to Addis Mela** | | | | | | | |
| Baseline (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| End line-did not attend PE | 0.51 | 1.13 | 0.42 | 0.30 | 0.54 | 0.10 | 0.74 |
| End line- attended a median of 4 PE sessions | 1.24** | 1.12* | 0.86 | 1.23*** | 3.13** | 3.19*** | 1.31*** |
| End line- attended all PE sessions | 1.26** | 1.19* | 1.27*** | 1.29*** | 3.65** | 3.36*** | 1.33*** |
| | | | | | | | |
| **Age** | | | | | | | |
| An increase of 1 year | 0.96 | 1.00 | 0.96 | 0.92 | 1.23 | 1.18 | 0.94 |
| | | | | | | | |
| **Education** | | | | | | | |
| No formal education (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 1-6 grade | 0.52 | 0.64 | 1.01 | 1.00 | 0.45 | 0.40 | 1.02 |
| 7-8 grade | 0.58 | 0.48 | 1.05 | 1.03 | 0.56 | 0.79 | 1.06 |
| 9+ grade | 1.15* | 0.97 | 1.02 | 1.05 | 0.93 | 0.82 | 1.09 |
| | | | | | | | |
| **Marital status** | n/a | | | | | | |
| Never married (ref) | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Currently married | | 1.56 | 1.00 | 1.16 | 1.01 | 1.19 | 1.03 |
| Widowed/divorced | | 1.53 | 0.67 | 0.72 | 0.59 | 0.54 | 1.06 |
| | | | | | | | |
| **Town size** | | | | | | | |
| Big town-sized (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Medium-sized | 0.79 | 1.00 | 0.98 | 1.00 | 0.63 | 1.01 | 0.92 |
| Small-sized | 0.58 | 0.72 | 1.04 | 1.05 | 0.64 | 1.00 | 0.91* |

**p<0.0.5; **p<0.001; ***p<0.0001; ref =reference category; n/a=not applicable*

### 3.4. Waitresses

3.4.1. Background characteristics

Waitresses for the end line survey were sampled from towns where the TransACTION Addis Mela program has implemented its intervention program on waitresses. It is important to note that the waitresses program was relatively recent and covered about a fourth of the TransACTION implementation towns. Most of the waitresses were sampled from large-sized towns (68.7%) and about a quarter (25%) were sampled from medium-sized towns (Table 17). Inadvertently, the waitresses interviewed were equally divided by the type of venue they operated in - café/pastry and bar/hotel. Indeed, waitresses working in café/pastry and those in bar/hotel can have different risk profile due to the work environment and the type of customers they encounter every day. The TransACTION formative research in 2010 revealed that waitresses operating in bars were more likely than those in cafes to engage in risky sexual behaviors.

Waitresses were in general young with a mean age of 22 years. About a quarter of them were 25 years or older and 9.2% were under 18 years of age. Half of the waitresses sampled (51.5%) have attained at least 10 years of schooling and 29.3% had 7-9 years of schooling. On the other hand, 9% couldn't read or write. Over three-fourth of the waitresses were never married. Waitresses with varying years of experience in the career were included in the sample with 47.3% served for at least 24 months and a third served for 6-23 months. Another 20% reported to have had less than 6 months of experience as waitresses.

Table 17. Selected background characteristic of waitresses, TransACTION end line survey, February 2014

| | % | N |
|---|---|---|
| Study town | | |
| Large-sized | 68.7 | 275 |
| Medium-sized | 25.0 | 100 |
| Small-sized | 6.2 | 25 |
| Type of Venue: | | |
| Cafe/Pastry | 50.0 | 200 |
| Bar/hotel | 50.0 | 200 |
| Age of respondent: | | |
| <18 | 9.2 | 37 |
| 18-20 | 36.2 | 145 |
| 21-24 | 29.7 | 119 |
| 25+ | 24.7 | 99 |
| Mean age (95% CI) | 21.9 (21.5-22.4) | |
| Educational Status: | | |
| Cannot read/write | 9.0 | 36 |
| 1-6 Grade | 10.2 | 41 |
| 7-9 Grade | 29.3 | 117 |
| 10+ Grade | 51.5 | 206 |
| Marital Status: | | |
| Never married | 77.3 | 309 |
| Widowed/Divorced | 9.0 | 36 |
| Currently Married | 13.7 | 55 |
| Duration of work (in months) | | |
| <6 months | 20.0 | 80 |
| 6-11 months | 12.2 | 49 |
| 12-23 months | 20.5 | 82 |
| 24 + months | 47.3 | 189 |

3.4.2. Participation in the Addis Mela peer education

Akin to the other target groups, the peer education program for waitresses was designed to accommodate eight sessions in eight weeks; one session per week. Of all waitresses interviewed, two-thirds said they attended one or more peer education session (Table 18). The Addis Mela peer education program for waitresses can be considered relatively recent, as most (over 90%) attended the session in 2012 (36.2%) and in 2013 (55.1%). About half of the waitresses who started on the session attended a maximum of four sessions and only 30% completed all the eight sessions.

Due to the its recent nature and the fact that most waitresses did not complete the sessions, we employed a different categorization as follows: (1) high exposure - attended 5-8 sessions- i.e. a median of 7 sessions (2) moderate exposure - attended 1-4 sessions - i.e. a median of 3 sessions and (3) did not attend the peer education sessions at all. Accordingly, a third of the waitresses can be considered as having high exposure while another third moderate exposure. The remaining (33.8%) did not attend any of the sessions and are considered having low or no exposure.

Table 18. Exposure to Addis Mela intervention program, Waitresses, TransACTION end line survey, February 2014

| Peer education attendance | % |
|---|---|
| | N=400 |
| Attended at least one peer education (PE) sessions | 66.2 |
| **Year peer education (PE) attended** | N=265 |
| 2011 | 8.7 |
| 2012 | 36.2 |
| 2013-2014 (January) | 55.1 |
| | N=265 |
| **Number of PE sessions attended** | |
| 1 | 9.1 |
| 2 | 15.1 |
| 3 | 10.6 |
| 4 | 15.5 |
| 5 | 6.0 |
| 6 | 9.4 |
| 7 | 4.1 |
| 8 | 30.2 |
| **Exposure definition** | N=400 |
| Did not attend any PE session | 33.8 |
| Attended 1-4 sessions (median 3 sessions) | 33.2 |
| Attended 5-8 sessions (median 7 sessions) | 33.0 |

3.4.3. Sexual behaviors

Selected indicators of sexual behaviors of waitresses is presented in Table 19. On the whole, sexual behaviors of the waitresses interviewed differ significantly between the baseline and end line. Both univariate and multivariate analysis revealed significant decline in the reporting of the number of sexual partners, concurrent sexual relationship and sexual engagement with non-regular partners among the waitresses since the baseline. On the other hand, data show a significant increasing trend in the proportion of waitresses that have live-in partners (regular but non-marital).

As shown in Table 19, the proportion of waitresses that reported two or more partners last year declined from the baseline 17% to 8.5% at end line ($p<0.001$). Likewise, the reporting of non-regular partners last year also declined significantly from 36.5% to 11% during the period; and concurrency from 5.7% to 2% ($p<0.05$).

Table 19. Percentage of respondents who ever had sex, who had sex in the last 12 months, and the total number of sexual partners and types of partners (last 12 months) and last month, Waitresses, TransACTION baseline (March 2010) and end line survey (February 2014).

| | Baseline N=400 | End line N=400 |
|---|---|---|
| Ever had sex | 82.0* | 70.7 |
| Had sex in the last 12 months | 72.0* | 63.0 |
| Total Number of sexual partners (last year) | | |
| 0 | 28.0 | 37.0 |
| 1 | 55.0 | 54.5 |
| 2+ | 17.0** | 8.5 |
| Type of sex partner in the last 12 months | | |
| Marital partner | 7.7 | 10.0 |
| Regular partner (live-in) | 24.2 | 46.5*** |
| Non-regular partner | 36.5*** | 11.0 |
| Two or more sexual partner (last 1 month) | 5.7* | 2.0 |

**p<0.05; **p<0.001*

Table 20 presents multivariate adjusted odd ratios of the likelihood of reporting the aforementioned sexual behaviors that adjusted for the age, education, marital status of the sex workers as well as their work place (venue) and size of town. The adjusted odds of having two or more partners last year, two or more partners last month and non-regular partner last year declined by 43%, 58% and 83%, respectively, at end line (2014) as compared to the baseline (2010). The reporting of a live-in partner increased by over 50% at end line as compared to the baseline.

Of note, there is no significant relationship between exposure to the Addis Mela peer education program and the noted decline in the aforementioned sexual behavior indicators.

Table 20. Adjusted multivariate odds ratio (OR) and p-value of selected sexual behavior indicators according to selected background characteristics, Waitresses, TransACTION baseline (n=400) and end line (n=400) surveys, 2010 and 2014.

| | Had a regular (live-in partner) - last year<br><br>Adjusted 0R | Had a non-regular partner last year<br><br>Adjusted OR | Had 2 or more partners last year<br><br>Adjusted OR | Had 2 or more partners last month (concurrency)<br><br>Adjusted OR |
|---|---|---|---|---|
| **Year** | | | | |
| Baseline (2010) | 1.00 | 1.00 | 1.00 | 1.00 |
| End line (2014) | 1.52*** | 0.17*** | 0.57* | 0.42* |
| **Age** | | | | |
| An increase of 1 year | 1.01 | 1.01 | 1.00 | 1.01 |
| **Education** | | | | |
| No formal education (ref) | 1.00 | 1.00 | 1.00 | 1.00 |
| 1-6 grade | 0.85 | 1.27 | 0.91 | 0.67 |
| 7-8 grade | 1.22 | 1.31 | 0.68 | 0.53 |
| 9+ grade | 0.70 | 1.04 | 0.37* | 0.41 |
| **Marital status** | N/A | | | |
| Never married (ref) | | 1.00 | 1.00 | 1.00 |
| Currently married | | 0.12*** | 0.32 | 0.27 |
| Widowed/divorced | | 1.81* | 1.56 | 2.61* |
| **Venue** | | | | |
| Cafe (ref) | 1.00 | | 1.00 | 1.00 |
| Bar/hotel | 1.13 | 1.62* | 1.76* | 1.86 |
| **Town size** | | | | |
| Big town-sized (ref) | 1.00 | 1.00 | 1.00 | 1.00 |
| Medium-sized | 2.26*** | 0.17*** | 0.54* | 0.30* |
| Small-sized | 1.94* | 0.24* | 0.86 | 0.85 |

**p<0.0.5; **p<0.001; ***p<0.0001; ref =reference category; OR=odds ratio*

*Cross-generational and transactional sex*:
We asked the age of a live-in as well as a non-regular partner of the waitresses interviewed (Table 21). At end line, only 7.4% reported that their live-in partner was at least 10 years older, which represents a significant decline from the 16.7% reported for the same at baseline ($p<0.05$). On the other hand there was no significant difference in the reporting of cross-generational relationship with non-regular partners between the baseline and end line. About 16% of the end line respondents said their most recent non-regular partner was at least 10 years older. This was not significantly different from the 20.4% reported at baseline.

Receiving gift or/and money from a non-regular partner (transactional sex) by the waitresses interviewed reported to be remarkably high at end line (93.2%). Baseline-end line comparison of transactional sex revealed a significant increase from 74.1% to 93.2% ($p<0.05$). This temporal trend in transaction sex retained in a multivariate analysis that

adjusted for the age, education, marital status, type of work place and the size of town. This was also further corroborate by the reported increased expectation of gift or money from a non-regular partner in exchange for sex by the waitresses interviewed. When asked whether they agreed or disagreed with the statement *"Do you agree that you have expectations of your most recent non-regular partner providing you with gifts as you are giving him sex in exchange?",* 58.5% of the end line waitresses agreed to this statement; and this was significantly higher than the 23.8% reported for the same at baseline ($p<0.0001$).

Worth mentioning that we didn't find any significant association between participation in Addis Mela peer education and engagement in cross-generational as well as transactional sex by the waitresses.

Table 21. Cross generational and transactional sexual relationships, Waitresses, TransACTION baseline (March 2010) and end line survey (February 2014).

| | Baseline | End line |
|---|---|---|
| Cross-generational sex (with live-in and non-regular partner) | | |
| Live-in partner 10 years older | N=90 | N=176 |
| | 16.7* | 7.4 |
| | N=142 | N=44 |
| Non-regular partner 10 years older | 20.4 | 15.9 |
| Transactional sex: | N=147 | N=44 |
| Ever received money/gift from a non-regular partner | 74.1 | 93.2* |
| *Perception on transactional sex:* | N=147 | N=44 |
| Do you agree that your most recent non-regular partner has expectations of you having sex with him in exchange for the gifts he gives you? | | |
| Disagree | 62.4 | 41.5 |
| Unsure | 5.5 | 9.8 |
| Agree | 32.1 | 48.8 |
| Do you agree that you have expectations of your most recent non-regular partner providing you with gifts as you are giving him sex in exchange? | | |
| Disagree | 66.1 | 41.5 |
| Unsure | 10.1 | 0.0 |
| Agree | 23.8 | 58.5*** |

*$p<0.05$; **$p<0.001$; ***$p<0.0001$*

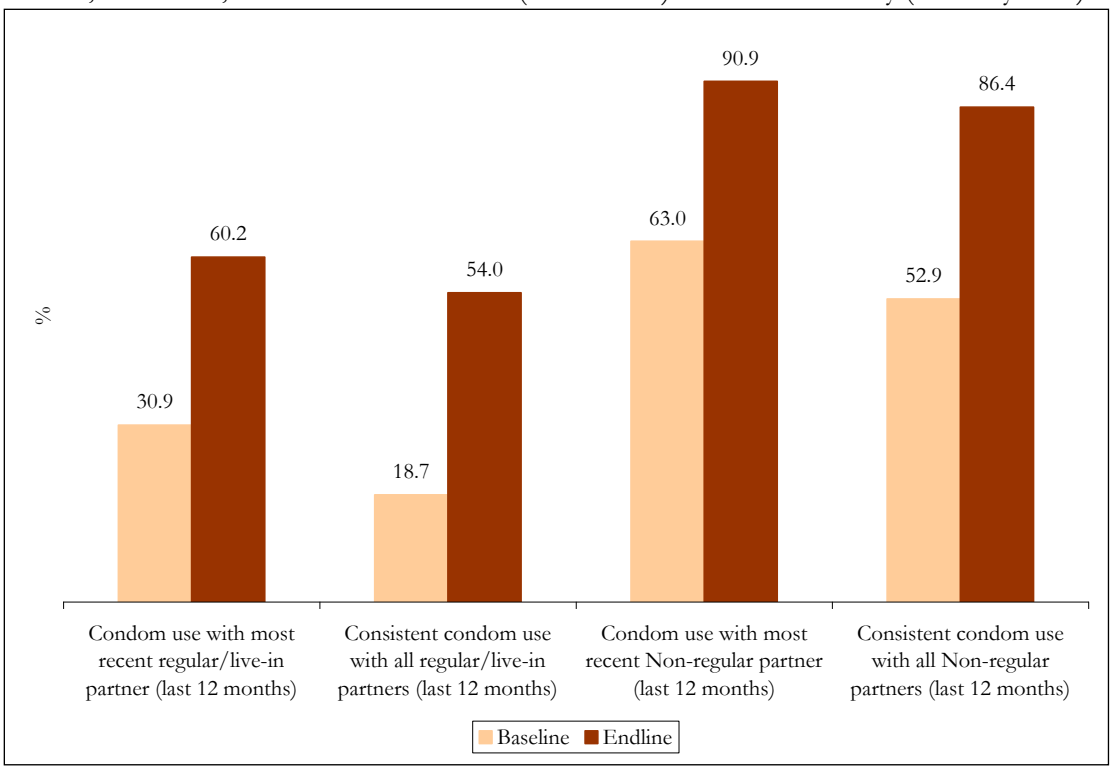
### 3.4.4. Condom use

*Condom use- baseline vs. end line:*

Waitresses condom use behavior in relation to a live-in (non-marital) and non-regular partner last year was assessed; and compared between the baseline and end line, as shown in Figure 24. In general, data revealed a significant increasing trend in condom use since the baseline by the waitresses, irrespective of the type of sexual partner. Condom use with the most recent live-in partner increased from a low of 30.9% at baseline to 60.2% at end

line(P<0.0001). Consistent condom use with the live-in partners also showed similar trend from 18.7% to 54% during the period. With non-regular partners, end line data showed a high condom use by waitresses at 90.9% compared to the baseline 65% (p<0.0001). Consistent condom use also increased significantly from the baseline 52.9% to 86.4% at end line (p<0.0001).

Figure 24. Condom use with regular (non marital but live-in), and non-regular partners in the last 12 months, Waitresses, TransACTION baseline (March 2010) and end line survey (February 2014)



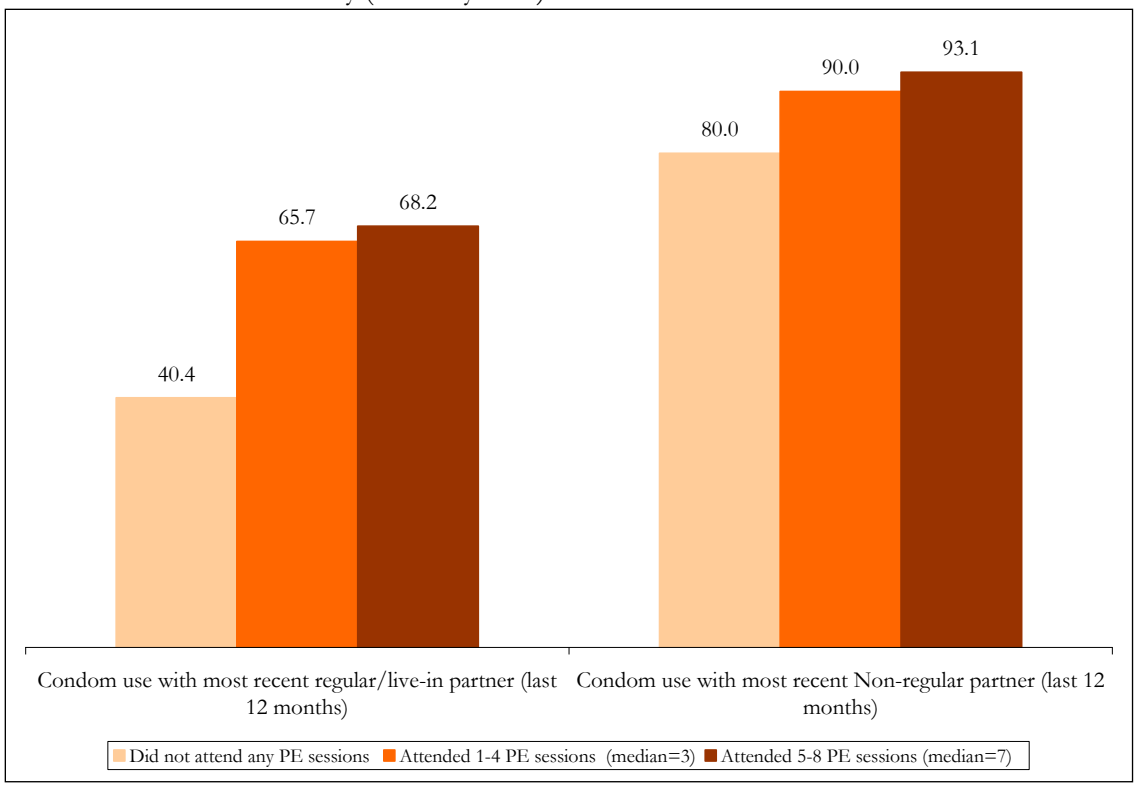

*Peer education and condom use:*

There appears a linear and positive relationship between the number of peer education attended and condom use by the waitresses (Figure 25). The reporting of condom use with the most recent live-in partner last year was the highest at 68.2% among those waitresses who attended most of the peer education sessions (a median of 7 sessions), followed by those who attended a median of 3 sessions at 65.7% and the lowest condom use was reported among those who did not attend any of the sessions (p<0.0001). Multivariate analysis also confirmed increased likelihood of condom use with a live-in partner by the waitresses who attended a median of 3 sessions (27% increase) and 7 sessions (an increase of 28%) compared to the baseline (Table 23). There was no significant trend in condom use with a live in partner among those who did not attend peer education.

Figure 25 also shows a positive association between condom use with a non-regular partner and participation in the Addis Mela peer education. The proportion of who reported condom use with the most recent non-regular partner last year increased from 80% among those who did not attend any peer education to 90% and 93.1%, respectively, among those

waitresses who attended a median of 3 and 7 sessions. Multivariate analysis found that only high participation in Addis Mela peer education (i.e. attendance of a median of 7 sessions) was associated with a significant increased likelihood of using condom with the most recent non-regular partner compared to the baseline (an increase of 15%). Data suggests a lack of significant increasing trend in condom use with a non-regular partner among waitresses who attended a median of 3 sessions, compared to the baseline (Table 23).

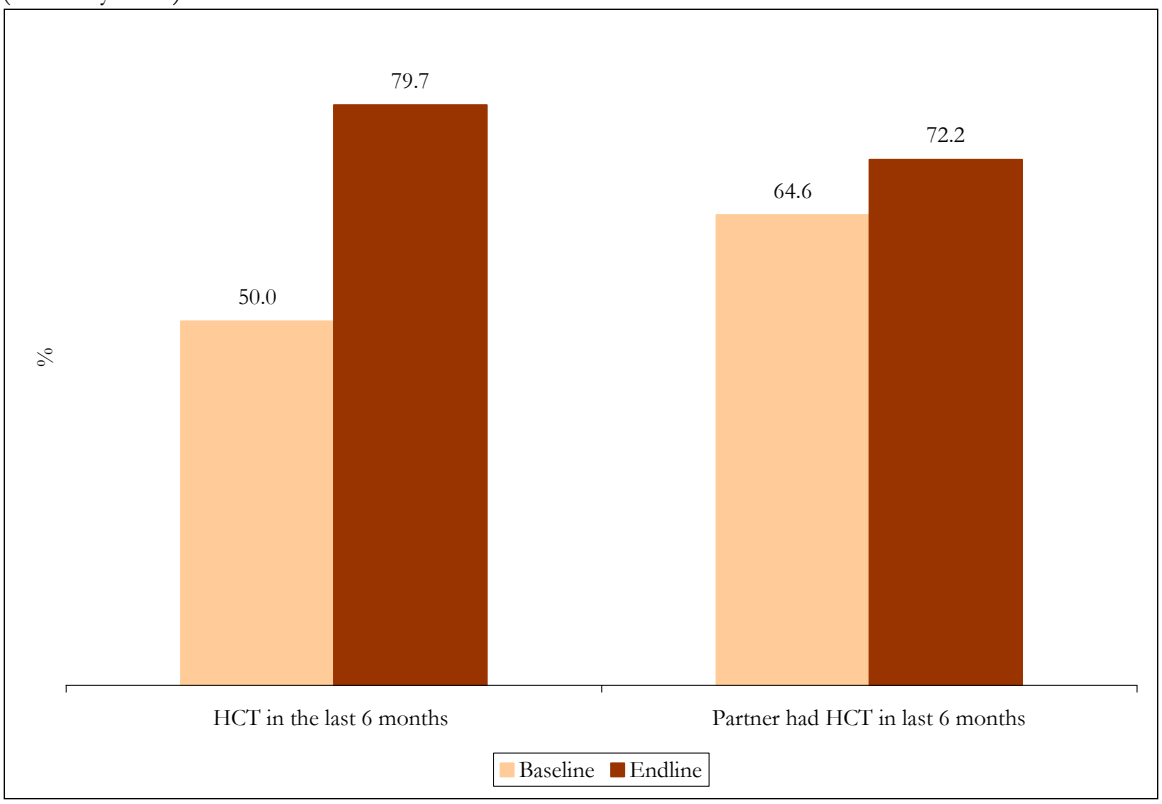
Figure 25. Condom use with regular (non marital but live-in) and non-regular partners in the last 12 months, according to participation in the Addis Mela peer education session (PE), Waitresses, TransACTION end line survey (February 2014).




3.4.5. HIV counseling and testing (HCT)

*HCT uptake- baseline vs. end line:*
Temporal trend in HCT (last 6 months) is apparent among the waitresses from the baseline 50% to 79.7% at end line ($p<0.0001$). Partner testing also increased from 64.6% to 72.2% during the period but not significantly (Figure 26).

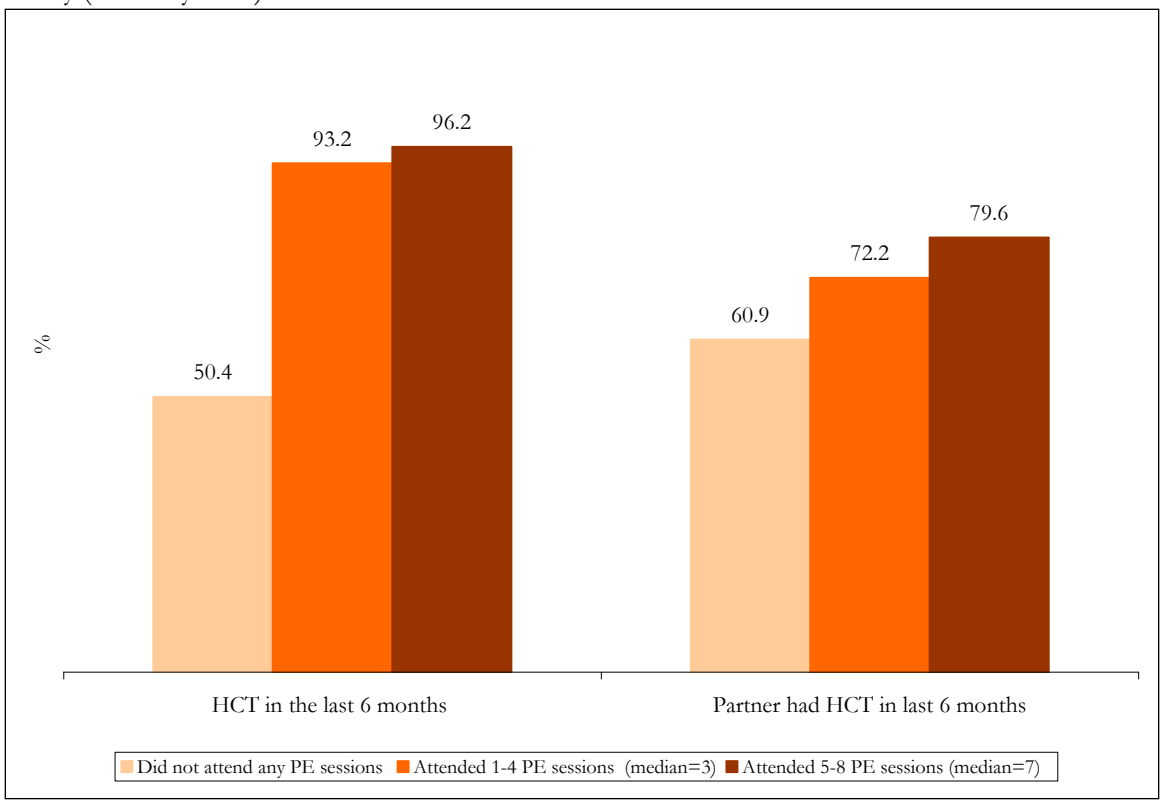
Figure 26. HIV counseling and testing (HCT) in the previous six months among waitresses and their sexual partners, Waitresses, TransACTION baseline (March 2010) and end line survey (February 2014)




*Peer education and HCT:*

In general, participation in the Addis Mela peer education was associated significantly with higher uptake of HCT by the waitresses and their partners. Of note, there was no significant difference in HCT uptake between the waitresses who had moderate (a median of 3 sessions) and high participation (a median of 7 sessions) in the Addis Mela peer education - 93.2 and 96.2%, respectively (Figure 27). Multivariate result also found increased likelihood of HCT by the waitresses in relation to attendance of peer education sessions (Table 23). Compared to the baseline, the likelihood of testing in the previous 6 months increased by 25% among the waitresses who attended a median of 3 sessions. This has increased by 36% among those who attended a median of 7 sessions. On the other hand, partner testing was significantly associated with high exposure in the peer education; an increase of 6% compared to the baseline. On the other hand, there was no significant trend in partner testing since the baseline among those with either moderate exposure or those who did not attend in the peer education. The proportion waitresses who had HCT in the previous 6 months was 50% at baseline and this is similar with the 50.4% reported at end line among those who did not attend the peer education sessions. Similarly, partner testing for HIV compares well between the baseline (64.6%) and non-exposed end line respondents (60.9%).

Figure 27. HCT in the previous 6 months among waitresses and their partners, according to participation in the Addis Mela peer education session (PE), Waitresses, TransACTION end line survey (February 2014).




3.4.6. Sexually transmitted infection (STI)

*Knowledge of STI- baseline vs. end line*

Waitresses' awareness of STIs, places where to find the service and knowledge of the different symptoms have improved significantly since the baseline (Table 22). The proportion of waitresses who ever heard of STI increased from 54% to 82% ($p<0.0001$) during the period. Only about 45% of the waitresses at baseline knew places where STI services are provided and this has increased significantly ($p<0.0001$) to 72% at end line. The proportion of waitresses that recognized at least on correct STI symptom doubled since the baseline - from 35.3% to 72% ($p<0.0001$). In addition, the recognition of the different symptoms also improved significantly since the baseline except for the reporting of lower abdominal pain. Despite the increasing trend, waitresses' knowledge of STI symptoms can be considered incomplete. When asked to mention the symptoms they knew, at end line most waitresses (51.5%) mentioned genital discharge, followed by burning during urination (50%), foul smelling discharge (42.7%) and itching in genital area (37.7%). Other symptoms were less frequently reported.

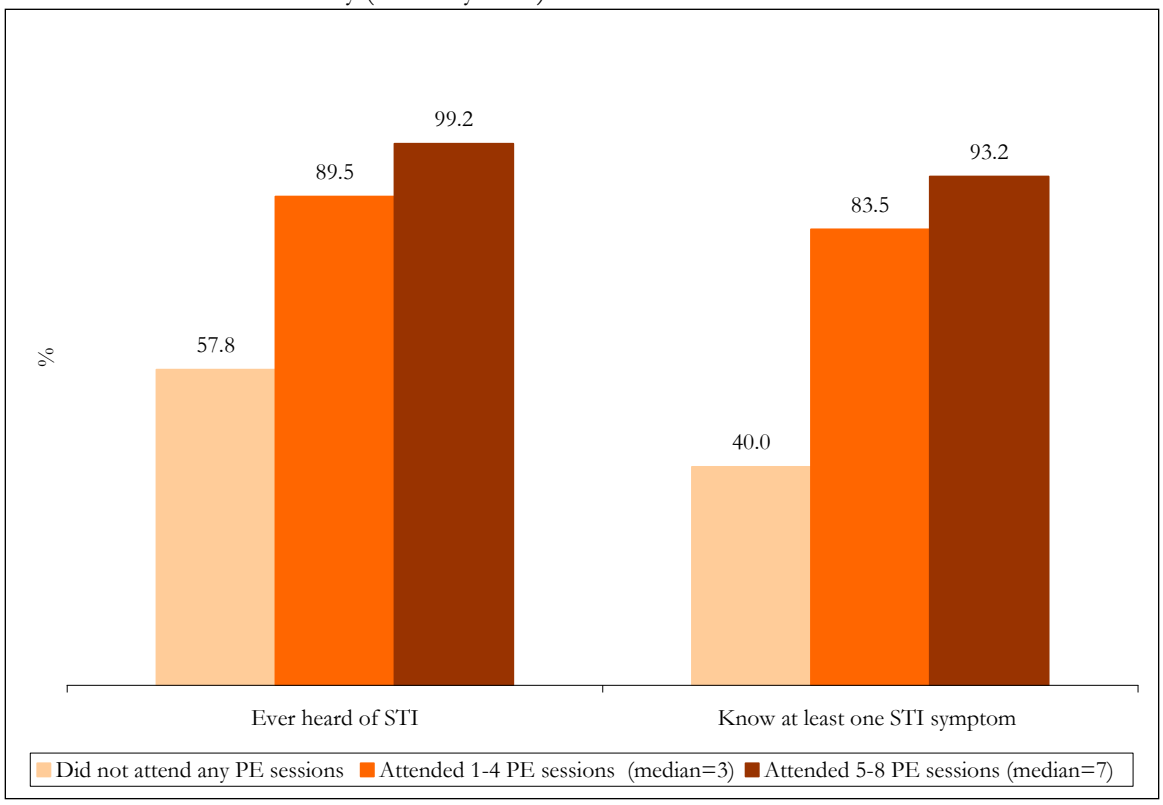
Table 22. Proportion of waitresses who heard about STIs and know symptoms of STIs, TransACTION baseline (March 2010) and end line survey (February 2014).

| | Baseline N=400 | End line N=400 |
|---|---|---|
| % Ever heard of STIs | 54.0 | 82.0*** |
| % Who know where to get STI service | 44.8 | 72.0*** |
| Knowledge of STI symptoms: | | |
| % who reported | | |
| Genital discharge | 15.0 | 51.5*** |
| Lower abdominal pain | 1.8 | 3.2 |
| Foul smelling discharge | 8.8 | 42.7*** |
| Genital ulcer | 17.8 | 28.0** |
| Genital rash | 7.0 | 25.5*** |
| Pain/burning during urination | 15.8 | 50.0*** |
| Swelling in groin/genital area | 7.3 | 16.2*** |
| Itching in genital area | 17.8 | 37.7*** |
| % reported knowing at least one STI symptom | 35.3 | 72.0*** |

*Peer education and STI knowledge:*

Figure 28 compares waitresses' knowledge of STI across the different level of exposure to the Addis Mela peer education sessions. It appears that higher awareness and knowledge of STI was associated with the number of peer education sessions attended. The proportion of waitresses who heard about STI was low at 57.8% among those who did not attend any peer education session and, notably, this was not significantly different from the 54% reported for the same at baseline. But a significant surge in STI awareness can be noted in association with attendance of the peer education sessions - i.e. 89.5% among those who attended a median of 3 sessions and 99.2% among those who attended a median of 7 sessions. Likewise, the reporting of one or more STI symptoms by the waitresses increased linearly and positively with the number of peer education sessions attended. Only 40% of those who did not attend any peer education sessions recognized one or more STI symptoms at end line. This was significantly increased to 83.5% among those who attended a median of 3 sessions and to 93.2% among those who attended a median of 7 sessions ($p<0.0001$). Besides, the data signals a dose-response relationship between the knowledge of STI and the number of sessions attended. On the other hand, there was no significant difference in STI symptom recognition between baseline respondents and those at end line who did not attend any of the peer education sessions. This is further corroborated by the multivariate analysis that adjusted for selected potential confounders (Table 23).

Figure 28. Proportion of waitresses who ever heard of STIs and know at least one STI symptoms, according to participation in the Addis Mela peer education session (PE), Waitresses, TransACTION end line survey (February 2014).




*STI checkup:*
As shown in Figure 29, the proportion of waitresses that had an STI checkup in the previous 6 months increased by more than fourfold since the baseline - from 10.2% to 47.7% ($p<0.0001$). Similar trend is also recorded for partners of the waitresses - from 6.4% at baseline to 45.2% at end line ($p<0.0001$), as reported by the waitresses.

*Peer education and STI checkup:*
Increasing trend in the reporting of STI checkup (last 6 months) was much more pronounced among the waitresses who attended most of the peer education sessions (a median of 7 sessions) at about 69%, followed by those attended some of the sessions (a median of 3 sessions) at 56.4%. Though not significantly, the uptake of STI checkup increased among those who did not attend the peer education sessions compared to the baseline (18.5% vs. 10.2%). Multivariate analysis that adjusted for the age, education, marital status, type of work place and size of town showed an increased likelihood of STI checkup in the previous 6 months associated with attendance of the peer education sessions. Attendance of most of the peer education sessions (a median of 7 sessions) by the waitresses was associated with a 3 times increased likelihood of having had an STI checkup compared to the baseline. Likewise, the corresponding increased likelihood of an STI checkup that was associate with attendance of a median of 3 sessions was 2.8 (Table 23).

The reporting of partners STI checkup in the previous 6 months by the waitresses also showed a linear and positive increase with the number of peer education sessions attended.

Only 22.2% of the waitresses that did not attend the peer education sessions reported partner checkup for STI and this has increased significantly to 48.5% and 55.8%, respectively, among those who attended a median of 3 peer education sessions and 7 sessions ($p<0.0001$). We also noted significant increasing trend in the reporting of partner STI check up by those waitresses who did attend any of the peer education session compared to the baseline (22.2% vs. 6.4%, $p<0.05$).

Figure 29. Proportion of waitresses and their partners who reported to have had STI checkup in the previous six months, TransACTION baseline (March 2010) and end line survey (February 2014).

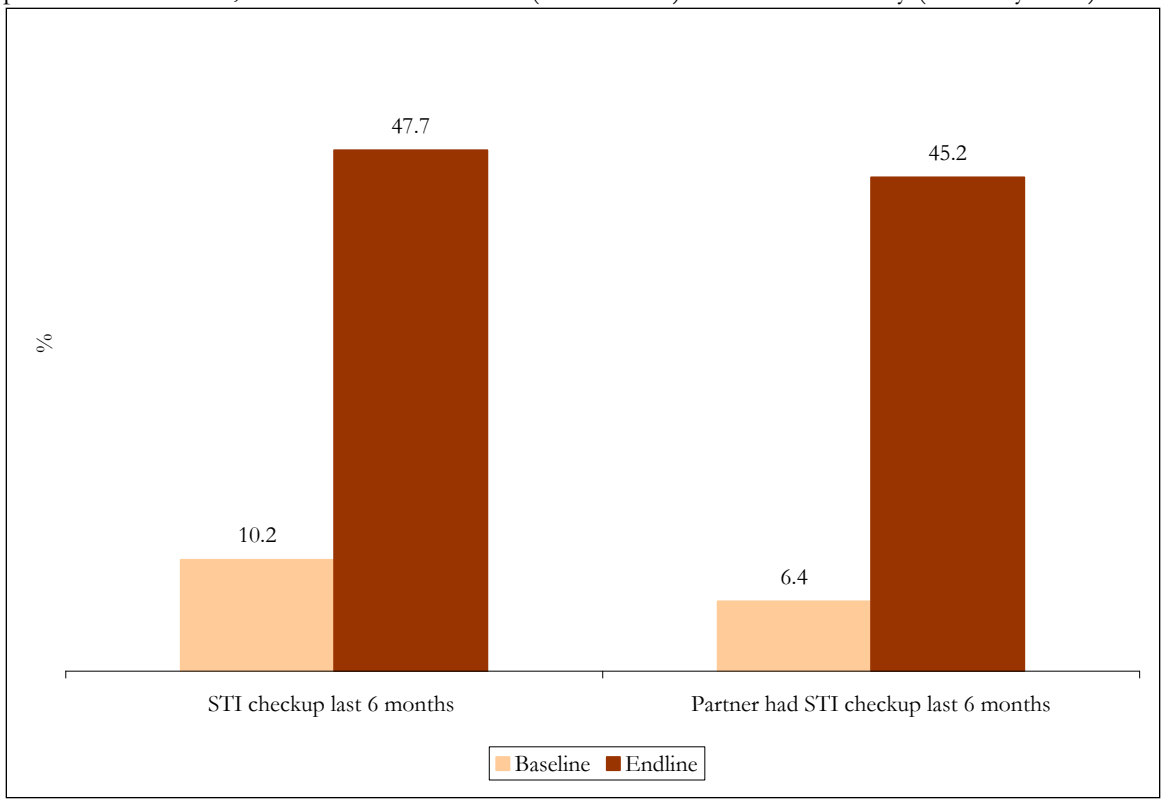


Figure 30. Proportion of waitresses and their partners who had STI checkup in the previous six months, according to exposure to Addis Mela peer education, TransACTION end line survey February 2014.

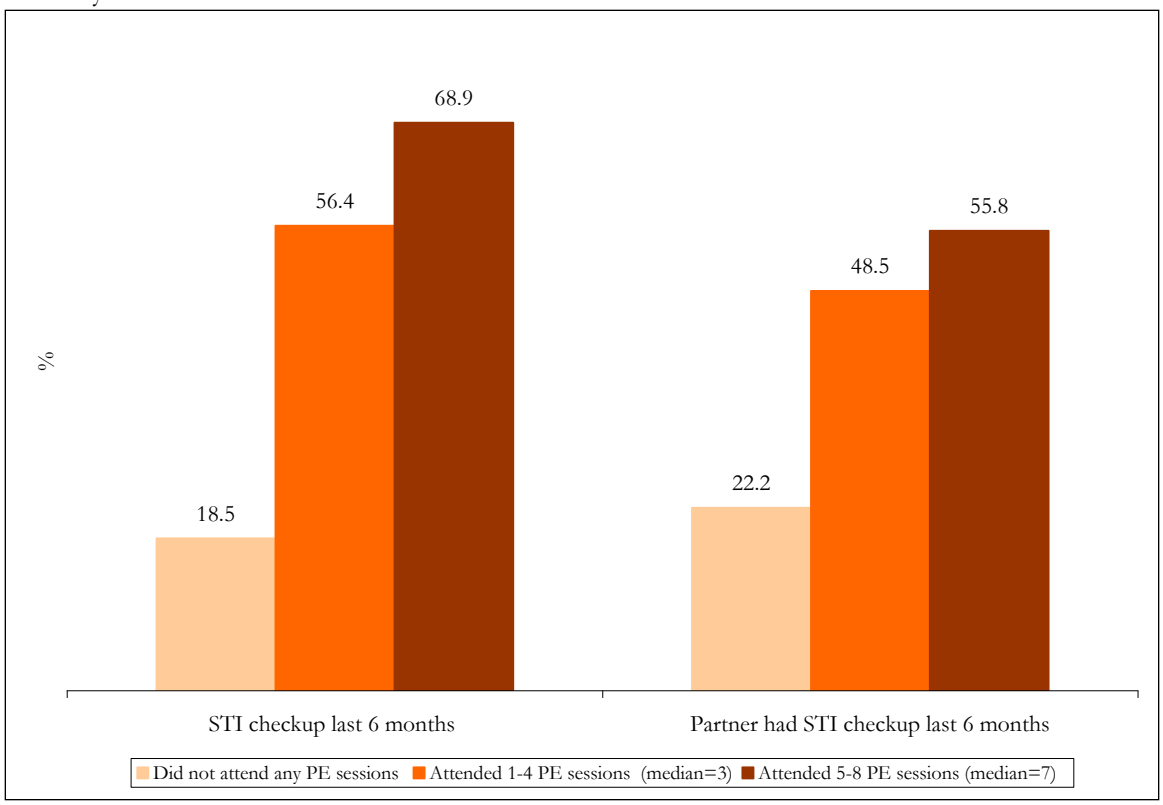


Table 23. Adjusted multivariate prevalence ratio (PR) and p-value of selected outcome indicators according to participation in Addis Mela peer education (PE) sessions and selected background characteristics , Waitresses, TransACTION baseline (n=400) and end line (n=400) surveys, 2010 and 2014.

| | Condom | | HCT | | STI | | |
|---|---|---|---|---|---|---|---|
| | Condom use with most recent live-in partner (Adjusted PR) | Condom use with most recent non-regular partner (Adjusted PR) | had HCT in the past 6 months (Adjusted PR) | partner had HCT in the past 6 months (Adjusted PR) | had STI checkup in the past 6 months (Adjusted PR) | partner had STI checkup in the past 6 months (Adjusted PR) | Know at least one STI symptom (Adjusted PR) |
| **Exposure to Addis Mela** | | | | | | | |
| Baseline (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| End line-did not attend PE | 0.79 | 0.90 | 0.66 | 0.71 | 0.63 | 2.38* | 0.66 |
| End line- attended a median of 3 PE sessions | 1.27* | 1.13 | 1.25*** | 1.02 | 2.81*** | 3.53*** | 1.43*** |
| End line- attended a median of 7 PE sessions | 1.29** | 1.15* | 1.26*** | 1.06* | 3.03*** | 3.64*** | 1.46*** |
| **Age** | | | | | | | |
| An increase of 1 year | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| **Education** | | | | | | | |
| No formal education (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 1-6 grade | 0.68 | 1.01 | 0.74 | 0.71 | 1.09 | 0.52 | 0.66 |
| 7-8 grade | 0.68 | 0.96 | 1.07 | 1.05 | 1.25 | 1.79*** | 1.24*** |
| 9+ grade | 1.04 | 0.99 | 1.05 | 1.07 | 1.10 | 1.84*** | 1.27*** |
| **Marital status** | | | | | | | |
| Never married (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Currently married | 0.35* | 1.05 | 1.06* | 1.03 | 1.01 | 0.96 | 1.13** |
| Widowed/divorced | 1.05 | 1.05 | 0.86 | 0.66 | 1.19 | 1.36 | 1.22*** |
| **Venue** | | | | | | | |
| Bar/hotel | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Cafe (ref) | 0.98 | 1.04 | 0.98 | 0.76 | 1.07 | 0.96 | 1.07 |
| **Town size** | | | | | | | |
| Big town-sized (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Medium-sized | 0.56* | 1.03 | 1.01 | 1.02 | 0.92 | 1.14** | 0.89 |
| Small-sized | 0.67 | 0.99 | 0.85 | 0.87 | 0.74 | 1.30** | 0.70 |

**p<0.0.5; **p<0.001; ***p<0.0001; ref =reference category*

## 3.5. Truckers

### 3.5.1. Selected background characteristics

We interviewed 400 truckers in three sites - Adama, Mojo dry port and Kality. The truckers were middle-aged with a mean age of 38 years and about two-third were in the age group 30-49 years. Over 92% had some education and 34.3% had attended 12 or more years of schooling. Most of the truckers interviewed (70.8%) were currently married while about a quarter were single (Table 24). The truckers interviewed appeared to have long years of experience in the profession. On average they worked for about 13 years. However, there were a good portion of them (17.5%) that served as truckers for less than 5 years. Long serving truckers (for 20 years or longer) represented a little bit over a fifth of them. The nature of the job demands spending most part of the month away from home, and about three-quarter of the truckers interviewed said they often spend over 2 weeks away from home. When away from home truckers reported two common places where they pass the night. When asked *"When you are on the road away from your home, where do you most often spend the night?"* half of the truckers said in hotels and the other half inside the truck (truck bed).

Table 24. Selected background characteristics of Truckers, TransACTION end line survey, February 2014.

| | % | N |
|---|---|---|
| Age of respondent: | | |
| 20-29 | 22.7 | 91 |
| 30-39 | 40.8 | 163 |
| 40-49 | 25.0 | 100 |
| 50+ | 11.5 | 46 |
| Mean age (95% CI) | 38.4 (37.7-39.0) | |
| Educational Status: | | |
| No formal education | 7.4 | 57 |
| 1-6 Grade | 13.0 | 100 |
| 7-8 Grade | 19.8 | 152 |
| 9-11 Grade | 25.4 | 195 |
| 12+ Grade | 34.3 | 263 |
| Marital Status: | | |
| Never married | 25.0 | 100 |
| Currently Married | 70.8 | 283 |
| Widowed/Divorced | 4.2 | 17 |
| Duration of work (in years) | | |
| <5 years | 17.5 | 70 |
| 5-9 years | 18.0 | 72 |
| 10-14 years | 29.0 | 116 |
| 15-19 years | 14.2 | 57 |
| 20 + years | 21.2 | 85 |
| Mean (95% CI) | 12.7(12.0-13.4) | |
| Number of days (average) away from home in a month | | |
| <8 days | 7.3 | 29 |
| 8-15 days | 20.3 | 81 |
| 16-30 days | 72.4 | 288 |
| Mean (95% CI) | 20.8 (20.2-21.5) | |
| Usual place of sleep when away form home | | |
| Hotel bed room | 49.5 | 198 |
| Inside the truck/truck bed | 50.5 | 202 |

*CI: Confidence Interval*

### 3.5.2. Exposure to Addis Mela intervention programs

Unlike in the other target group, the peer education program for truckers was structured to be delivered via a one-on-one session. The sessions were conducted in any place that was convenient for truckers - in the gas station, during their lunch time, in the dry port, in their recreation places, among other situations. Due to their mobile nature the peer education was designed to be delivered in one-to-many and many-to-one model. One peer educator can provide the training to many truckers and, likewise, one trucker can be trained by more than one peer educator for the different sessions. The peer education was designed to include five distinct sessions and in a single contact only one session was delivered. By design, two consecutive sessions were conducted within a minimum of one week interval, allowing sufficient time for the trainees to digest the information they received from the preceding session.

As shown in Table 25, two-third of the truckers interviewed attended one or more peer education sessions. The majority (51.7%) attended the first session in 2012 and a fifth in 2012. About 28% said they attended the sessions in 2010/2011. Of all the truckers who attended one or more sessions (n=268), 63.2% reported to have completed all the five sessions. On the other hand, about 32% reported to have attended a maximum of three sessions. Only one session was reported by 8.9% of the truckers.

Based on the reported number of sessions attended, we categorize truckers into three groups to define low, moderate and high exposure to the Addis Mela intervention program. The group that are considered having had low or no exposure to the intervention are those who did not attend any of the peer education sessions and this represented about a third of the end line respondents. Moderate exposure is defined based on attendance of 1-4 sessions; the median being 2 sessions and 24.3% of the truckers fall in this category. Finally, those who attended all the five sessions are considered being highly exposed and this group represented 42.7% of the total. Subsequent sections present the relationship between key program outcome indicators and exposure to the peer education sessions.

Table 25. Exposure to Addis Mela intervention program, Truckers, TransACTION end line survey, February 2014

| Peer education attendance | % |
|---|---|
| | N=400 |
| Attended at least one peer education (PE) sessions | 67.0 |
| **Year peer education (PE) attended** | N=268 |
| 2010-2011 | 27.9 |
| 2012 | 51.7 |
| 2013 | 20.4 |
| **Number of PE sessions attended** | N=268 |
| 1 | 8.9 |
| 2 | 11.9 |
| 3 | 10.4 |
| 4 | 5.6 |
| 5 | 63.2 |
| **Exposure definition** | N=400 |
| Did not attend any PE session | 33.0 |
| Attended some PE sessions (median 2 sessions) | 24.3 |
| Attended all the PE sessions | 42.7 |

3.5.3. Sexual behaviors

Selected sexual behavior indicators of truckers interviewed at baseline and end line are presented in Table 26. Sexual experience can be considered universal among the truckers as 99% of the respondents in both surveys reported having had sex in their lifetime. In the year preceding the survey, 96.8% of the truckers interviewed at end line reported to have had sex, and this was not significantly different from the 95.1% recorded for the same at baseline.

The end line data suggest that the truckers studied were characterized by risky sexual behaviors that include high partner change, concurrent sexual relationship and engagement with different types of partners including sex workers. Besides, the data show an increase in the reporting of risky behaviors since the baseline. The proportion of truckers that reported two or more sexual partners last year increase from 25.9% at baseline to 36.5% at end line. In addition, 7% of the truckers interviewed at end line reported two or more sexual partners in the previous one moth, suggesting a fairly high prevalence of concurrent sexual relationship in this population group.

Truckers reported to have four types of sexual partners - marital, live-in (not married), sex workers, and non-regular (women other than sex workers). End line data revealed that about 28% reported to have had live-in partners, which was comparable to the 20.3% reported for the same at baseline. Visiting sex workers appeared to be common among the trucker population as revealed by the end line data. A little bit over a quarter of the truckers interviewed at end line reported to have had sex with sex workers last year. This was

significantly higher than the 16.8% reported for the same at baseline ($p<0.05$). Univariate analysis showed some sexual behavior indicators such as the proportion of truckers that have two or more partners last year and last month as well as those who had sex with sex workers increased significantly since the baseline.

Table 26. Percentage of respondents who ever had sex, who had sex in the last 12 months and last month, type of sex partner last 12 months, Truckers, TransACTION baseline (March 2010) and end line survey (February 2014).

| | Baseline N=370 | End line N=400 |
|---|---|---|
| Ever had sex | 98.7 | 99.0 |
| Had sex in the last 12 months | 95.1 | 96.8 |
| Total Number of sexual partners (last year) | | |
| 0 | 4.9 | 3.2 |
| 1 | 69.2 | 60.3 |
| 2 | 5.4 | 8.7 |
| 3 | 5.9 | 9.7 |
| 4+ | 14.6 | 18.1 |
| Two or more sexual partner (last year) | 25.9 | 36.5* |
| Two or more sexual partner (last 1 month) | 3.5 | 7.0* |
| Type of sexual partner in the last 12 months | | |
| Marital partner | 65.7 | 67.5 |
| Live-in partner (Not married) | 20.3 | 22.7 |
| Non-regular (excluding sex workers) | 14.6 | 19.2 |
| Sex worker | 16.8 | 25.5* |

*$p<0.05$

After adjusting for several potential confounders including truckers' age, educational status, marital status, year of service, average number of days away from home per month, and usual place of sleep when away from home in a multivariate logistic regression model, the reporting of two or more sex partners and having had sex with sex workers last year increased significant at end line compared to the baseline (Table 27). The odds of having had two or more sex partners and having had sex with sex workers (last year) both increased by over two fold at end line as compared to the baseline. The unadjusted increasing trend in the reporting of concurrent sexual relationship waned in the multivariate analysis hat adjusted for the aforementioned potential confounders. Other factors that are significantly and independently associated with the likelihood of having two or more sexual partners include marital status, year of service, and usual place of sleep. Compared to the currently married women, being never married and divorced/widowed appeared to be associated significant with an increased odds of having two or more sex partners (Adjusted odds ratio; 2.3 and 5.5, respectively). The odds of having had two or more partners declined by 24% with an increase of one year in the number of years worked as trucker. Although the

relationship between usual place of sleep and number of sexual partners could be bi-direction, the multivariate analysis suggests increased likelihood (89% increase) of having higher number of partners associated with sleeping most of the time in hotel rooms versus sleeping in truck bed while away from home. The same factors appeared to be associated with the likelihood of having sex with sex workers (Table 27).

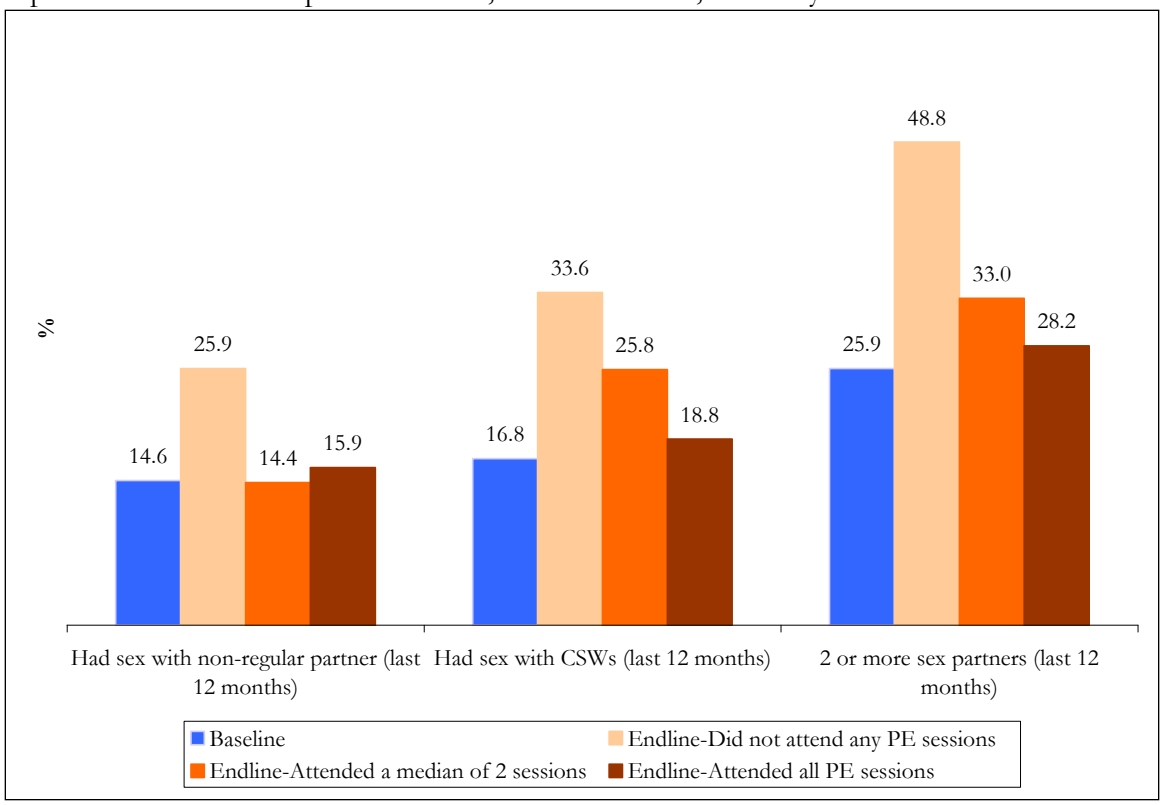
Of note there is no independent and significant relationship between attendance of the Addis Mela peer education and the reporting of these different sexual behaviors in a multivariate analysis that adjusted for several confounder although the univariate data suggests some unadjusted association, as shown in Figure 31.

Table 27. Adjusted multivariate odds ratio (OR) and p-value of selected sexual behavior indicators according to selected background characteristics, Truckers, TransACTION baseline (n=370) and end line (n=400) surveys, 2010 and 2014.

| | 2 + partners last year | 2 + partners last month | Had sex with sex workers last year |
|---|---|---|---|
| | Adjusted Odds Ratio | Adjusted Odds Ratio | Adjusted Odds Ratio |
| **Year/Survey** | | | |
| Baseline (2010) (ref) | 1.00 | 1.00 | 1.00 |
| End line (2014) | 2.10*** | 1.84 | 2.04** |
| **Age** | | | |
| An increase of 1 year | 1.03 | 0.94 | 1.01 |
| **Education** | | | |
| < grade 6 (ref) | 1.00 | 1.00 | 1.00 |
| 7-8 grade | 1.64 | 2.06 | 1.72 |
| 9-11 grade | 1.33 | 1.25 | 1.19 |
| 12+ grade | 1.11 | 1.53 | 1.08 |
| **Marital status** | | | |
| Currently married (ref) | 1.00 | 1.00 | 1.00 |
| Never married | 2.27*** | 3.82*** | 1.73* |
| Divorced/widowed | 5.54*** | 3.75* | 3.99*** |
| **Years worked as trucker** | | | |
| An increase of 1 year | 0.76*** | 0.94 | 0.84* |
| **Days away from home per month (average)** | | | |
| < 8 days (ref) | 1.00 | 1.00 | 1.00 |
| 8-15 days | 0.94 | 1.49 | 0.72 |
| 16-30 days | 1.33 | 2.07 | 0.81 |
| **Usual place of sleep when away from home** | | | |
| Inside the truck (ref) | 1.00 | 1.00 | 1.00 |
| In hotels | 1.89*** | 2.68* | 1.79* |

**p<0.05; **p<0.001; ***p<0.0001; analysis adjusted for place interview conducted*

Figure 31. Selected sexual behaviors of truckers at baseline; and end line, according to exposure to Addis Mela peer education, TransACTION, February 2014.

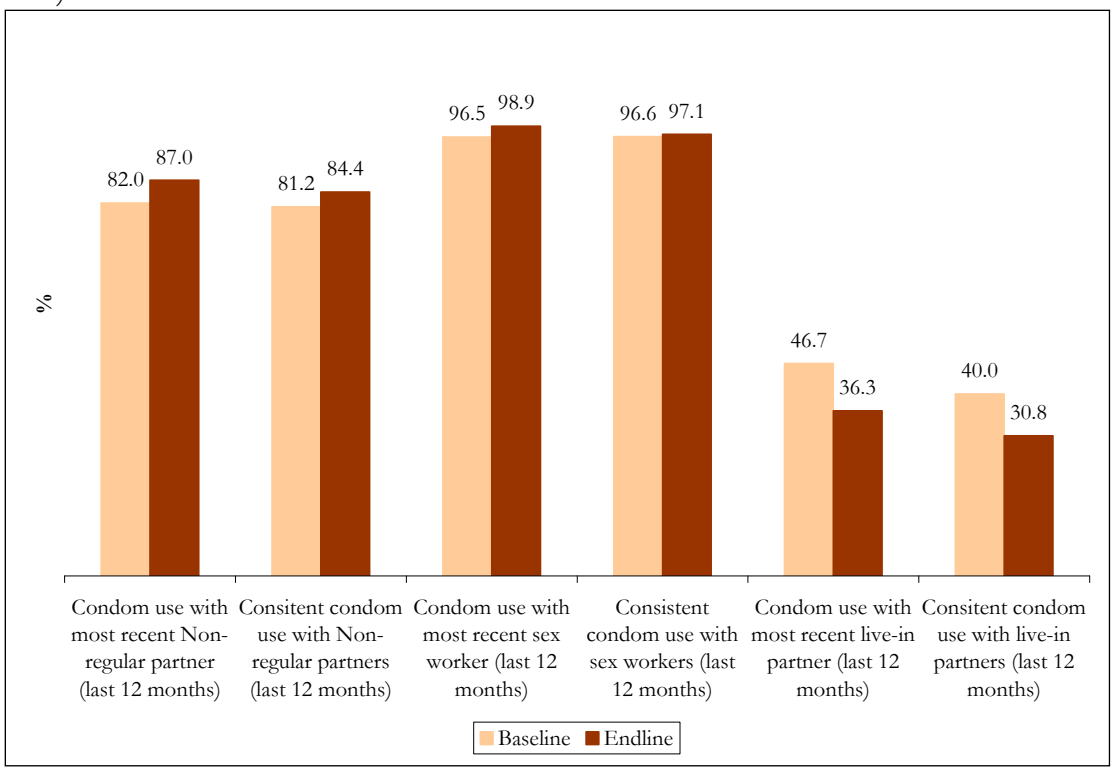



3.5.4. Condom use

*Condom use- baseline vs. end line:*
Taken together, truckers' condom use behavior with different types of partners revealed nearly stable trend since the baseline. Truckers in general reported relatively higher condom use with sex workers and non-regular partners while lower condom use with a live-in partner irrespective of the date of the survey (Figure 32). Of note, truckers' condom behavior with sex workers is nearly universal. The proportion of truckers who reported using condom with the most recent sex worker and non-regular partner at end line were 98.9% and 87%, respectively. The corresponding figures at baseline were 96.5% and 82%, respectively. Of note, there was no significant trend in the reporting of these condom behaviors during the period. The reporting of consistent condom use (last year) with these partners also showed constant trend over the years. The lack of trend is not unexpected because condom use rate among truckers was already high at baseline and it is always difficult to push such a high rate further due to the likely threshold effect.

Data show a reversal trend in the reporting of condom use with a live-in partners since the baseline though not significantly. The proportion of truckers who reported using condom with the most recent live-in partner was 46.7% and 36.3%, respectively, at baseline and end line.

Figure 32. Condom use with live-in (non marital), non-regular partners and sex workers in the last 12 months among truckers, TransACTION baseline (March 2010) and end line survey (February 2014)




*Peer education and condom use:*

We explored the relationship between the number of peer education sessions attended and condom use behaviors of truckers (Figure 33). Condom use with the different types of sex partners recorded to be the highest among the truckers who attended all the peer education sessions. In particular, the use condom with the most recent sex worker and non-regular partner reported at 100% by those who attended all the sessions. This was followed by those who attended some sessions (a median of 2 sessions) at over 96% for both type of sex partners. On the other hand, the lowest condom use with non-regular partner was recorded among those truckers who did not attend any of the peer education sessions (73.5%). Multivariate analysis (Table 28) that adjusted for several confounders showed a 15% increased and significantly likelihood of using condom with the most recent non-regular partner among those who attended all the peer education sessions compared to those at baseline. Of note, there was no significant increasing trend in condom use with the most recent non-regular partner either among those who attended some of the peer educations sessions (a median of 2 sessions) or those who did not attend any of the sessions, compared with those at baseline.

With the most recent sex worker, 94% of those who did not attend any of the peer education sessions reported condom use and this was not different statistically from the reporting for the same by those participating any of the peer education sessions. There appears a slight and insignificant increasing trend in condom use with the most recent live-in

partner in association with the number of peer education sessions attended - from 32.3% among those who did not attend any of the sessions to 36.4% and 40%, respectively, among those attended some (a median of 2 sessions) and all the sessions.

Figure 33. Condom use with a live-in (non marital), non-regular partner and sex worker during the most recent sex last year, according to participation in the Addis Mela peer education session (PE), Truckers, TransACTION end line survey (February 2014).

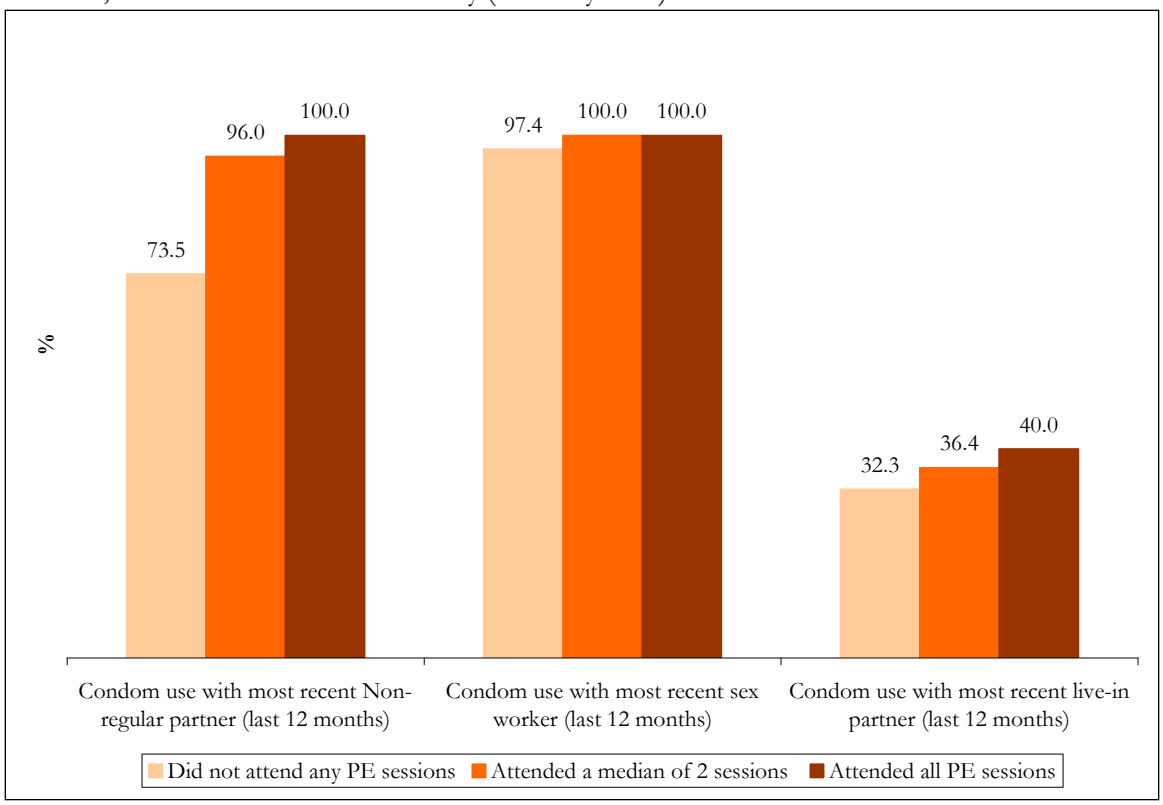


Table 28. Adjusted multivariate prevalence ratio (PR) and p-value of the likelihood of using condom with the most recent non-regular partner last year according to participation in Addis Mela peer education (PE) sessions and selected background characteristics, Truckers, TransACTION baseline (n=370) and end line (n=400) surveys, 2010 and 2014.

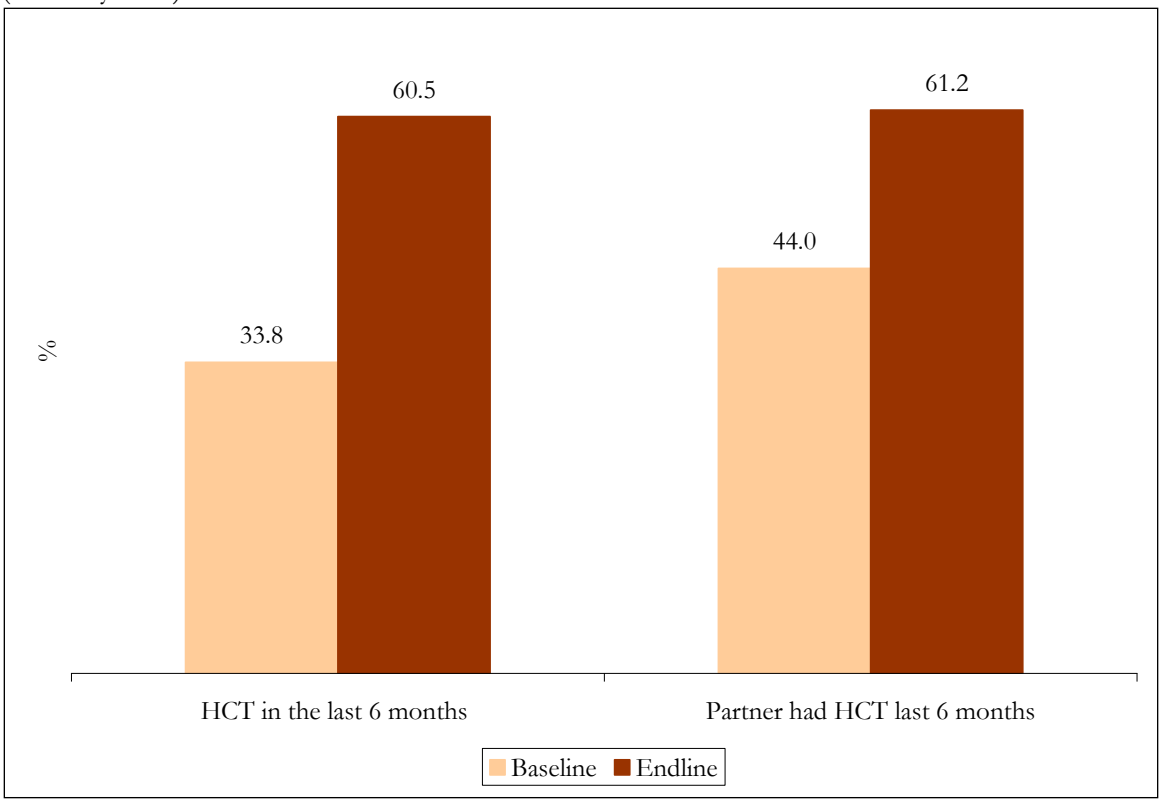
| | Condom use with most recent non-regular partner (Adjusted PR) |
|---|---|
| **Exposure to Addis Mela** | |
| Baseline (ref) | 1.00 |
| End line-did not attend PE | 0.97 |
| End line- attended a median of 2 sessions | 0.99 |
| End line- attended all 5 PE sessions | 1.15* |
| **Age** | |
| An increase of 1 year | 0.99 |
| **Education** | |
| < grade 6 (ref) | 1.00 |
| 7-8 grade | 0.96 |
| 9-11 grade | 0.85 |
| 12+ grade | 1.00 |
| **Marital status** | |
| Currently married (ref) | 1.00 |
| Never married | 1.01 |
| Divorced/widowed | 1.02 |
| **Years worked as trucker** | |
| An increase of 1 year | 1.00 |
| **Days away from home per month (average)** | |
| < 8 days (ref) | 1 |
| 8-15 days | 1.05 |
| 16-30 days | 1.06 |
| **Usual place of sleep when away from home** | |
| Inside the truck (ref) | 1.00 |
| In hotels | 1.05 |

**p<0.05; analysis adjusted for place interview conducted*

3.5.5. HIV counseling and testing (HCT)

*HCT uptake- baseline vs. end line:*
Truckers' and their sexual partners' HCT experience show significant positive trend during the study period. At baseline, only a third (33.8%) of the truckers reported to have had HCT in the previous six months, and this has increased significantly to 60.5% at end line ($p<0.0001$). Truckers also reported a higher uptake of HCT by their partners at end line compared to the baseline (44% vs. 61.2%, $p<0.0001$).

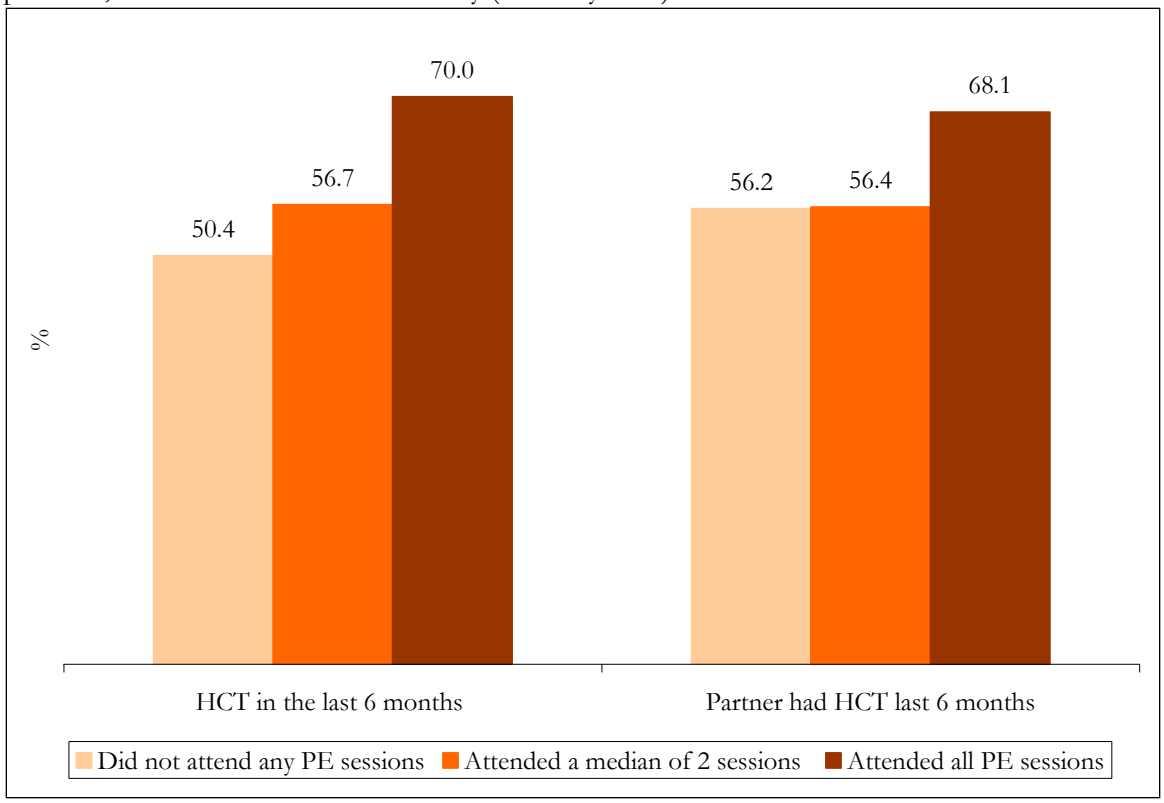
Figure 34. HIV counseling and testing (HCT) in the previous six months among truckers and their sexual partners, Truckers, TransACTION baseline (March 2010) and end line survey (February 2014)




*Peer education and HCT:*
The uptake of HCT by truckers increased positively with the number of peer education sessions attended. The proportion of truckers that had HCT in the previous six months increased from 50.7% among those who did not attend any peer education sessions to 56.7% and 70%, respectively, among those who attended a median of 2 sessions and all the sessions. Of note, the difference in HCT uptake between those who did not attend any peer education sessions and a median of two sessions was not statically significant. Only the highest exposure to the peer education sessions appeared to carry a significantly higher uptake of HCT among the trucklers compared to the non attendees (Figure 35). On the other hand, temporal trend in HCT uptake by truckers was significantly higher at end line compared to the baseline, irrespective of attendance of the peer education sessions. Data show that even among truckers who did not attend any of the peer education session,

temporal trend was significant compared to the baseline - from 33.8% to 50.4% (p<0.0001). Multivariate analysis (Table 30) further confirmed this finding suggesting increased effect of HCT uptake by truckers and their partners in accordance the number of peer education attended. The adjusted prevalence ratios that are associated with HCT uptake by truckers were 1.7, 2.1 and 3.6, respectively, across the three exposure categories. The corresponding adjusted prevalence ratio for partners testing were 1.5, 1.8 and 2.8, respectively.

Figure 35. HIV counseling and testing (HCT) in the previous six months, according to participation in the Addis Mela peer education session (PE), Truckers and their sexual partners, TransACTION end line survey (February 2014).




3.5.6. Sexually transmitted infections (STIs)

*Knowledge of STIs*:
In general, truckers' awareness of STIs and their knowledge of the symptoms improved significantly since the baseline (Table 29). The proportion that heard of STIs increased significantly from the baseline 86.6% to 96% at end line (p<0.0001). Temporal trend was more pronounced for the recognition of places where the STI services are provided - from 59.5% to 91.7% (p<0.001) during the period. Compared to those at baseline, the truckers interviewed at end line appeared to recognize more signs and symptoms associated with STIs. Data show 93.5% of the truckers interviewed at end line reported one or more correct signs and symptoms of STI and this was significantly higher than the 66.5% reported for the same at baseline (p<0.0001). Significant increasing trend can be noted in the reporting of key STI symptoms including pain/burning during urination (from 24.6% to 87.7%), genital discharge (from 38.7% to 63.7%), genital ulcer (from 30.5% 60.5%), itching in genital area

(from 12.7% to 52%) and foul smelling discharge (from 18.1% to 41.7%). The recognition of other symptoms such as lower abdominal pain, genital rash, swelling in groin remained relatively low over the years.

*Peer education and Knowledge of STIs*:
As shown in Figure 36, the recognition of one or more STI symptoms is universal (100%) by those truckers who attended some or all peer education sessions. On the other hand, the reporting for the same is the lowest at 82.4% among those who did not attend any of the peer education sessions. But there was a significant temporal increase in the recognition of STI symptoms even among those who did not attend any of the peer education compared to the baseline (82.4% vs. 66.5%).

Table 29. Proportion of truckers who heard about STIs and know symptoms of STIs, TransACTION baseline (March 2010) and end line survey (February 2014).

| | Baseline N=400 | End line N=400 |
|---|---|---|
| % Ever heard of STIs | 86.8 | 96.0*** |
| % Who know where to get STI service | 59.5 | 91.7*** |
| Knowledge of STI symptoms: | | |
| % who reported | | |
| Genital discharge | 38.7 | 63.7*** |
| Lower abdominal pain | 3.2 | 5.0 |
| Foul smelling discharge | 18.1 | 41.7*** |
| Genital ulcer | 30.5 | 60.5*** |
| Genital rash | 6.5 | 17.2*** |
| Pain/burning during urination | 24.6 | 87.7*** |
| Swelling in groin/genital area | 20.8 | 24.2 |
| Itching in genital area | 12.7 | 52.0*** |
| % reported knowing at least one STI symptom | 66.5 | 93.5*** |

*STI checkup:*
As shown in Figure 37, the proportion that reported to have had STI checkup in the previous six months increased significantly from the baseline 6.7% to 19.2% ($p<0.0001$). The corresponding trend for partner STI check up was from 4.8% to 13.9% ($p<0.0001$).

Figure 36. Knowledge of STIs according to exposure to Addis Mela peer education sessions, Truckers, TransACTION end line survey, February 2014.

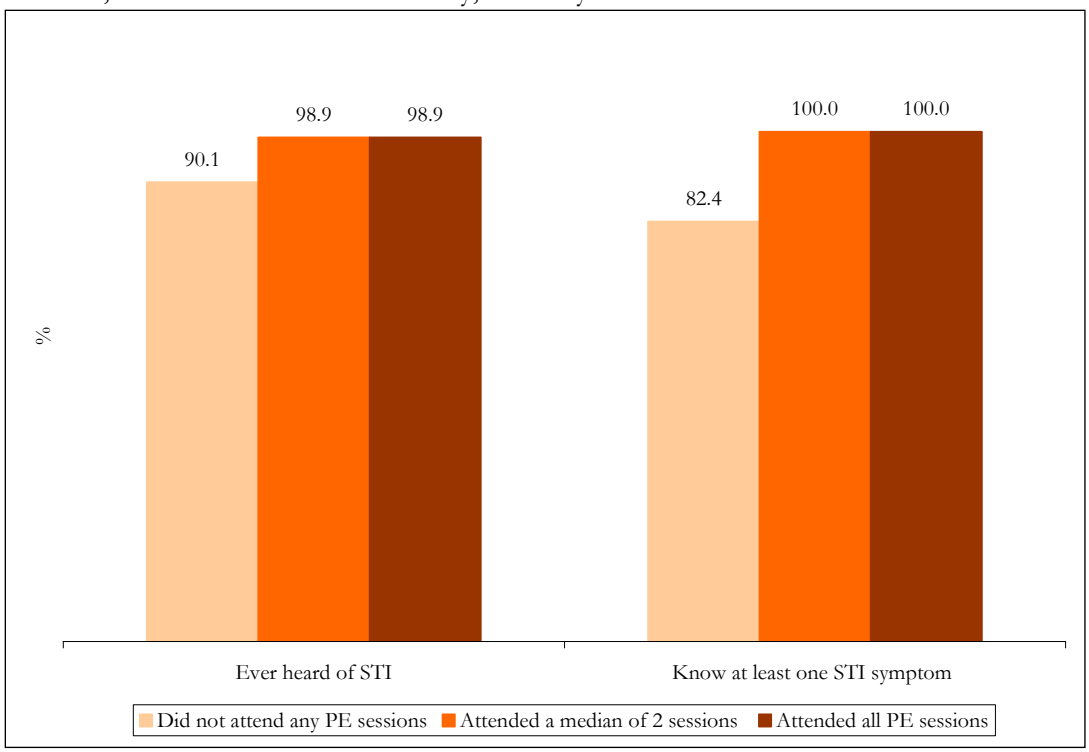
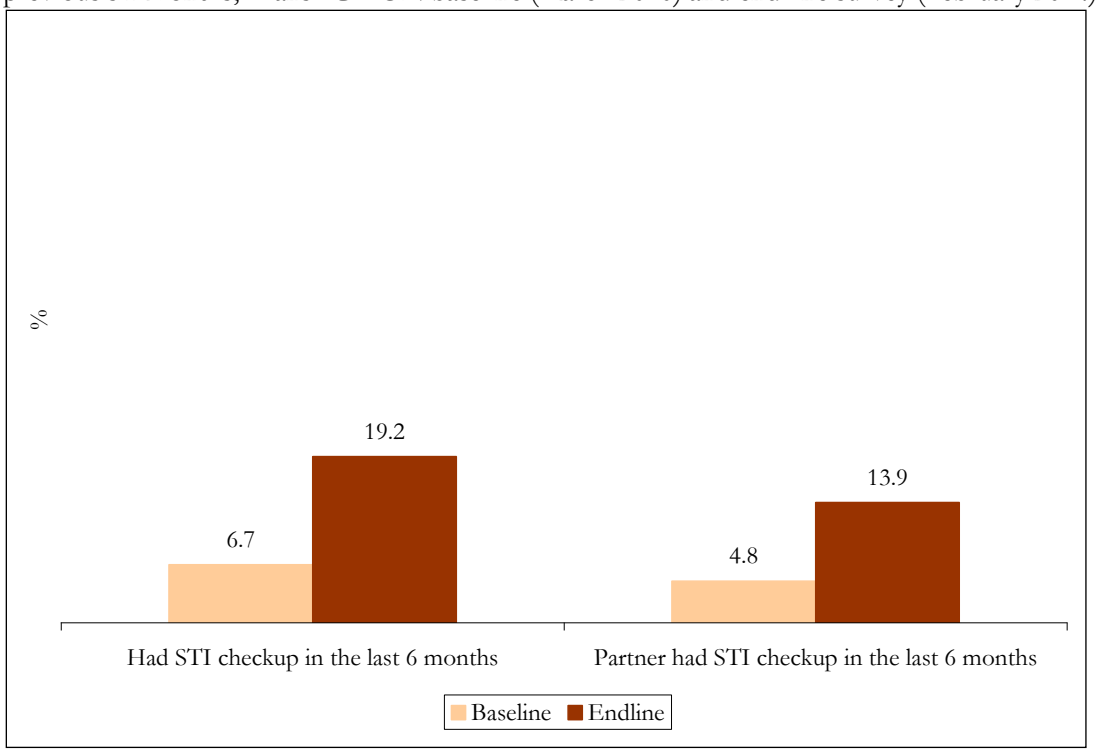



Figure 37. Proportion of truckers and their partners who reported to have had STI checkup in the previous six months, TransACTION baseline (March 2010) and end line survey (February 2014).



*Peer education and STI checkup:*
Clearly, the data on Figure 38 shows that STI checkup by the truckers improved significantly only when they attended all the peer education sessions (29.4%) while moderate exposure ( a median of 2 peer education sessions) appeared not to have any added benefit. The proportion that reported to have had an STI checkup in the previous six months were comparable between those who did not attend the peer education sessions and those attended a median of two sessions (10.7% vs. 11.3%). The same figure, on the other hand, revealed a dose-response relationship between the number of peer education sessions attended and the reporting of STI checkup by partners of the truckers - from 8.6% to 11.7% and 19.6%, respectively, across the three categorizes of exposure. Multivariate results that adjusted for several potential cofounders including the age, marital status, education of the truckers, year of service as trucker, the number of days on duty per month, usual place of residence and the number of sexual partners found a nearly 6 times increased likelihood of having had an STI checkup among those who attended all the peer education sessions compared to the truckers interviewed at baseline. No similar increased effect was seen for truckers who had moderate exposure to the peer education sessions. Whilst moderate exposure appeared to carry increased likelihood (2.7 times higher) of up taking an STI checkup by partners compared to the baseline. Partners of those truckers who attended all the peer education sessions were nearly 8 times more likely to have had an STI checkup compared to those at baseline.

It is important to note that STI checkup by the truckers and their partners can be considered notably low even among those who completed all the PE sessions, especially compared to the other target groups.

Figure 38. STI checkup (previous 6 months) by truckers and their partners, according to participation in the Addis Mela peer education session (PE), Truckers and their sexual partners, TransACTION end line survey (February 2014).

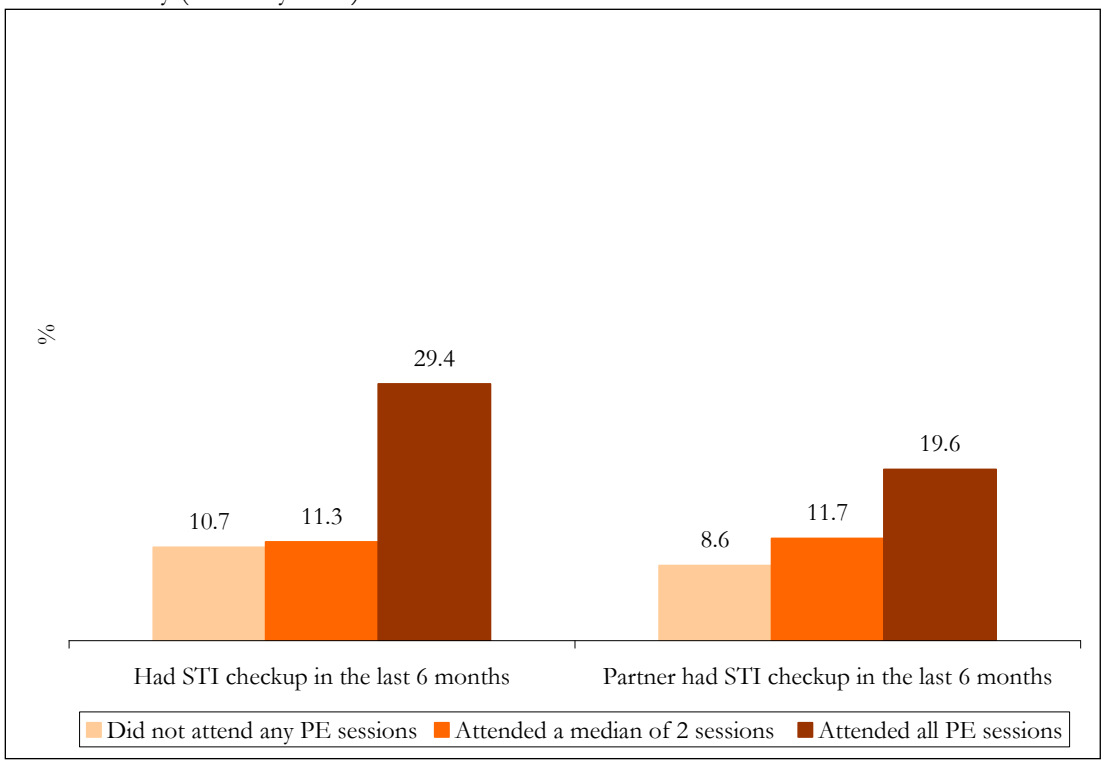


Table 30. Adjusted multivariate odds ratio (OR) and p-value of HCT and STI checkup by truckers and their partners, according to exposure to Addis Mela peer education sessions and selected background characteristics, Truckers, TransACTION baseline (n=370) and end line (n=400) surveys, 2010 and 2014.

| | HCT | | STI | |
|---|---|---|---|---|
| | had HCT in the past 6 months (Adjusted OR) | partner had HCT in the past 6 months (Adjusted OR) | had STI checkup in the past 6 months (Adjusted OR) | partner had STI checkup in the past 6 months (Adjusted OR) |
| **Exposure to Addis Mela** | | | | |
| Baseline (ref) | 1.00 | 1.00 | 1.00 | 1.00 |
| End line-did not attend PE | 1.70* | 1.55* | 1.50 | 1.91 |
| End line- attended some PE sessions | 2.13* | 1.81* | 1.57 | 2.75* |
| End line- attended all PE sessions | 3.63*** | 2.82*** | 5.90*** | 7.75*** |
| **Age** | | | | |
| An increase of 1 year | 1.02 | 1.10 | 0.91 | 0.86 |
| **Education** | | | | |
| < grade 6 (ref) | 1.00 | 1.00 | 1.00 | 1.00 |
| 7-8 grade | 2.07* | 1.55 | 1.59 | 1.56 |
| 9-11 grade | 2.53*** | 2.18* | 2.10 | 2.37 |
| 12+ grade | 2.51** | 2.11*** | 1.72 | 1.98 |
| **Marital status** | | | | |
| Currently married (ref) | 1.00 | 1.00 | 1.00 | 1.00 |
| Never married | 0.99 | 1.40 | 0.79 | 1.26 |
| Divorced/widowed | 0.86 | 0.32* | 2.08 | 1.24 |
| **Years worked as trucker** | | | | |
| An increase of 1 year | 1.09 | 0.90 | 1.32* | 1.10 |
| **Days away from home per month (average)** | | | | |
| < 8 days (ref) | 1.00 | 1.00 | 1.00 | 1.00 |
| 8-15 days | 1.02 | 0.97 | 0.96 | 1.51 |
| 16-30 days | 1.32 | 1.12 | 0.78 | 0.58 |
| **Usual place of sleep when away from home** | | | | |
| Inside the truck (ref) | 1.00 | 1.00 | 1.00 | 1.00 |
| In hotels | 1.02 | 1.36 | 1.59 | 1.10 |
| **Number of sexual partners last year** | | | | |
| An increase on 1 partner | 1.03* | 0.97* | 0.99 | 0.95 |

**p<0.05, **p<0.001; ***p<0.0001; analysis adjusted for place interview conducted*

### 3.6. Peer education and program outcomes: beneficiaries' view

The aforementioned quantitative analysis revealed positive and significant association between attendance of the peer educations and improved condom use, HCT uptake, STI knowledge and STI checkup among the target groups. Based on analysis of the qualitative information from several FGDs and IDIs that were conducted with members of the target groups, this section provides an in-depth understanding of how the peer educations impacted the key program outcomes. Detailed background characteristics of the FGD and IDI respondents is annexed (See Annex 2).

#### 3.6.1. Peer education and Condom

Qualitative information collected via FGD and IDI with the target groups shed light into the influence Addis Mela peer education program had on their condom behaviors. There was a general agreement among study participants that the peer education sessions improved their knowledge and skills concerning the correct and consistent use of condom with all types of sexual partners. Condom accepting attitude, negotiation skills and assertiveness also reported to have changed as a result of participating in the peer education programs.

*Acceptance attitude towards condom:*
Some target group members, especially the female and male daily laborers, reported to have had negative attitude towards condoms prior to participating in the peer education program. Previous negative attitudes towards condoms such as feeling of embarrassment to talk about condom, to carry condom, as well as the widely held belief that 'condoms are only for sex workers' reported to have changed as a result of participating in the peer education programs. The low educational status of the daily laborers coupled with the lack of information on condoms were blamed for such misperceptions. Most said that they have developed an accepting attitude towards condom and started to consider condom as part of their sex life. Reported changes in condom behaviors after attending the peer education sessions were the increased efficacy to carry condoms in pocket or handbag, buying condoms with out fear or embarrassment, and talking with sex partner about condoms.

A female daily laborer remarked that she had previously embarrassed to carry or touch condoms; and how this has changed after the peer education, saying:

> "Previously let alone to carry it [condom] in my pocket I was afraid to touch it; but now [after the peer education] I take it [condom] as a life savior. I began to carry it in my handbag."

Another participant acknowledged that her negative attitude towards condom has changed by the program and remarked the following.

> "….before the education [peer education] I did not know how to use condom because I never used it before. I also used to believe those using condom must be sex workers or people going with many women. I learned many things about it [condom] with my friends that changed my knowledge and perception about condom. I also understood that my previous attitude was wrong. This was because of Addis Mela"

*Condom use negotiation skills and assertiveness:*

One of the primary goals of the peer educations for the target groups was to train them on condom negotiation and communication for safer sex. The peer education program dedicated a session on condom negotiation that help enhances women's efficacy to negotiate for safer sex and, thereby, condom use. Perhaps, for most sex workers the program is seen very important as it improved their ability to negotiate for condom use with all types of partners. It is well recognized that sex workers require the negotiation skills to convince paying clients and boy friends who refuse condom use. Most discussants indicated that they have encountered at least ones in their sex business life with a paying client or boyfriend who did not want to use condom. Such clients at times try to use force, some try to convince sex workers by offering more pay and others try to bribe them in the name of love. It was difficult for most of the sex workers to escape such temptations.

According to the sex workers FGD participants, participating in the peer education sessions helped them to understand the risk they are into when engaging into sex without condom and equipped them with the necessary knowledge and skills to negotiate for condom use, convince clients and boyfriends on condom use and on how to overcome temptations.

A sex worker shared her personal experience on how the peer education helped her to overcome temptations of sexual demand without condom from a high paying client, saying:

> "One evening a man came to my place [bar] and invited me whatever drink I wanted to. We had a long chat and I took some beer and he had several glasses of alcohol. It was getting late in the evening and we agreed to spend the night together, He offered a big money that I have never heard about for a single night - 1000 birr - but wanted to have sex without condom. It was tempting but I said to myself I shouldn't do this. So, I used the tricks I learned in the education [peer education] to convince him. I told him that he shouldn't trust me and I may have the virus [HIV] because I had sex with many people. I tried to convince him that he should use condom every time he has sex with people like me. He insisted by telling me that I was a good looking girl and he thought that I was free from any disease. He suggested that in case I became pregnant he would help me to terminate the pregnancy. He was getting drank and things might get out of control. Finally, I decided to leave the guy because he was a difficult person to deal with and drank; and refused his big offer. Had it not been for the Addis Mela [peer education] I would have done it without condom and took the big money"

Another sex worker talked about her condom assertiveness skills and the expressions she often used to convince clients who demanded sex without condom.

> "I used condom since I started my sex work life but sometimes I just had sex without condom if the person [client] insisted or I had a lot of drinks. After I had the training [peer education] I became very carful and began to use condom with everyone. I always persuade clients who want to go without condom. I start to tell them [clients] they shouldn't trust me, they can get diseases from me because I have sex with 3 to 4 people everyday. I am always successful with this"

Communicating and negotiating on condom use with partners reported much more difficult for women who are not involved in sex work. For such women breaking the subject of condom with partners was not easy due a feeling of embarrassment and fear of judgmental attitude of the male partners. There is also an underlying perception that having sex without condom with a boyfriend is a sign of faithfulness and believed to cement relationship. Nevertheless, the peer education reported to have created unique opportunity to openly discuss about safe sex behaviors as well as on how to communicate condom use with the primary and other types of sex partners.

A waitress's account on how condom negotiation behavior changed as a result of participating in the peer education, saying:

> "I never asked my boyfriend or other person I had sex with to use condom even if I wanted to due to fear of being labeled as a 'sex worker'. Mostly, it was up to him to use or not to use condom. Because I don't want to become pregnant I take injections every three months. Most people think waitresses are less sexual experienced because most of us are very young. This is not true we have different partners- young, old, rich, students, drivers, you name it. When I was asked to join the group education [peer education] I was not happy because I then though such trainings are for sex workers and not for people like me. After so many roundabouts I was convinced and joined the training. I was blessed to join the training and I learned so many new things. Now it is not a big deal to talk about condom and to ask my boyfriend and other to use condom. I also carry condoms in my hand bag in case my partner forgets to bring it"

*Low condom use with non-paying partners:*

Sex workers appeared more comfortable in translating their condom negotiation skill into practice with paying clients than with the non-paying partners (boyfriends) who could potentially have other outside partners. Therefore, for most sex workers who have non-paying partners, there is the possibility that the greater risk for HIV infection is with the non-paying (boyfriends) rather than clients. FGD participants cited a number of reasons for the relatively lower condom use with the non-paying partners, including trusting boyfriends for love, feeling of humaneness, anticipation of superior sexual gratification when having sex without condom, and partners' refusal. These barriers to condom use with boyfriends have been reported in previous studies including the TransACTION formative assessment (2010)[1]. Avoidance of condom when both the man and woman tested HIV negative was also implicated among the barriers for condom use.

A sex worker admitted that she was not using condom with her boyfriend despite attending the peer education and she remarked:

> "I always have sex without condom with my boyfriend because I feel like a human being when I have sex without condom with my lover. I know this is against the education [peer education] but I can't, …..I just can't"

[1] TransACTION Formative research, September 2010.

*Dual purpose of condoms:*
Although both the sex workers and non-sex worker target groups appeared well aware of the dual protection of condom even before attending the peer education program, their lack of confidence on condom as an effective contraceptive method reported to have prevented them from accepting its dual purpose. The peer education session on condom informed participants on the dual benefits of using condom, and encouraged the use of condom along with other contraceptive method in order to achieve a healthy life of avoiding HIV/STIs as well as unwanted pregnancies. FGD participants reported to have developed confidence on the effectiveness of condom as a dual protection method after attending the peer education sessions.

A waitresses shared her experience on condom use with her fiancé to avoid unwanted pregnancy.

> "I convinced my fiancé to use condom to prevent pregnancy because we don't want to have a child before marriage. He agreed. This is what I learned from Addis Mela"

Sex workers may not rely solely on condom to avoid unwanted pregnancy from boyfriends (non-paying partners) because of inconsistent condom use with such partners. For most sex workers, other contraceptive methods were reported on top of condom in order to utterly eliminate the risk of unwanted pregnancy.

*Correct and proper condom use skills:*
Irrespective of the target groups, participants reported to have acquired "new" knowledge and skills in relation to condoms. They reported to gain knowledge such as on how to properly tear the condom package, put condoms on a man's genital, how to smooth out air bubbles from the condom and how to properly dispose condoms after using them, and how to check the expiration date, from the peer education. Practical demonstration using a male genital model was used to supplement the peer education sessions on condom that was considered very effective by most participants.

A sex worker remarked the following concerning what she learned about condom in the peer education and how she translated that into practice; saying:

> "Before I had the education [peer education] I didn't know about condom expiry date and did not know how to check for the expiry date. I didn't pay attention to expiry dates when I purchased condom. I am now an expert on condoms thanks to Addis Mela - I check for expiry date, check if the condom is well lubricated and also put the condom on the man and make sure the air is out."

A remark by a female daily laborers provides a good insight into how the peer education impacted her correct and proper use of condom; as well as how she imparted the skills to her male partner.

> "….he [boyfriend] was very surprised when I showed him how to check condom expiry date, how to tear the package, how to put it on his material [penis], and how to dispose it after sex. I got all this knowledge from Addis Mela"

A male daily laborer said the following on change in the skill of using condoms correctly and properly:

> "I have used condom all the time but I was not using it properly. Addis Mela thought us lots of things about condom. Now I check the condom for expiry date, know how to properly put it in my [penis], and keep it properly in my pocket"

3.6.2. Peer education, clinical service and HIV counseling and testing

The TransACTION peer education program was integrated with private clinics through a voucher-based free-of-charge referral system that facilitated easy access to HIV counseling and testing for the target groups and their partners. The survey data clearly showed an increased use of HCT among all the target groups that have participated in the peer education program. This section presents program beneficiaries' view on the role of the peer education and the private clinics in improving the use of HCT.

Participants of the FGDs and those provided information in the in-depth interviews unanimously reported that the peer education has created platform to discuss the merits and demerits of testing for HIV by clarifying the rumors and realities about HIV/AIDS. Most participants indicated that before attending the peer education they did not know the difference between HIV and AIDS; and they were also considering HIV positive test results as the end of life. This perception often lead to great fear and anxiety for testing. Following participation of the peer education, most FGD participants reported to have developed accepting attitude towards HCT although the fear factor was not completely eliminated. In fact, the FGD participants commended the peer education program for it has clarified their confusion concerning the difference between HIV and AIDS, how the infection progresses to AIDS, the incubation period, the presence of ant-retroviral drug that improves the quality of life and prolongs life, among other basic facts about HIV/AIDS. This information reported to have motivated most participants to develop positive attitude towards testing and, thereby, undergo HCT.

A male daily laborer gave his testimony about the influence the peer education had on his HIV testing behavior:

> "….I used to believe that HIV and AIDS were the same because nobody told me the difference. Addis Mela education [peer education] taught us that HIV is not the same as AIDS but HIV can become AIDS if it stays long in our body and if we don't use the drug [ART]. So regular testing helps to catch the HIV early before it changes to AIDS. I go to clinic every three months to get counseling and test for HIV and venereal diseases"

Fear of stigma, discrimination, blame and rejection often make people reluctant to be tested for HIV. This is in particular serious among high risk groups that are engaged in unsafe sex and with multiple sex partners. The peer education sessions on HCT reported to have addressed fear of testing by dispelling unfounded rumors about HIV/AIDS as wel as by creating easy access to a coded voucher-based referral system to private clinics that were considered by most target group members as highly confidential. The posttest counseling at

the clinics by professional counselors and lay counselors was also considered as important motivator for testing.

A waitress who managed to overcome her long-standing fear of testing as a result of participating in the program remarked the following:

> "I was worried of testing; what worried me was my behavior. I had sex with more than one man without condom. I didn't know what I could do if I became positive. When I attended the education [peer education] the fear has gone. They told us all about HIV and AIDS, the importance of HIV testing and that it is possible to live with the disease [HIV] in harmony by taking ART. I then decided to test for HIV and thanks God I am free of the disease [HIV]"

One of the motivating factors for HCT amongst the target groups was the increased awareness of the target groups about anti-retroviral drugs (ART) and the presence of the free ART services in public facilities. Most participants reported that knowing about ART, its benefits and the fact that it can easily be accessed in public health facilities boosted their confidence for HIV testing.

A female daily laborer attested how his knowledge about ART encouraged testing:

> "…..Addis Mela taught me that although AIDS is not curable there is a drug that prologs life. I am no more afraid of HIV, and so far I tested three times"

The HCT services at the private clinics rated excellent by most of the study participants for its confidentiality of personal information, the quality of the counseling services, short waiting time, and the hospitality of the service providers. These important service quality attributes also reported to be welcoming to seek services in the facilities.

A sex worker gave her personal witness about the services at the private clinic: saying:

> "I really appreciate the way the health workers in the clinic [Addis Mela private clinic] treated us. They are all good people. They give us good advise and hope before testing [HIV test] and also after the testing. I also trust them; whatever my result [HIV test result] may be they will keep it secrete"

A female daily laborer commended the private clinic for easy accessibility and hospitality of the service providers.

> "The clinic is close by and easy to go there. The physicians are also very nice and welcoming. They also give us priority to get the service because we come from work. Their (the health workers) kindness made me to test [for HIV] every three months"

*Partner testing:*

The peer education also reported to have encouraged partners testing for HIV and, as a result of which, most participants indicated that they have convinced their primary partners (spouses, live-in, regular, boyfriends) to undergo HCT in the private clinics through the

voucher-based referral system. Nevertheless, convincing partners was not always easy as most study participants commented. Accusation of infidelity, fear of partner violence and fear of rejection and losing a partner were frequently implicated among the major deterrent to referring partners for testing.

*Challenges of HCT:*
Whilst the integration of the peer education with the private clinic clearly improved acceptance and use of HCT, a number of challenges to testing were reported. Fear of HIV positive result still lingers as the main deterrent to testing. Lack of time to visit the clinics also indicated to affect regular testing; this was specially more so among the truckers who preferred to use mobile testing services. There was also a common notion among the target groups that regular testing (every three months) is not as necessary if one avoids risky sexual behaviors or uses condom strictly. In fact, this emerges among the major setbacks of regular testing across all target groups.

A sex worker challenged the importance of regular testing, saying:

> "….you know I never had sex without condom even with my lover. I don't understand why should I need to test every three months? I don't get it,… I don't get it"

We also identified other challenges to testing though relatively less commonly reported by the study participants. For instance, some truckers did not see the need for testing because their spouses have tested during pregnancy as part of the routine antenatal checkup and, such respondents seemed to use their wives' HIV status as proxy to their own. Few participants did not welcome the use of PLHIV lay counselors in the clinics, as this may create anxiety and fear of being suspected HIV positive by others visiting the clinics.

3.6.3. Peer education, clinical services and sexually transmitted infections

The formative research that was conducted in 2010, i.e., before the implementation of the TransACTION program intervention, revealed the severe lack of STI knowledge as well as the staggeringly low utilization of STI services among members of the target groups. Perhaps the most dramatic success of the TransACTION intervention program, as revealed by the aforementioned analysis, is the recorded significant increase in the target groups' knowledge of recognition of the major symptoms of STIs as well as clinic visits for STI checkup. This section presents program beneficiaries' account of the peer education influence on their knowledge of STIs and the use of clinical services for STI checkup.

Across all the target groups, and irrespective of their demographics, participants of the FGDs reported that their knowledge and awareness about STIs improved remarkably as a result of participating in the peer education. When asked to mention what they learned about STIs in the peer education sessions, most spontaneously reported to have acquired knowledge that ranged from basic information about the ways STIs transmitted and the different symptoms, to the fact that STIs can increase the risk of HIV infection, the severity and consequences of STI infection if left untreated, as well as the risk of re-infection if partner not treated, the benefit of regular STI checkup as well as the presence of treatment for STIs.

Akin to the findings of the aforesaid quantitative results, findings of the FGDs and IDIs confirmed improvement in the target groups' knowledge of the different STIs symptoms. When asked to mention the symptoms they knew, most were able to mention correctly four to five major symptoms of STIs, and some even mentioned up to seven symptoms. The most commonly reported symptoms by the FGD participants include genital discharge, soar, rash, foul smelling discharge and pain or burning during urination.

A sex worker corroborated that she was ignorant about STIs before the peer education; and how the peer education helped her to recognize her symptoms and received treatment for STI:

> "I used to have bad smelling fluid from…emm [vagina] for so long and I was so worried and embarrassed when I had sex. I didn't tell to anyone even to my friends for fear of being bullied as 'dirty'. I didn't know it was because of a venereal [STI] disease. It was after I participate in Addis Mela that I understood my symptom. I didn't take time to go to the clinic with the paper (voucher) and I was told I had the disease and was cured with a drug. I didn't pay for the clinic and I didn't pay for the drug; I should thank them [the private clinic]"

Some members of the target groups, especially the female daily laborers and sex workers in local drink houses, reported that the peer education clarified misconceptions surrounding the causes of STIs by providing correct information about the routes of transmission.

A female daily laborer reported how she has rejected the misconceptions about the routes of transmission of STIs after attending the peer education sessions; saying:

> "Before participating in the education [Peer education] I used to believe the rumor that we could catch STI if urinates on hot stone. Now [after the peer education] I have understood that this was not true; the disease is transmitted only by having sex without condom"

For most participants the fact that STIs can increase the risk of HIV transmission was considered a "new" information that they have heard about it for the first time from the peer education. Knowing this fact implicated by most as awakening to take STIs as a serious health problem that require proper attention and seeking care in health facilities.

A sex worker remarked the following about the linkage between HIV and STIs:

> "….because someone who has STI can have wounds it is easier for HIV to pass on to this person"

FGD participants from the different target groups unequivocally indicated that the Addis Mela private clinics were suitable and more accessible for STI testing. The free-of-charge clinical examination and free access to STI drug were reported among the motivators of service use. They also saw the health workers in the clinics more hospitable and the way the information was handled was considered confidential. Furthermore, physical accessibility of the clinics and relatively short waiting time reported to encourage clinic visit.

*Partners STI checkup:*
The peer education equipped participants with the necessary information, communication skills and self-efficacy to refer their primary partners for STI checkup into the Addis Mela private clinics. Despite the challenges to partner referral, most FGD participants reported that they have encouraged their partners to have had the STI check up and also became successful in having their partners checked for STIs.

A personal account of partner referral for STI checkup and treatment, as reported by a male daily laborers:

> "….few weeks after I started on the group [peer] education, I received the slip [voucher] and tested for HIV and STI. I had STI but not HIV. The physician told me that I could get the disease once again unless my wife also given the treatment. I have convinced my wife to have the STI test and she was found positive too. Both of us received drugs for free and cured"

Participants unanimously agreed that partner referral for STI service was not without challenges. They indicted a number of challenges, which include the lack of partners' communication and negotiation on sexual reproductive health including STIs, unbalanced power in sexual relationship, fear of partner violence and stigma.

A sex worker had to endure violence in order to convince her boyfriend to have STI checkup and finally she was successful, as she remarked:

> "…when I told my boyfriend that he needed to have STI checkup because I had the disease and also got the treatment from the clinic, he resisted, telling me that he was free from any disease. When I insisted he even tried to beat me. I told him that we wouldn't have sex unless he saw doctor. I also told him that the service is free and I have the paper (referral voucher) for him. He was mad at me. I kept on nagging him that he needed to visit the clinic almost everyday. Finally, after a week or so he agreed and had the test. He had the same disease like me and received the drug from the pharmacy. Both of us are now free from the disease [STI]"

*Challenges of STI checkup:*
The TransACTION program intervention promoted monthly checkup for STI in the target group but this has remained unattainable. Most participants did not see the necessity of having regular checkup if one doesn't have symptoms of STIs. Others believed that regular testing is not as necessary if one avoids risky sexual behaviors or uses condom consistently and correctly.

A sex worker said:

> "I did not have any symptom of the disease [STI]; why should I need to go to clinic every month"

A trucker (peer educator) remarked the following:

> "I have never been to clinic to check for venereal disease because I am faithful to my wife. I don't think this test is necessary for me and my wife"

Mobility of the target groups reported to affect regular STI checkup. Lack of time to visit clinic also emerged among the barriers to regular checkup, especially among truckers who prefer to have mobile services.

3.6.4. Discontinuing peer education

The peer education was organized to cover several sessions in eight weeks for all the target groups with the exception of the truckers. The peer education sessions for the truckers was based on a different format, which was based on a one-on-one discussion and that a trucker can receive the training from more than one peer educators in different sites for the different sessions.

In general, there has been a sharp dropout from the sessions across all target groups, the fastest being recorded in waitresses, followed by the male daily laborers, sex workers, and female daily laborers (Figure 39). The peer education completion rate was also the lowest among the waitresses at 22.3% while the highest completion rate was recorded among the female daily laborers at 51.2%. Sex workers and the male daily laborers had comparable completion rate at about 42%. After week four, 38% of the waitresses, 22% of the male daily laborers, 22% of the sex workers, and 18% of the female daily laborers dropped for the sessions.

The qualitative study sheds light into the reasons for dropping out from the sessions, which include mobility, lack of suitable time and anticipation of some incentive, such as cash for attending the peer education sessions. Further analysis of the quantitative data suggest that the likelihood of discontinuing a peer education was significantly higher among younger sex workers, sex workers operating in bars, and sex workers in large-sized towns. Whereas there was no peer education discontinuation differential by socio-demographics in the other target groups.

The truckers' data was treated separately because of the nature of the peer education; and as shown in Figure 40, the completion rate was 57.3%. The reason for discontinuation of a peer education session among the truckers is not clear to our study because of the nature of the peer education program. Completing the sessions may well be influenced by the efficiency of the peer educators in reaching out to the target truckers. On the other hand, it might be associated with the truckers' behavior such as lack of time, change of truck routes, participation fatigue, among others.

Figure 39. Probability of discontinuing from Peer education by week, Sex workers, Waitresses, Male & female daily laborers

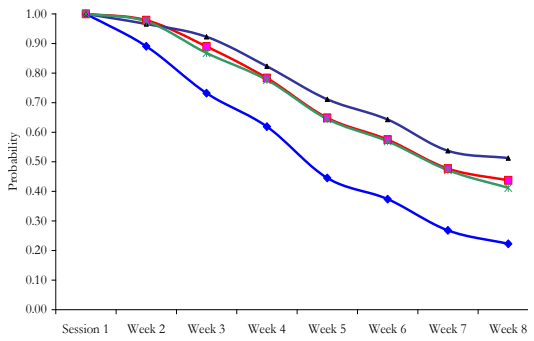
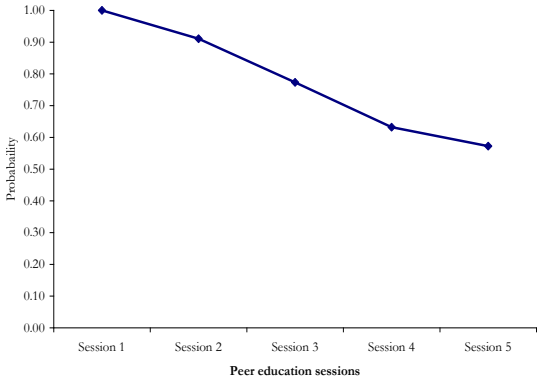



Figure 40. Probability of discontinuing from Peer education by week, Truckers




3.6.5. Free of charge clinical service challenges

The main challenge that emerged concerning the free of charge clinical services in the private facilities was unnecessary anticipation of free services for health problems other than HCT and STI checkup. It was also reported that some members of the target groups wanted to use the free-of-charge referral voucher to have their offspring obtain free medical services and treatments in the private health facilities that are not related to either HCT or STIs. This may well create a dependency syndrome and challenges program sustainability and needs to be given proper consideration in future programming.

A key informant from town HIV/AIDS office threw his concerns surrounding the free services in the private clinics, saying:

> "…….. clinical services without fee will lead to dependency syndrome"

Few participants casted their doubts about the accuracy of the syndromic approach that was put in place in the private clinic to diagnose STIs and that such participants wanted their test be confirmed in a laboratory. It is however unknown why some participants did not trust the syndromic approach, which may deserve further investigation.

A sex worker expressed her discontent with the syndromic approaches for STI check up and remarked the following:

> "I am not happy with the way they checked us whether we have the disease [STI] or not; it was simply a discussion and interview. There should be urine or blood test as they do in other clinics and hospitals"

### 3.7. Positive prevention for people living with HIV/AIDS

Positive prevention or living  a lifestyle adopted by an HIV-infected person in order to live life as fully as possible while slowing progression to AIDS. Adopting positive living practices improves the quality of life of PLHIV remarkably. Important aspects of positive living for PLHIV include making positive choices to care for one's mental and physical health, having a positive outlook on life, and avoiding risky behaviors. R**isky behaviors** refer to situations in which there is an increased risk of transmission of HIV (i.e. re-infection) and/or other infections such as STIs for the patient or for their partners (e.g. unsafe penetrative sex)[2].

As part of the end line evaluation we conducted three FGDs with PLHIVs in three towns. In each FGD 8-10 PLHIVs participated.  Selected background characteristics of the participants is detailed in Annex 4. Issues that were addressed in the FGDs include HIV status disclosure, discordance, condom use behavior, STIs,  and saving. The main focus of this facet of the evaluation was to understand the effect the TransACTION program intervention had on positive prevention for PLHIVs.  The intervention activities that targeted on PLHIVs encompassed a peer education that was organized in 25 sessions and linked to clinical services for STI as well as an economic strengthening component as in the other target groups. Care and support was also one area of intervention.

***PLHIVs perception about the peer education:***
Although PLHIVs have access to information and services on HIV/AIDS and related issues from previous programs, most saw the TransACTION intervention as unparalleled for it has employed a structured peer education approach that was new to them. They also emphasized that the peer education addressed their key concerns in an organized manner with greater breath and depth. Some topics that have not been given proper attention in previous intervention efforts such as disclosure, discordance, STI and condom reported to receive proper considerations and high coverage in the peer education sessions. It was also repeatedly indicated during the FGDs that the peer education created opportunities for the PLHIVs to discuss their own concerns and problems openly and also helped them to be equipped with the necessary information and skills to deal with their health and psychosocial problems.

***Risk of HIV transmission, re-infection and condom use:***
The peer education program emphasized the need for PLHIVs to avoid risky sexual behaviors  for the sake of others as well as for their own sake. In particular, PLHIVs who attended the peer education sessions reported to have been informed well about the risk of re-infection with other or new HIV strain if they are engaged in unsafe sexual practices.  Re-infection may lead to faster disease progression and further damages the immune system. Most also acknowledged that before attending the peer education programs they did not know about re-infection and, thus, did not see the rationale of using condom with an infected sex partner. According to most participants, their knowledge of the risk of re-

[2] *labspace.open.ac.uk/file.php/6718/!via/oucontent/.../x-cdp3s29.doc*

infection and its consequences encouraged them to adopt condom in any sexual encounters with all types of partners including infected spouses.

A participant who is HIV positive remarked that fear of re-infection and avoidance of unwanted pregnancy led him and his HIV positive wife to adopt condom:

> "I and my wife both participated in the peer sessions and learned so many things that we didn't know before. Then we decided to use condom when we have sex because her virus can infect me, and my virus can infect her, and if this happens it is very dangerous. Who knows we already got each others viruses since we did not use condom previously. My wife's CD4 is still high and she didn't start ART. We both understand that if she gets another virus her CD4 will drop faster and she may need to start ART"

Another HIV positive participant emphasized the importance of strict condom use and made an interesting remark on the significance of condom use, saying:

> "….my perception about condom has changed since I joined the Addis Mela education. Previously, I did not see the relevance of condom use for people like me who already have the disease [HIV]. The education [per education] enlightened me that condom can prevent from getting another HIV [strain]. Taking the drug (ART) alone is meaningless unless I prevent myself from getting other HIV [strain]. So now I value condom as good as ART. Not using condom is like stopping ART.

***Sexually transmitted infections:***

Common responses concerning STIs by PLHIVs participating in the FGDs was that before attending the peer education most had incomplete knowledge and misconceptions about the different symptoms of STIs and they didn't know where to get the services. The peer education was praised by the PLHIVs for equipping them with the necessary knowledge about STIs including the route of transmission, how to prevent STIs, the symptoms, morbidity and severity.

A participant shared her experience with STI. She remarked how the peer education helped her to recognize the symptom, had STI checkup, received treatment and cured:

> "I didn't know about STI previously. When I saw discharge [vaginal discharge] I simply took it as one of the problems resulting from HIV. The education gave me clear information that it was another disease [STI] and finally I went to the clinic and the doctor told me that I was infected with STI. I got the drug for free from a pharmacy and the discharge disappeared"

Although some PLHIVs were well aware of STIs even before participating in the Addis Mela peer education they did not see the disease seriously. Some reported to consider it as a "simple" disease and seeking treatment was not as necessary. But this perception reported to have changed after attending the peer education sessions that clarified to them the likely consequences and severity of the disease if left untreated including infertility.

A female HIV positive participant remarked the following concerning change in attitude towards the importance of seeking care for STI and regular checkup after attending the peer education:

> "….I used to think it [STI] was a simple disease and clinic visit was not as necessary. But after the education [peer education] I started to have a regular checkup in the clinic"

There was a universal agreement among the PLHIVs participating in the FGDs that the Addis Mela private clinics are accessible, the counselors and service providers are considered hospitable and confidentiality was seen superior. The fact that the services were available free of charge reported to be welcoming by the PLHIVs because most reported to endure difficult economic reality due to HIV.

***Disclosure of HIV positive status: experience and challenges***

The FGDs we conducted with the PLHIVs improved our understanding of the perceived and experienced barriers and consequences of HIV positive status disclosure to one's partner and/or family members. PLHIVs cited a number of barriers to HIV positive status disclosure including fear of experiencing some form of HIV-related stigmatization, fear of separation from families and friends, divorce or separation, and partners' violence. Most of all self-stigmatization appeared to be the most important barrier to disclosing HIV status. These common barriers to HIV status disclosure reported to have lessened as a result of participating in the peer education program. Most of the PLHIVs participating in the FGDs reported that the peer education helped them to develop self-efficacy to disclose their positive status to spouses, friends and family member. Attending the peer education created opportunities to discuss and share experiences of peers in relation to HIV status disclosure, and on how to deal with the likely consequences of disclosing one's HIV status.

An HIV positive participant associated her HIV disclosure experience with participation of the peer education and she remarked the following:

> "I did not tell that I have HIV to my mother for so long. Because of the training [Peer education] I was motivated and finally told my Mom all about it. She was shocked when she learned the news but day by day she took it lightly and now giving me lots of support"

One participant's HIV disclosure experience after participating in the peer education program provides a good insight on how the program helped her to dismiss her longstanding self-discriminatory attitude. She reported that she has concealed her HIV status from neighbors for fear of rejection but this was changed after she broke the news.

> "…. because of HIV I have almost isolated myself from friends and neighbors for almost 3 years for fear of rejection. When our teacher [peer educator] taught us the importance of telling HIV status to others, I was not convinced at the beginning. I was even challenged her during the education sessions about the bad sides of telling to people. But two of the participants told us their stories about this and both of them have already told to their families and neighbors. That changed my attitude and decided to broke the news. One day I gathered my four close neighbors and told them that I have the disease [HIV]. To my surprise they took it

lightly and became so compassionate and supportive to me. I felt guilt for concealing my HIV for so long"

The gender dimension of HIV status disclosure has been emphasized by the FGD participants. For fear of partner violence and separation/divorce, females often lack the confidence and courage to disclose their HIV positive status to their male partners. Despite this, the peer education reported to have improved PLHIVs' ability to disclose to their spouse and deal with its consequences.

A participant discussed her personal experiences with HIV status disclosure to her husband, and on how the peer education helped her to overcome the fear, broke the news and confronted the better reality of divorce, saying:

"…my husband didn't know that I had HIV. One day after learning about the good side of telling to people from our trainer [the peer educator], I bluntly told to my husband. He was very mad and left the house immediately. I didn't see him after that day- it was almost a year"

***HIV status discordance and consequences:***

Awareness of the presence of HIV discordant couples in the community appeared universal among the PLHIVs participating on the FGDs. The discussion we held with the participants gave us a good insight into the likely consequences of being a discordant couple. Mostly discordant couples reported to end-up in divorce; accusation and violence was reported inevitable especially when the woman is positive and the man is negative.

A HIV positive woman shared her experience of discordance:

" I lost my marriage because I am positive and he [husband] was negative.

Few HIV discordant couples decided to save their marriage for love of their children. An account of one participant provides a rare but remarkable experience.

"…..my story is different. I and my husband decided to live together even if I have HIV and he is free [from HIV] to raise our children as one family. We are living in peace and love".

***ART adherence:***

Lack of adherence to ART may lead to drug resistance, increased viral load, compromised patient's immunity, which eventually leads to faster disease progression, AIDS and death. One of the sessions of the peer education program focused on ART adherence. We asked study participants what they have learned concerning ART adherence and how it has influenced their treatment adherence. Most of the FGD participants reported to be taking ART drugs and they had good understanding of ART adherence and its benefits from their ART counselors. Most saw the peer education session as having an added value in enhancing further their efficacy on ART adherence.

# IV. Structural Intervention

## 4.1. Saving and economic strengthening

Economic strengthening was one of the structural interventions of the TransACTION intervention program. The TransACTION program incorporated a training on saving in the peer education and also organized entrepreneurship and basic business skill training sessions for IGA. A start up capital or matching fund was also made available for those who save money via the Addis Mela group saving and wanted to start up their own business. This program was implemented in all the target groups with the exception of truckers. This section presents data from the quantitative survey on the status of saving among the target groups, and compares baseline and end line data. Program beneficiaries' view regarding money saving and its relationship, if any, with their risk behaviors is also assessed based on the information gathered via FGDs and IDIs.

### 4.1.1. Trend in saving

We asked respondents at baseline and end line if they saved money in any way and, if so, they were further asked to mention the mechanism of saving. As shown in Table 31, the proportion who reported to save money increased significantly in all the target groups- from 44.8% to 68.5% among sex workers ($p<0.0001$); from 47.2% to 76.5% ($p<0.0001$) among the female daily laborers, from 43.5% to 70.2% ($p<0.0001$) among the waitresses and from 40.5% to 83.2% ($p<0.0001$) among the male daily laborers.

We identified four types of saving mechanisms including bank, *Iquib*[3], saving through the Addis Mela saving scheme, and saving money with family/friends. The data revealed that the recorded temporal increase in saving across all target groups were largely associated with an increase in the proportion who saved money in bank and in the Addis Mela saving scheme. In some groups, the reporting of *Iquib* as a saving mechanism has also shown an increasing trend compared to the baseline.

Notably, the proportion that reported to have participated in the Addis Mela saving scheme was the highest among the female daily laborers at 40.1%, followed by sex workers at 35.8%, the male daily laborers at 32.7% and the least was reported from the waitresses at 25%.

[3] *a traditional system of rotating saving among close friends, neighbors, workmates, etc*

Table 31. The proportion of respondent target groups according to their saving status and the mechnism of saving, TransACTION baseline (March 2010) and end line survey (February 2014).

| | Sex workers | | Female daily laborers | | Waitresses | | Male daily laborers | |
|---|---|---|---|---|---|---|---|---|
| | Baseline N=400 | End line N=400 | Baseline N=400 | End line N=400 | Baseline N=400 | End line N=400 | Baseline N=400 | End line N=400 |
| % who save money | 44.8 | 68.5*** | 47.2 | 76.5*** | 43.5 | 70.2*** | 40.5 | 83.2*** |
| Saving mechanism | | | | | | | | |
| *Bank* | 8.2 | 20.0*** | 11.2 | 29.2*** | 10.2 | 38.7*** | 10.7 | 47.2*** |
| *Iquib* | 16.2 | 28.0*** | 20.7 | 27.5* | 14.7 | 11.5 | 16.2 | 26.5*** |
| *Addis Mela saving program* | 0.0 | 35.8*** | 0.0 | 40.1*** | 0.0 | 25.0*** | 0.0 | 32.7*** |
| *Keep/save money with friends/families/owners* | 15.2 | 6.7*** | 9.2 | 8.0 | 12.0 | 9.0 | 10.0 | 10.0 |

**p<0.05; ***p<0.0001*

Figure 32a-d show that target groups members who completed the peer education sessions were significantly more likely than those who did not complete the sessions to save money via the Addis Mela saving scheme. Nevertheless, only about half of those who completed the sessions reported to participate in the Addis Mela saving scheme - ranging from a low of 41% among the waitresses to 56.6% among the male daily laborers.

Fig 32a. Participation in Addis Mela saving by the number of peer education sessions attended, Sex worker

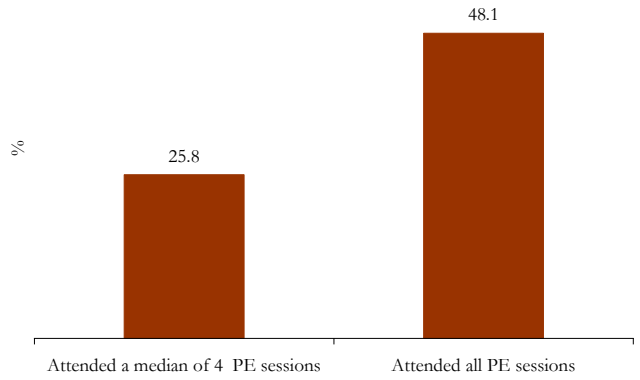



Fig 32b. Participation in Addis Mela saving by the number of peer education sessions attended, female daily laborers

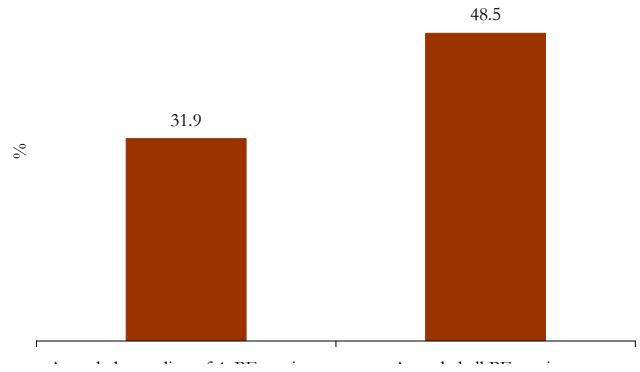



Fig 32c. Participation in Addis Mela saving by the number of peer education sessions attended, Waitresses

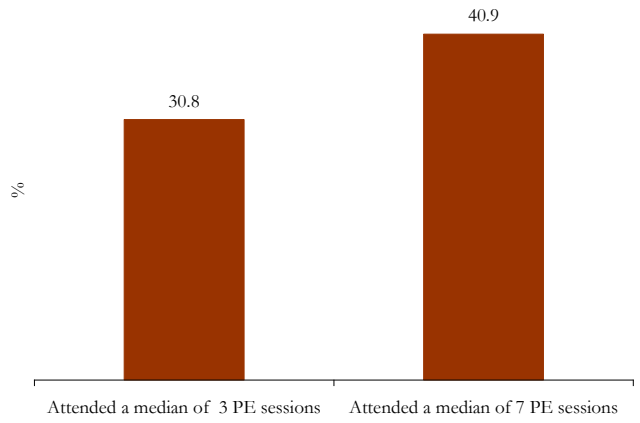
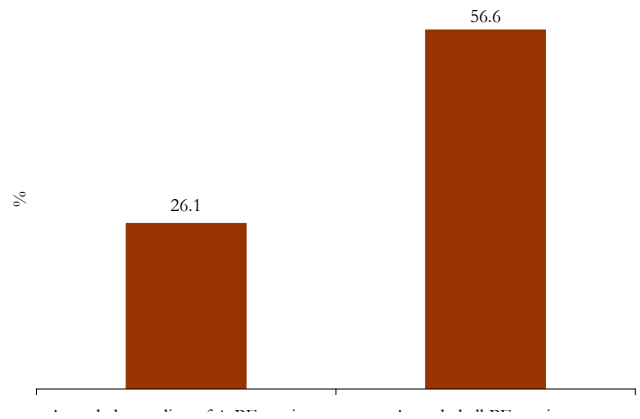



Fig 32d. Participation in Addis Mela saving by the number of peer education sessions attended, Male daily laborers




4.1.2. Program beneficiaries' view on saving

Program beneficiaries who participated in the Addis Mela saving scheme reflected the relevance of the program as it created general awareness among the target groups on the importance of money saving and also encouraged them to save money and expand their asset base to start up small businesses. They also noted that they have received training on saving, income generating activities, personal financial management, on how to start up small business and conduct market research. Prior to participating in the Addis Mela saving scheme most reported to have had little or no habit of saving and they also held the view that one can save only if he or she has surplus and large amount of money. Following attendance of the peer education session on saving and also after receiving the training on

IGA, most have changed their views about money saving and began to beleive that any amount of saving is a good start.

A sex worker said:

> "Previously most of us [sex workers] did not have the habit of money saving. I was so extravagant and spent my money on different things. I was so extravagant and spent my money on different things. Thanks to Addis Mela we [sex workers] have gained good knowledge about saving and now I became conscious and began saving money in two saving groups. I save in the Addis Mela group and also with another saving organized by the Emmanuel Organization."

A waitresses remarked:

> "Before I participated in this program I never thought of money saving. The program motivates me and shows me the way to save".

It was learned that participants chose to save relatively larger amount of money in a bank than in the Addis Mela saving group scheme. Mostly a small amount money was reported to be saved in the Addis Mela saving scheme; between 10 birr[4] and 40 birr per month. After gaining the knowledge on saving from the program, some members of the target groups began to save money by their own in a bank or other saving mechanisms rather than joining the Addis Mela saving scheme.

A male daily laborer began to save in a bank after he gained the knowledge from the peer education, saying:

> "…..because of the nature of my work I can't save with Addis Mela. I don't know where I will be tomorrow….. I opened a bank account and started to put money. I am happy that I have some money to lean on if something happens to me. This is because of Addis Mela"

We identified a number of challenges to the Addis Mela group saving scheme. Lack of trust and disagreement among members affected continuity since the Addis Mela saving scheme is an informal saving mechanism that relied on common understanding among its members.

A female daily laborer stopped the group saving due to misunderstanding with the peers and resorted to saving in a bank, saying:

> "First, I started to save together with my peers in a group; but in the middle I withdrew due to disagreement. Then I put my money in a bank and now I have 3000birr in my account."

Perhaps one of the most important challenges of group saving was mobility of the target groups, resulting in dissolution of several saving groups.

A female daily laborer said:

[4] 1 USD~20 Birr

> "We started the saving [Addis Mela saving] with 14 female daily laborers. We all had the Addis Mela saving book…..the construction work ended after sometime and most of us had to leave to another town. So we divided the money among ourselves; each of us received 648 birr"

Some saving group members left the group due to loss of hope and fatigue. Such individuals allegedly anticipated fast promotion to an IGA scheme without having a tangible business plan.

*Saving and sexual behavior: any linkage?*

The relationship between saving and sexual behavior is difficult to investigate due to methodological challenges. The end line study design does not allow a systematic investigation of the linkage. Despite the limitations in the study design, we did not find any evidence of linkage between saving and sexual behavior in the female target groups including sex workers, waitresses and female daily laborers. In fact, both the quantitative data and qualitative information show that transactional sex has been apparent among the female target groups and there was no evidence of change in this behavior over the years.

In contrast, there appeared some interesting relationship between saving and paid sex among the male daily laborers. Most male daily laborers who participated in the FGDs indicated that their motivation for money saving enhanced by the program and that they translated the knowledge they gained into practice by slashing off some of their expenses and began to put aside more money. Some daily laborers reported to have shifted their previous expenses on sex workers (paid sex), alcohol and Khat to saving.

A male daily laborer shared his personal experience on how the program changed his knowledge and attitude of saving and that he began saving by cutting some his expenses on alcohol and paid sex.

> "As you know most daily laborers in our area spent their money on alcohol and sex workers. We had nothing to save and we didn't have the habit. After the education [peer education] we became very well aware of saving. If I share with you my experiences - I stopped alcohol and also not visiting sex workers any longer. I fill rich now when I see how much I saved in a bank already"

Another male daily laborer said:

> "….. y' know this education made me to regret about my past behaviors. I was alcoholic and promiscuous, visiting a sex worker almost every week. Since the training [peer education] I completely stopped these behaviors. I now have a good amount of money in my saving"

### 4.2. Community dialogue on gender norms and vulnerability

In order to address gender norms that put individuals and the community vulnerable to HIV, the TransACTION program intervention designed and implemented a community dialogue in the implementation towns. Each community dialogue group was composed of

up to 32 members of key community actors, families and individuals. Members of the group reported to include both men and women, religious leaders, community leaders, influential people, important personalities in the towns, women of varying marital characteristics, adults, older and younger people, as well as members of the target groups such as sex workers, male and female daily laborers and waitresses. A tailor made community dialogue guide that is organized in 15 dialogue sessions was used to facilitate the discussions. Group discussions were led by trained community dialogue facilitators. It is important to note that the community dialogue program was started relatively late in the towns and several groups did not finish the full set of the dialogue when this evaluation was fielded. In some towns the community dialogue groups were discontinued due to different reasons. With the caveat of these limitations, this section presents a summary of the key findings from the FGDs. We conducted four FGDs in four study towns with individuals who have participated in the community dialogue.

*Breaking the silence - talking about gender norms:*
When asked "what comes to your mind when you think of the community dialogue?", most FGD participants reported that the community dialogue created opportunity to recognize and discuss openly the underlying gender norms in the community. They also said that some of the gender norms that often go unnoticed in the community but with severe consequences in the lives of women were brought into the table and discussed. It was also repeatedly reported that the composition of the discussion groups that encompassed people in different age brackets and from different walks of life who have some stake in the problem made it very interesting and enlightening. The discussion also reported to foster understanding between people of different backgrounds and professions who otherwise had rare opportunity to be in the same platform and discuss shared problems.

A female participant emphasized on the opportunity that was created by the community dialogue to discuss openly and comprehend the underlying gender norms, saying:

> "….women have no freedom to openly discuss about issues that concern them openly because of the culture. Taking about gender issues such as sexual matters was difficult to imagine. My participation on the community discussion [community dialogue] enlightened me the extent to which we [women] suffered from gender and social norms and the solution to these problems"

A young man praised the community dialogue for it has created a form for young people to sit down and discuss with older and highly respected community and religious leaders.

> "Participation in the regular meetings [community dialogue] has create good opportunity to openly and sincerely discuss gender matters with different community members such as religious leaders, influential elders, fathers and mothers, sex workers, daily laborers, PLHIVs and others. We candidly talked about the widespread gender issues that affect the life of women. A young person like me did not have the chance to discuss openly about gender and sexual issues with older and influential personalities. I see the meetings [community dialogue] as rare opportunity"

*Derogatory attitudes towards women and its consequences:*
FGD participants acknowledged that the community dialogue has created a real opportunity to identify and discuss common attitudes in the community that undermine the position and role of women in the society.

Some of the common proverbs identified by the FGD participants reported to limit women's role only to household chores while it tried to glorify the status of men in the society.

> "A woman and a shoe should be kept under the bed"

> "A man is for jury and a woman is for kitchen"

The underlying perception that places women in an inferior position to men has led to a rationalization of accepting wife beating. There are different circumstances the society approves wife bearing including, if she argues with her husband, if she doesn't obey to the husband's demands, if she burns the food, if she visits friends or neighbors without getting permission, if the husband thinks that she has committed infidelity, if uses contraception without his knowledge, among many others. The reasons that lead to wife beating and the severity reported to vary from culture to culture. For instance, FGD participants threw the following common saying that encourages beating of women.

> "A donkey and a woman enjoy to be beaten"

The relationship between underlying gender norms and transactional and cross-generational sex has also been identified by the study participants. Some of the common proverbs identified by the FGD participants were:

> "A woman should bring a man [a husband] who is as strong as an iron fence"

It was also recognized by the FGD participants that HIV risk, STI, unwanted pregnancy and child birth, the lack of making decision on use of reproductive health services such as family planning can be influenced by the underlying gender norms, or social expectations about how men and women should behave.

*Community dialogue encourages attitudinal change:*
Positive changes leading to dismissal of the prevailing gender norms and derogatory attitudes towards women has been reported by the participants of the community dialogue. For instance, a participant admitted that the community dialogue helped him to change his previous negative attitude towards women and began to see women as equal citizens who are not inferior to men.

> "I was one of the those men who used to say 'a man is for jury and a woman is for kitchen'. The community dialogue proved me wrong. I understood that such proverbs undermines women and we should stop such attitude"

A female participant discussed how she had previously embarrassed to discuss about sexual matters with her husband and how this has changed after attending the community dialogue, saying:

> "…..the community dialogue empowered me to frankly discuss our sexual life with my husband without fear"

The community dialogue was seen as an eye opener as it clarified the root causes of gender norms. One participant remarked that he has understood that gender norms has nothing to do with religion and there is no religious justification for it, saying:

> "I really gained a lot from the discussion [community discussion]. It opened my heart and I began to realize how harmful are the gender norms as they weaken the position of women in the society. I also understood that gender norms are created by the community and have nothing to do with religion or God"

*Emerging gender norms and transactional sex are not well addressed in the community dialogue*

A closer look at the gender norms and derogatory attitudes identified by the FGD participants may well suggest that emerging gender norms and attitudes that are relevant to transactional and cross-generational sex among young urbanites have not been well addressed in the community dialogues. For instance, the TransACTION formative research[5] have identified a number of factors that could influence young women's decisions to engage in transactional sex in the study towns. Common factors include the desire to increase one's earnings, peer influences to gain material items, pressure from their families to earn money and pressure from men.

*The community dialogue has limited coverage:*

The community dialogues was blamed by most for its low coverage in each of the implementation towns. Key informants emerging from the HAC and the CD facilitators unanimously reported that few community dialogue groups were formed and conducted in a town with each dialogue group composed of 32 individuals. It was also introduced later than the other components, and had low coverage in the towns. The sessions were too long (up to six months) often leading to fatigue and loss of enthusiasm, and in some towns it was discontinued due to different reasons.

[5] TransACTION Formative research, 2010

## V. Community involvement and capacity building

The TransACTION program intervention heavily relied on active community participation, networking and capacity building in order to ensure proper implementation of the program activities at the grassroots level, to monitor the activities, to pave the way for community ownership of the program and, thereby, ensure sustainability. Based on the information gathered from several key informants, this section discusses community participation in the intervention activities, the capacity building aspects of the program and also made some remarks about program sustainability.

*HIV/AIDS Committee (HAC) and Local non-governmental organizations (LNGOs):*
Community participation in the intervention program was primarily assured by the creation of the HACs in each of the implementation towns. The HACs in conjunction with the local NGOs are the main implementers of the TransACTION program intervention in the towns. Each HAC was composed of individuals of varying background and professions. Key government sectors such as health offices, labor and social affairs, women children and youth affairs were represented in the HACs. Members also composed of community groups and individuals such as representatives of the youth clubs, PLHIV associations, and members of the target groups, among others. In some towns the city mayors reported to serve in the HACs. The HAC also had a subordinate structure made up of four sub-committees to execute the different facets of the program. The sub-committees were prevention, economic strengthening, resource mobilization and care and support.

The program provided capacity building to the HAC and LNGOs that focused on technical capacity improvement through trainings and supportive supervision, as well as material and activity based grant supports. Key informants that emerged from the HAC and the implementing NGOs unanimously reported that they have received trainings that were relevant to coordinate and execute the various activities of the program. Training was the main capacity building component of the program and addressed a wide range of topics. Informants reported to receive the following trainings: project management and leadership, planning, financial management, reporting and monitoring, grant proposal writing, community mobilization, resource mobilization, and economic strengthening. The HAC also reported to receive activity based grants through the Local NGOs to execute the activities. On top of these, both he HAC and LNGOs reported to receive material supports such as vehicles (only for the LNGOs), office furniture, photo copy machines, computers and printers. Vehicles were also provided to some of the local NGO implementing organizations. Informants saw these different capacity components as empowering and, as a result of which, they were able to properly plan, implement and monitor the program activities.

A HAC member remarked the following about the TransACTION capacity building:

> "The program properly built our capacity…..we [HAC] stood on our feet and can plan and execute any program interpedently. We also developed a sense of ownership and confidence to continue implementing the program even without any support"

An informant from a local implementing NGO indicated that the capacity building enabled us to execute current and future projects.

> "TransACTION has provided us different trainings that have improved our capacity to implement Addis Mela with passion and high commitment. I believe that the trainings, the different intervention materials, and guidelines that we obtained from TransACTION will help us to implement similar projects in the future"

Another LNGO informant said:

> "…..had it not been for the excellent capacity building we wouldn't have implemented the intervention with great enthusiasm and success"

*HACs and LNGOs challenges :*
Important gatekeepers such as bar owners, café/restaurant owners, construction company managers and Truckers' association representatives who have leverage over the target groups reported to have marginal participation in the HACs. This has affected the efficiency of the HACs in recruiting target groups for peer education and also ensuring their continuous participation in the peer education sessions. Turnover of HAC members, especially those from government sector offices, was reported to compromise the efficiency of the HACs. The lack of refresher and up grader training was also reported to limit their capacity to be innovative and also cope with the changing environment. The turnover of community mobilizers (CM) in the LNGOs has also been implicated among the challenges.

*Private health facilities:*
Informants of the private health facilities also indicated that the program intervention enhanced their service delivery capacity especially in relation to HCT and STIs. The quality of their services also reported to be improved as a result of participating in the program. Training was the mainstay of the capacity building component of the program for the private health facilities. Informants mentioned that they have received trainings on STI syndromic management, HIV and STIs counseling, HIV laboratory test quality assurance, and drug supply management. Quality assurance was a crosscutting component of the different services. Furthermore, the private facilities were provided with different manuals, guidelines and standard operating system in relation to HCT and STIs. Cognizant of their being private for profit institutions, the program also provided them with training on business management, especially for the facility owners. HIV testing kits, IEC/BCC materials and some office furniture were reported to be given to the facilities as part of building their capacities.

A clinic owner witnessed on how the competence of the health workers and the quality of the services provided improved as a result of the capacity building, saying:

> "…..this clinic is now providing quality HIV and STI services because of the TransACTION that capacitated us in whole aspects. Our health workers including the Nurses, laboratory technicians, and including myself were given trainings"

Another clinic owner stressed on how they benefited from the program, especially with the current and most pertinent information on HIV/AIDS and STIs, to serve their clients.

> "…..most private facilities including our clinic often lack up-to-date information and materials on health issue. This clinic virtually had no information materials, guidelines and manuals that are related to STIs. The information materials we had for HIV/AIDS were old and fragmented. Because we were part of the TransACTION program we received so many good and up to date information brochures, training materials, guidelines, posters, leaflets, manuals to aid the provision of HIV and STI services. The materials are all up to date, well prepared and attractive to refer to. We also obtained important trainings…. and as a result of all these supports our clinic and the services we are providing have improved."

The NGO-private partnership that was forged by the program intervention has received great appreciation by all the informants emerging from the Addis Mela private clinics and drug vendors. Most also mentioned that their private business has gained momentum as a result of the TransACTION program and more clients began to prefer their facilities.

A clinic owner remarked the following:

> "…..on top of the technical and materials supports, this clinic received great recognition by the community because of the program [TransACTION]. The number of clients increased since our involvement in the program and clients also began to show more trust in our services"

*ToT of the peer educators: building the capacity of the target groups*

The peer education can be considered the main pillar of the TransACTION intervention and we have shown that the success of the program was heavily relied on the peer education program. As most said, the key factor for the successful implementation of the peer education sessions, among others, was the competence and commitment of the peer educators. The training of trainers (ToT) given to the peer educators reported to have equipped them with the necessary skills and techniques to recruit, train peers, and facilitate the discussions. The peer educators who responded to our in-depth interviews suggested that the ToT was very pertinent as it was guided by the cue cards, and supplemented by practical sessions. As well, the ongoing supportive supervision the peer educators received from the HAC and LNGOs reported to have enhanced their communication skills and overall competence.

A peer educators said:

> 'I am considering myself as a teacher. My friends always tell me that they like the way I teach them and this motivates me to do more. I enjoy doing this work"

Another peer educator said:

> "They [the TransACTION program] taught us very well on how to train our friends. They also gave us continuous advise that help improve our teaching. It was a great opportunity to be a teacher"

*Intervention-focused information and communication materials:*

The TransACTION intervention program has been successful in availing a wide range of IEC/BCC materials, peer education cue cards, community dialogue guides, guidelines, manuals, checklists, billboards, vouchers, among others in the implementation towns and beyond. These materials had a wider distribution through the implementation towns and beyond and they were also made available in the information prevention centers (IPC). Most informants saw these valuable materials as critical references and educational aids for any similar intervention efforts in the future and should be seen as important aspects of the technical capacity building of the community and the program implementers.

# VI. Summary, Conclusion and Recommendations

## 6.1. Summary

### 6.1.1. Condoms

- Condom use among the target groups, including the sex workers, male and female daily laborers and waitresses increased significantly since the baseline. The magnitude of increase, however, varied by target group and type of sex partner. The recorded significant positive trends in condom use across the target groups appeared to be largely associated with participation in the Addis Mela peer education program. A dose-response relationship was also documented between the number of peer education sessions attended and the use of condom with different types of sexual partners across all the target groups. Indeed, multivariate analysis confirmed that the highest likelihood of condom use by the target groups was associated with completion of the peer education sessions. Moderate exposure to the peer education sessions also shown to be associated with a significant increase in condom use compared to the baseline.

- In the general sex workers population sampled for this study, the use of condoms with a non-paying partner reported relatively low and remained nearly unchanged since the baseline. However, sex workers who completed all the peer education sessions have exhibited the highest use of condom with their non-paying partners and this has also shown a significant increase since the baseline. In contrast, no similar trend in condom use with a non-paying partner was documented either among those who did not complete the peer education sessions or those who did not attended any of the sessions. Sex workers cited a number of reasons for the relatively lower condom use with the non-paying partners, including trusting boyfriends for love, feeling of humaneness, anticipation of superior sexual gratification when having sex without condom, and partners' refusal. HIV negative test results of both partners also reported by some as discouraging consistent condom use.

- Not only condom practice but also the knowledge, attitude and efficacy of the target groups in relation to condoms have improved as a result of participating in the Addis Mela peer educations. Basic condom knowledge imparted by the peer educations include how to check the expiry date, the dual purpose of condoms, correct use of condoms such as how to put condom on a man, how to tear the condom package, how to smooth out the air bubble, how to dispose of condoms, among others. Target groups also reported developing a more accepting attitude towards condoms such as talking about condoms with sex partners and peers, purchasing and carrying condoms without fear and embarrassment and suggesting condom use to partners. Condom use negotiation skill and assertiveness of the female target groups, especially the sex workers also improved due to the peer education.

6.1.2. HIV Counseling and Testing (HCT):

- HIV counseling and testing of the target groups and their primary sex partners increased significantly since the baseline. The uptake of HCT significantly and independently increased since the baseline only among those members of the target groups who participated in the peer education sessions. There was no parallel trend in HCT uptake among those who did not participate in the peer education. A dose-response relationship was also noted between the number of peer education sessions attended and the likelihood of having had an HCT by the target groups and their partners.

- For the female target groups, the likelihood of their male partners having had an HCT increased significantly compared to the baseline only when they completed all the peer education sessions. This finding may well suggest that completion of all the sessions improved women's ability to negotiate on HCT with their partners.

- The main driver of increased use of HCT among the target groups was the successful integration of the peer education program with the private clinics through a voucher-based referral system. Although this study did not assess the quality of the HCT services in the clinics, the target groups who participated in this study unanimously suggested superior service quality in the private facilities. Most saw the services in the Addis Mela private clinics as accessible, confidential, and the health workers and counselors in the clinics were seen as welcoming, and knowledgeable. Due to methodological limitations, however, we were not able to objectively evaluate service quality.

- The peer education activities not only improved acceptance of HCT by the target groups but also encouraged and facilitated HCT use. Increased knowledge of the target groups on the difference between HIV and AIDS, on the presence of ART that prolongs life, as well as an improved accepting attitude of the target groups towards PLHIVs and the rejection of misconceptions and stigma associated with HIV, as a result of their participation in the peer education, have played parts in enhancing HCT use.

- Despite the recorded increase in HCT use, there are challenges still lingering. This study identified fear of HIV positive results, lack of time to visit the clinics, especially among the truckers, and highly mobile members of the target groups among the main deterrent to testing. The notion that testing is not as necessary if one avoids risky behaviors or uses condoms consistently was reported to limit regular testing across all the target groups. Referring sex partners for HCT was reported to be challenging, and this was more so when a woman sought to refer her male partner due to the underlying gender-based power relationship.

6.1.3. Sexually Transmitted Infections:

- The knowledge, awareness and recognition of STI symptoms increased significantly among all the target groups since the baseline. Apart from increased knowledge of

STI symptoms, the peer education was reported to improve target groups' knowledge of the link between STI and HIV, the severity and consequences of STIs if left untreated, as well as the risk of re-infection if partners were not treated, and the presence of treatment for STIs.

- Regular STI checkups (using syndromic approach) of the target groups and their partners increased significantly compared to the baseline. The incidence of STI checkups increased significantly since the baseline only among those members of the target groups who participated in the peer educations. No similar increasing trend in STI checkups by the target groups was documented among the non-attendees of the peer education. A dose-response relationship was also noted between the number of peer education sessions attended and the likelihood of having had an STI checkup by the target groups and their partners.

- The increase in STI checkups among the target groups and their partners, compared to the baseline, was largely attributable to the synergy that was created between the peer education program and the increased access to free-of-charge STI checkups and drug supply in the Addis Mela private clinics and drug vendors.

- Some challenges to STI check-ups have been identified by this study. The TransACTION program intervention promoted monthly checkups for STI in the target groups but this has remained unattainable. Most participants did not see the necessity of having regular STI check-ups in the absence of symptoms. Others believed that regular testing is not as necessary if one avoids risky sexual behaviors or uses condoms consistently and correctly. Mobility of the target groups was reported to affect regular STI checkups. Lack of time to visit clinics also emerged among the barriers to regular checkups, especially among truckers who prefer to have mobile services. Female target group members indicated that referring their male sex partners for STI checkups has been difficult due to lack of partners' communication on sexual matters and fear of accusation of infidelity.

6.1.4. Number and type of sex partners:

- Baseline-end line comparison of the number and type of sexual partners of the target groups revealed mixed results:

    - The number of clients of sex workers per week increased significantly compared to the baseline while the reporting of non-paying partners by the sex workers declined significantly during the period.
    - The number and type of sex partners of the female daily laborers remained unchanged during the period
    - Paid sex (with sex workers) among the male daily laborers declined significantly while the reporting of non-regular partners and the number of sex partners (last year) did not change significantly since the baseline.
    - Truckers in general reported significantly higher numbers of sex partners, concurrency, and higher engagement in paid sex compared to the baseline.

- In the female target groups, especially the waitresses and female daily laborers, the proportion who engaged in transactional sex remained unchanged since the baseline.

- This study did not find any evidence of reduction in the number of sex partners and transactional sex, compared to the baseline, among the target groups as a result of their participation in the Addis Mela peer education program.

6.1.5. Positive prevention for PLHIV:

- Condom use of PLHIVs with any type of partners was reported to have improved as a result of participating in the peer education. The peer education primarily improved PLHIVs' knowledge and understanding of the risk of re-infection with other or new HIV strains if they engage in unsafe sexual practices, as well as the health consequences of re-infection. This was implicated as the main driver of condom adoption among the PLHIVs.

- PLHIVs' awareness and knowledge of STIs was reported to improve due to the peer education and, as a result of which, regular checkups for STI also increased.

- Most of the PLHIVs participating in this study reported that the peer education helped them to develop self-efficacy to disclose their positive status to spouses, friends and family members. Attending the peer education was reported to have created opportunities for the PLHIVs to discuss and share experiences of peers in relation to HIV status disclosure, and on how to deal with the likely consequences of disclosing one's HIV status.

- The PLHIVs reported to have good understanding of ART adherence and its benefits from their ART counselors. The Addis Mela peer education sessions are considered to have further reinforced their knowledge of and self-efficacy on ART adherence.

6.1.6. Economic strengthening:

- The peer education session on savings and the training on IGA are reported to have created high awareness about saving, and also encouraged and facilitated saving among the target groups. Baseline-end line comparison of the quantitative data also revealed a significant increase in the proportion who reported to save money since the baseline. Two mechanisms of saving were reported to increase since the baseline -i.e. savings via bank accounts and an Addis Mela group savings scheme. Of note, target groups reported to save between 10 and 40 birr per month through the Addis Mela group savings scheme. On the other hand, all target group members reported to save relatively larger amounts of money in bank accounts than via the Addis Mela savings group scheme.

- There are also success stories of individual members of target groups who started their own micro businesses and become successful as a result of the TransACTION

economic strengthening program. There are also reports that some sex workers abandoned sex work altogether and started their own business as a result of the program.

- The relationship between savings and sexual behavior of the target groups is difficult to investigate due to methodological challenges. Despite the limitations in the study design, analysis of the quantitative and qualitative information suggests a lack of evidence linking savings and sexual behavior in the female target groups including sex workers, waitresses and female daily laborers.

6.1.7. Gender: the community dialogue

- Not much can be concluded about the role of the community dialogue in addressing the gender dimension of transactional sex. This facet of the intervention was introduced later than the other components, and had low coverage in the towns. The sessions were too long (up to six months) often leading to fatigue and loss of enthusiasm, and in some towns it was discontinued due to different reasons. Despite these caveats, there are some interesting findings worth mentioning.

- In general, the community members who participated in the dialogue acknowledged that it created a real opportunity to identify and discuss common attitudes in the community that undermine the position and role of women in the society.

- Community members also recognized the role that underlying gender norms have on transactional and cross-generational sex in their community, but the linkage between the two has not been crystallized. Besides, emerging gender norms and attitudes that are relevant to transactional and cross-generational sex among young urbanites appeared to be less understood by participants of the community dialogues.

6.1.8. Capacity building:

- Capacity building can be considered the main investment of the TransACTION program intervention. This evaluation found out that by improving the capacity of the community, town-level implementers and stakeholders to be actively involved in program planning and implementation, the TransACTION program intervention ensures community ownership of the program, paving the way for sustainability.

- The program provided capacity building that encompassed trainings, supportive supervision, and material support, as well as activity based grant supports. The capacity building activities focused on several community groups but greater emphasis was given to the HACs, LNGOs, private clinics and drug outlets.

- The informants emerging from the HAC, LNGOs and private clinics saw the different capacity building components as empowering and, as a result of which, they were able to properly plan, implement and monitor the program activities.

6.1.9. Program implementation challenges:

Although this was not a process evaluation, it identified some challenges/gaps in program implementation that are worth mentioning. It should be emphasized that the challenges identified and described below are by no means comprehensive due to the limited scope of this evaluation. Below are the major challenges identified?

- High drop out from the peer education - *the rate of completion of all the peer education sessions ranges from a low 22% among the waitresses to 50% among the female daily laborers.* Low participation in and high dropout from the peer education has been found among bar-based sex workers, those who joined sex work recently, highly mobile daily laborers and the waitresses.

- Despite the recorded successes in service uptake for HCT and STI as a result of linking the program with private facilities, the free-of-charge clinical services in the private clinics appeared to have created some dependency among the target groups and may reduce motivation to seek services with pay. Nevertheless, it should be emphasized that the program has improved health seeking behaviors of the target groups for HCT and STI services.

- Addis Mela private clinics were in general not suitable for truckers who prefer mobile services. Indeed, lack of easy access emerged as the major barrier to using services in the truckers' population, and may partly explain their relatively low use of HCT and STI services compared to the other target groups.

- Important gatekeepers such as bar owners, café/restaurant owners, construction company managers and Truckers' association representatives who have leverage over the target groups reported to have marginal participation in the HACs. This may have affected the efficiency of the HACs in recruiting target groups for peer education and also ensuring their continuous participation in the peer education sessions.

- Turnover of HAC members, especially those from government sector offices, was reported to compromise the efficiency of the HACs.

- The Addis Mela group saving reported to suffer from lack of trust and disagreement among members since the saving scheme is informal that relies on common understanding among its members. As a result, most members reported to save a small amount of money per month via the Addis Mela group saving while others reported to resort to saving in a bank. Mobility of the target groups, especially the daily laborers, the hotel/bar-based sex workers and waitresses, resulted in dissolution of several saving groups.

- There appears a general misunderstanding about the primary objective of the economic strengthening aspect of the program intervention among the various stakeholders including the HACs, local NGOs and target group members. The economic strengthening program was overemphasized by most informants, as they held the view

that it was primarily intended to help sex workers to get out of the business by facilitating saving and subsequently start up their own other business through IGA.

### 6.2. Conclusion

Taken together, findings of this evaluation demonstrated that the overall goals of the USAID TransACTION prevention intervention were largely met. The results showed that correct and consistent use of condom increased significantly among the target groups since the baseline. Likewise, target groups' access, awareness and uptake of HCT and STI services also increased significantly compared to the baseline. Whilst several facilitating factors and the creation of supportive environment play their part for program success, this evaluation attributed the recorded success largely to the peer education program, improved access to clinical services, and the integration of the two.

It is generally believed that, among other risk reduction strategies, increase in condom use, and increase in HCT and STI services use in a population can lead to a reduction in HIV and STI incidences. One can thus posit that the TransACTION intervention would contribute to the overall reduction in HIV and STI incidences among the target groups and general population in the implementation towns and beyond.

It is therefore imperative that the current impetus is maintained in order to sustain and intensify the gains achieved by the program. By design the TransACTION intervention has laid the groundwork for program sustainability. The core dimensions of sustainability such as active involvement of the community (through the HAC) and LNGOs, and building the capacity of the community and implementing partners have been realized by the program, which underpin community ownership. In addition, the presence of a government structure in each of the implementation towns (town HAPCO) and the relevance of the intervention for the national and regional HIV and AIDS prevention and control efforts should be emphasized as part of ensuring program sustainability. Additionally, program sustainability will be promoted through USAID's commitment to continue supporting a similar intervention program on at-risk populations through the program MULU/MARP.

### 6.3. Selected recommendations

***Address the low condom use of sex workers with non-paying partners:***
Low condom use of sex workers with non-paying partners still remains a major challenge. It appears that for most sex workers who have non-paying partners, there is a possibility that the greater risk for HIV infection is with the non-paying partners rather than clients. There is a need to address underlying barriers to low condom use with non-paying partners such as trusting for love, the perception that 'sex without condom is an expression of love', and 'sex with condom reduces sexual gratification'. Partners' resistance to condom use should be addressed by enlisting and reaching out to non-paying partners through sex workers and their peer network.

***Promote regular HCT in the target groups with greater emphasis to sex workers:***
Despite the recorded increase in HCT, regular testing has not reached the desired level among all the target groups. In the light of the high sex partner change rate among sex workers, it is critical that sex workers undergo regular HCT as part of their sex work life.

The barriers to testing identified by this study were the notion that 'testing is not as necessary if one uses condom regularly', fear of testing and mobility. Program needs to emphasize on these barriers and find ways to encourage regular testing. For truckers mobile HIV testing may be the most viable strategy.

***Reinforce regular STI check-up in the target groups with greater emphasis on sex workers***

The most commonly cited barrier to monthly STI check-up was the underlying perception by most sex workers that 'regular check-up is not as necessary if there is no symptom'. The truth is many of STIs have no signs or symptoms in the majority of people infected. Programs should educate sex workers about healthy sex work life that essentially includes regular STI check-up irrespective of having symptoms.

***Devise a strategy to address high partner change and paid sex among the truckers***

Data shows increasing trends in risky sexual behaviors such as high partner change, concurrency and engagement in paid sex (with sex workers) among the truckers since the baseline. While condom use among truckers can be considered fairly high, there is a need to reinforce intervention on partner reduction through the peer education and/or other viable approaches.

***Address low participation in and high dropout from the peer education***

Low participation in and high dropout rates from the peer education certainly limits its effectiveness. In the analysis it is seen that session completion was associated with high performance of the target groups in most outcome indicators. Mobility of the target groups, time constraints and expectation of some monetary benefits for participation emerged as the major deterrent to join the peer education as well as to complete sessions. Programmers may want to re-evaluate the contents, the number and duration of the peer education sessions and endeavors to strike the balance between participant retention and session completion. There is also a need to put in place a flexible system while scheduling the sessions so that participants shouldn't miss sessions due to competing time demand. Bar-based sex workers and waitresses in big towns have low participation in and high drop out from the peer education sessions partly due to a filling of uneasiness to attend group sessions. For such groups program should solicit an innovative strategy that may consider a one-on-one peer education model.

***Provide more options for the target groups to access HCT and STI services including in public facilities and other service delivery approaches besides the private facilities***

Despite the recorded successes in service uptake for HCT and STI as a result of linking the program with private facilities, the free-of-charge clinical services in the private clinics appeared to create dependency among the target groups and may reduce motivation to seek services with pay. Besides to this there is a need to provide more options for the target groups to access the HCT and STI services such as in public facilities and outreach and mobile facilities for highly mobile groups such as truckers, while the private facilities should always remain as one of the major options. There is also a need to understand target groups' willingness to pay for the services.

***Clarify the primary aim of the economic strengthening facet of the intervention and ensure common understanding among the various stakeholders***

The main objective of the economic strengthening activities, as stipulated in the program document, was to reduce vulnerability resulted from economic shock by enabling sex workers and PLHIVs build alternative asset base and thereby reducing the likelihood of risky behaviors. Unfortunately, this objective was not clearly understood by most members of the HACs and LNGOs that served as key informants of this evaluation. Most HAC members and NGO representatives held the view that the economic strengthening was primarily intended to help sex workers get out of the business by facilitating saving and subsequently start up their own other business through IGA. This is indeed a gross misconception. Thus the objectives of the economic strengthening facet of the intervention requires proper qualification so as to assure correct and common understanding among the various stakeholders.

***Adequately involve important gate keepers in the town level HIV/AIDS committees***

We learned that important get keepers of the target groups such as bar owners, café/restaurant owners, construction company managers and Truckers' association representatives who have leverage over the target groups were not adequately participated in the town-level HACs. It is imperative that such gate keepers are represented adequately in the committees for better program efficiency in reaching out to the target groups, recruiting participants for peer education, tracking new comers to the establishments (e.g. new sex workers), to improve retention of peer education participants and also maintain close follow up after graduating from the peers education.