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BELIZE (2013): HIV/AIDS TRaC STUDY
Men who have sex with Men (MSM)

3rd ROUND (3)

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**BELIZE (2013): HIV/AIDS TRaC Study
Men who have sex with Men (MSM) in Belize.
3rd Round
PSI Research Division
(2013)**

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Suggested citation of this work:

PSI Research & Metrics, "BELIZE (2013): HIV/AIDS TRaC Study Evaluating Condom Use among MSM in Belize City. Round 3" PSI Social Marketing Research Series, (2013)
<<http://www.psi.org/resources/publications>>.

Acknowledgments: This TRaC (Tracking Results Continuously) Survey was generously funded by the United States Agency for International Development (USAID). The opinions expressed herein are those of the authors and do not necessarily reflect the views of USAID. The design of this study was conducted by Jose Enrique Martinez former quantitative regional PASMO researcher, analysis and report writing were made by Dennis Valvert, PASMO research specialist, under supervision of Jorge Rivas senior regional quantitative researcher for PASMO. Belize local team contributed to identify final conclusions and recommendations.

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SUMMARY

BACKGROUND & RESEARCH OBJECTIVES

From November to December 2012 PASMO/PSI conducted a TRaC survey between Men who have sex with Men (MSM) in five cities of Belize: Belize city, Cayo, Orange Walk, Corozal Town and Stann Creek. The survey addressed issues of HIV/AIDS, risk behaviors and determinants of condom use and seeks to: 1) Monitor trends in behaviors and other key determinants of Opportunity, Ability and Motivation (OAM) between MSM, and 2) Identify the factors that characterize MSM that use condoms with all kind of sex partners.

DESCRIPTION OF INTERVENTION

PASMO/PSI is an organization that works through social marketing and educational interventions for the prevention of HIV / AIDS in Central America (Guatemala to Panama). Prioritizing efforts on particularly vulnerable groups (youth, men who have sex with men, sex workers, Garifuna, clients of sex workers, etc.). Based on a behavior framework, several educational and communication activities are designed to convey to people the importance of maintaining healthy sexual behaviors that prevent new HIV infections through 1) interpersonal communication activities (IPC) 2) Mass media campaigns, and 3) social marketing strategies with broad coverage to increase access and availability to male condoms.

In the 2011-2015 period, PASMO implements a Combined Prevention Program funded by the U.S. Agency for International Development (USAID), which includes three components: (a) participation of the target population in at least 3 change behavior activities, (b) conducting HIV and STIs testing, and (c) the reference to services (support groups, workshops to reduce stigma and discrimination, alcoholism and drugs use, counseling against gender violence, etc.). Within that program the use of voucher systems to record the participation of the target population in each program component (behavior change component, biomedical, and reference). Vouchers register with a unique and confidential code to each participant (CUI), which is then entered into the monitoring and information system (MIS). With this strategy it is possible to track individuals and know how many are and what kind of components are involved.

METODOLOGY

Through a RDS sampling method¹, 282 MSM were selected. The survey included questions about demographics, sexual behavior, use of condoms and lubricants, OAM determinants and exposure to PASMO interventions. Univariate analysis was conducted to monitor trends in 2012, controlling for socio-demographic characteristics and city. Significant determinants of consistent condom use with all clients (from beginning to end of sexual intercourse) and stable partners were identified through multivariate logistic regression, controlled by city. To estimate the adjusted means or proportions of each variable in the final model univariate analysis was conducted.²

¹ Respondent-Driven Sampling (RDS), sampling method commonly-used for hard-to-reach populations involving 2 stages to be a valid sampling method: recruitment strategy and taking account of social network sizes and recruitment patterns.

² To obtain more details on the methodology, data collection and other parts from the study contacts the first author to get a copy of the study design.

MAIN FINDINGS

Highlights from the monitoring analysis:

- ∴ Condom use with all kind of partners in the last sexual intercourse, shows a regular behavior between all MSM subgroups, while in MSM (excludes Trans and Male Sex Workers MSW) is more higher (56.1%) it decreases in Trans (42.7%).
- ∴ Condom use behavior decreases significantly when is measured by if it is used until the end of sex intercourse. In MSW it decreases to 20.4% while in MSM and Trans it decreases to 24.3%. Also, the percentage of MSM who carried a condom when interview was made, is very low in MSM and MSW subgroups 10.7% & 15.2%, in Trans it increases to 39,6%.
- ∴ Percentage of MSM who had an HIV test and received their results it was very low, it improves on Trans subgroup (14.7%) and it decreases in MSW (4.6%).
- ∴ Percentage of MSM who felt discriminated in HIV test, was very low in MSM (1.6%) but it increases significantly in MSW (17.7) and Trans (18.9).
- ∴ The use of coupons on IPC activities has been effective in Trans (27.9%) but in MSW and MSM subgroups, use of coupons has been very low (3.3% & 4.0%).
- ∴ The use of coupons has been low for biomedical services, having a 15.4% of Trans reporting using them for tests. Only 7.8% of MSM and 5.9% of MSW reported using them
- ∴ The exposure to mass media messages from PASMO has been more effective in trans (77.1%) while percentages decreases on MSM (46.3%) and MSW (45.3%)
- ∴ An important percentage of MSM identifies correctly HIV ways of transmission; this indicator is higher in MSM subgroup (80.3%) and MSW (73.3) and decreases in trans (48.9%).

The results of segmentation analysis indicate that the probability of MSM using condom consistently from beginning to the end of sex intercourse increases when:

- ∴ MSM has a positive attitude towards HIV prevention practices, consistent condom users shows more adherence to this scale (mean 3.68) while non- users shows less adherence to them. (mean 3.42) $p < 0.001$. on a scale of 1 to 4, where 1 means “definitely agree” and 4 “definitely disagree”.

The analysis also indicates that the probability of MSM using condom consistently from beginning to the end of sex intercourse decreases when:

- ∴ They feel able to use a condom rightly, inconsistent users shows more adherence to this statement (mean 3.35) while consistent users support this statement in a mean of 3.12 $p < 0.001$.
- ∴ MSM buys condoms in box; the adherence to this statement is more in inconsistent condom users (mean 2.37) while in consistent condom users is 2.10 $p < 0.01$.
- ∴ MSM that agree with statements of the social norm scale of discrimination. When MSM are inconsistent condom users they are agree in a mean of 3.07, while in consistent condom users mean is 2.27 $p < 0.001$.
- ∴ MSM circumcised, inconsistent condom users are circumcised in a percentage of 22.5% while consistent condom users percentage is 0%. $p < 0.01$.

First Round (IPC activities) Evaluation Analysis shows:

- ∴ MSM exposed to biomedical component shows a major probability to be a consistent condom user with casual sex partners (O. R. 3.69).
- ∴ MSM exposed to any IPC activity shows a major probability to be able to recognize STI symptoms (O.R. 2.78)
- ∴ MSM exposed to complementary services shows a major probability to be able to recognize STI symptoms (O.R. 5.64).

PROGRAMMATIC RECOMMENDATIONS

Based on the results some recommendations are:

- ∴ Enhance efforts on condom use promotion through IPC activities in terms of improve perception in MSM about importance not only in terms of ability but using condoms consistently, segmentation analysis showed that people who believe they are able to use condoms correctly, are inconsistent condom users.
- ∴ Reinforce efforts on HIV test promotion especially in MSW, as monitoring tables shows, this subgroup shows a low use of HIV test compared with the other MSM subgroups, discrimination perceived by MSW in HIV test is higher than other MSM subgroups. It is recommended improving friendly services and enhance practices addressed to this group in order to reduce perceptions of discrimination.

MONITORING TABLE:

Trends on condom use and Opportunity, Ability and Motivation determinants (OAM) in Belize city, Cayo, Orange Walk, Corozal and Stann Creek, 2012.

Risk group: Men who have sex with Men between 18 & 40 years

Behavior: Consistent condom use in the last 30 days from beginning to the end.

| BEHAVIOR/USE | INDICADORES | Belize | |
|--|-------------|----------------------|----------------------|
| | | Not Adjusted % (282) | Adjusted % (95 % CI) |
| <i>^ Condom use in the last sexual intercourse with male partner. (g22)</i> | | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | | 51% | 56.1 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | | 56.2 | 55.2 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | | 52.2 | 55.5 |
| - Only Trans. | | 50 | 42.7 |
| <i>Consistent condom use with all male sex partners in the last month (CCUALLMALE)</i> | | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | | 72.2 | 67.9 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | | 60.3 | 57.8 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | | 69.2 | 64.4 |
| - Only Trans. | | 71.4 | 58.2 |
| <i>Consistent condom use with all male partners last month with no exception. (CCUALLMALESnoexception)</i> | | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | | 61.9 | 60.3 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | | 55.2 | 53.9 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | | 60.3 | 57.9 |
| - Only Trans. | | 71.4 | 55.0 |
| <i>^Consistent condom use with all male partners last mont from beginning to the end of sex (CCUALLMALETILEND)</i> | | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | | 21.6 | 24.3 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | | 22.4 | 20.4 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | | 21.8 | 21.6 |
| - Only Trans. | | 14.3 | 24.3 |
| <i>MSM who made an HIV test in the last year (i03d)</i> | | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | | 90.7 | 89.7 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | | 79.2 | 80.5 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | | 87.9 | 86.4 |
| - Only Trans. | | 100 | 81.1 |
| <i>^ MSM who made an HIV test and received their results and were referred by PASMO (i05n)</i> | | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | | 5.7 | 7.8 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | | 6.2 | 4.6 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | | 5.8 | 7.1 |

| INDICADORES | Belize | |
|---|--------|------|
| - Only Trans. | 12.5 | 14.7 |
| [^] MSM who felt discriminated when made HIV test. (i07n) | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | 1.2 | 1.6 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | 11.3 | 17.7 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | 3.7 | 7.8 |
| - Only Trans. | 0 | 18.9 |
| EXPOSICIÓN | | |
| <i>Coupon use in the last 12 months.</i> | | |
| <i>In at least 1 IPC activity (K3.yes vs no)</i> | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | 5.2 | 4 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | 6.2 | 3.3 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | 5.5 | 4.8 |
| - Only Trans. | 25 | 27.9 |
| <i>On Biomedical Test. (usocuponbiomedico)</i> | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | 5.7 | 7.8 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | 7.8 | 5.9 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | 6.2 | 7.3 |
| - Only Trans. | 12.5 | 15.4 |
| <i>On reference service (Family planning, gynecologist alcohol/drugs counseling, legal issues etc.)</i> | | |
| ▪ <i>Received coupon (L1) (yes vs no)</i> | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | 3.3 | 3.3 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | 7.8 | 5.3 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | 4.4 | 5.3 |
| - Only Trans. | 12.5 | 24.9 |
| ▪ <i>Used the coupon (L2 yes vs no)</i> | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | 2.4 | 2.5 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | 0 | 0 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | 1.8 | 1.9 |
| - Only Trans. | 0 | 0 |
| <i>Carried a condom when interview was made. (p01)</i> | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | 17.1 | 15.2 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | 10.9 | 10.7 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | 15.7 | 14.4 |
| - Only Trans. | 25 | 39.6 |

| INDICADORES | Belize | |
|---|--------|------|
| <i>Exposure to PASMO Mass media messages in the last 12 months</i> | | |
| - Have you used web resources at least once? (<i>¿Y ahora qué?, Club en Conexión, Mi Zona H, Red Segura,</i>) (expointer) | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | 2.4 | 2.5 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | 3.1 | 4.3 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | 2.6 | 3.8 |
| - Only Trans. | 12.5 | 24.9 |
| | | |
| - Have you seen PASMO campaigns? (<i>campaña</i>) | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | 40.5 | 46.3 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | 42.2 | 45.3 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | 40.9 | 46.2 |
| - Only Trans. | 75 | 77.1 |
| | | |
| - Did you see "Hombres" campaign? (<i>j20</i>) | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | 12.4 | 12.6 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | 12.5 | 8.3 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | 12.4 | 12.5 |
| - Only Trans. | 50 | 33.8 |
| | | |
| - Did you see "Tienes, Pídelo" campaign? (<i>j30</i>) | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | 15.7 | 14 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | 20.3 | 21 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | 16.8 | 15.9 |
| - Only Trans. | 50 | 66 |
| | | |
| - Did you see "Impresionalas" campaign? (<i>j40</i> ,) | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | 25.2 | 33.9 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | 28.1 | 33.9 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | 25.9 | 34.7 |
| - Only Trans. | 37.5 | 33.1 |
| | | |
| - Identifies rightly HIV transmission forms and refuses main myth about HIV transmission. | | |
| - MSM not sex workers (excludes MSM sex workers and trans) | 88.1 | 80.3 |
| - Male Sex workers MSW (excludes MSM not sex workers and trans) | 82.8 | 73.3 |
| - Total MSM (MSW + MSM not sex workers) excludes trans. | 86.9 | 77.7 |
| - Only Trans. | 62.5 | 48.9 |

*=p<0.05 **=p<0.01 ***=p<0.001 ns= non-significant nc=non-comparable

^ Donor indicator, ¥ PASMO indicator

(r): These indicators were phrased the opposite way in the questionnaire, for analysis purposes they need to be interpreted the way they are described in this table.

Scales used to measure OAM determinants were from 1 to 4 (1=totally disagree, 2=disagree, 3=agree, 4=totally agree).

Percentages and means were obtained using univariate analysis controlled by the following socio-demographic variables: age, marital status, education level, monthly income, FSW category (fixed vs. Ambulatory) and city which was also the design variable of the study.

SEGMENTATION TABLE I:

Determinants of Opportunity Ability and Motivation (OAM) in Belize city, Cayo, Orange Walk, Corozal and Stann Creek, Belize 2013.

Risk group: Men who has sex with Men (MSM) from 18 to 40 years

Behavior: Consistent condom use in the last 30 days from beginning to the end of sex intercourse with all male partners.

| INDICATORS | Consistent User N=39 19.5% | Not consistent user N=161 80.5% | OR | Sig. |
|--|----------------------------------|---------------------------------------|-------|------|
| HABILITY | | | | |
| <i>Self-efficacy</i> | % | % | | |
| - R13 You feel able to use condom rightly. | 3.120 | 3.354 | .181 | *** |
| MOTIVATION | | | | |
| <i>Attitude (VCT)</i> | | | | |
| - Attitude scale (VCT) ¹ | 3.68 | 3.42 | 5.264 | *** |
| OPORTUNIDAD | | | | |
| <i>Availability</i> | | | | |
| - You buy condoms in box (p28). | 2.101 | 2.371 | .409 | ** |
| <i>Social Norm</i> | | | | |
| - Social norm scale of discrimination ² | 3.066 | 2.273 | .312 | *** |
| CARACTERISTICAS POBLACIONALES | | | | |
| - E04n: is circumcised | 22.5 | (-0.005) | .077 | ** |
| - Orange Walk vrs Other cities. | 74.1 | 77.5 | .627 | N/S |

*=p<0.05 **=p<0.01 ***=p<0.001

ns= not significant

^ Donor indicator.

*=p<0.05 **=p<0.01 ***=p<0.001

Scales used to measure OAM determinants were from 1 to 4 (1=totally disagree, 2=disagree, 3=agree, 4=totally agree).

Omnibus χ^2 (df=14): Chi square 46.329 p=0.00

R² (Cox Snell): 0.207

Hosmer-Lemeshow (df=8): 9.988 p= 0.266

(r): These indicators where phrased the opposite way in the questionnaire, for analysis purposes they need to be interpreted the way they are described in this table.

Variables used to compose attitude scale (VCT):

- S41: Before having sex with somebody without a condom, both must do a HIV test.
- S42 Is important for you to know your HIV status.
- S43 You have planned to do a HIV test soon (in less than three months).
- S44 Next time you have sex you will use condom definitely.

² Variables used to compose social norm scale of discrimination:

- Q21: When people find somebody is MSM usually they reject him.
- Q22: Most of MSM has to hide they are MSM to avoid to be discriminated.
- Q23: A MSM is not well seen by society.
- Q24: In order to be respected, being a MSM must be hidden.
- Q25: People feel uncomfortable being near a MSM.

EVALUATION TABLE

Factors associated with behavior outcomes in Belize, 2012.

Risk Group: Men who have sex with (MSM) between 18-40 years.

| Matched Sample (N=267) | | | | | |
|---|--|---|-------------------|--|-------------------|
| | | Model 1 (Exposed to any PASMO activity) | | Model 2 (comparative of exposition to each component) | |
| Behavior | Type of Exposition | O.R Adjusted | Interval | O.R Adjusted | interval |
| Use a condom with every type of sex partner in the last thirty days. | Any PASMO Activity | 1.000517 | .3834543 2.610569 | .9148387 | .3453667 2.423308 |
| | IPC | .9645233 | .2620576 3.550003 | 8108405 | .168252 3.90760 |
| | Biomedical | 1.325207 | .3893051 4.51105 | 1.259741 | .3267911 4.856155 |
| | Complimentary | 1.070488 | .221004 5.185172 | .6871535 | .0422477 11.17647 |
| | Received free condoms in the last twelve | 1.014465 | .3853617 2.67058 | .4528666 | .1798681 1.140214 |
| | Has been approached by a HIV educator | .9976192 | .9699433 1.026085 | .944091 | .8688492 1.025849 |
| Use a condom with all clients in the last thirty days. | Any PASMO Activity | .6793248 | .1905575 2.421748 | .5048376 | .1971924 1.292449 |
| | IPC | -- | -- | .5239722 | .0704754 3.895641 |
| | Biomedical | .8999491 | .2086986 3.880756 | .269974 | .0479949 1.518626 |
| | Complimentary | 2.176096 | .2399753 19.7328 | .8607434 | .1316313 5.628444 |
| | Received free condoms in the last twelve | 2.326772 | .8777465 6.1679 | .5814939 | .281923 1.199388 |
| | Has been approached by a HIV educator | 1.017862 | .9891071 1.047452 | 1.041034 | 1.007658 1.075516 |
| Use a condom with friends and affective partners in the last thirty days. | Any PASMO Activity | .5577343 | .2019888 1.540024 | .5048583 | .1972046 1.292474 |
| | IPC | .8799635 | .2555169 3.030468 | .5241803 | .0705057 3.897063 |
| | Biomedical | .2902032 | .0556086 1.51447 | .2700274 | .0480369 1.517891 |
| | Complimentary | 2.529915 | .5153497 12.41967 | .8603478 | .1315809 5.625423 |
| | Received free condoms in the last twelve | .8553057 | .347651 2.104259 | .5815763 | .2819406 1.199653 |
| | Has been approached by a HIV educator | 1.032281 | 1.004078 1.061275 | 1.041026 | 1.007638 1.07552 |

| | | Model 1 (Exposed to any PASMO activity) | | Model 2 (comparative of exposition to each component) | |
|--|--|---|----------------------|---|--------------------------|
| Behavior | Type of Exposition | O.R Adjusted | Interval | O.R Adjusted | interval |
| Use a condom with casual sex partners in the last thirty days. | Any PASMO Activity | 2.15235 2 | .8092686 5.72445 | 2.003518 | .7950569 5.04880 |
| | IPC | .689739 9 | .18193 2.61496 | .6315858 | .1295309 3.079579 |
| | Biomedical | 2.66330 2 | .6928022 10.23839 | 3.697156 | 1.024805 13.33811 |
| | Complimentary | 4.13923 6 | .8034712 21.324 | 6.286361 | .4699886 84.08362 |
| | Received free condoms in the last twelve | 1.29413 3 | .5257736 3.185366 | 1.248191 | .4902731 3.177783 |
| | Has been approached by a HIV educator | .979572 7 | .946684 1.013604 | 1.08732 | .9239828 1.27953 |
| Use a condom during the last sex intercourse. | Any PASMO Activity | .707748 8 | .2588661 1.935009 | .790385 | .289183 2.16025 |
| | IPC | .581583 3 | .1485004 2.277698 | .9455893 | .1053478 8.48749 |
| | Biomedical | 1.42501 4 | .4160637 4.880658 | 1.80889 | .4522585 7.234981 |
| | Complimentary | 1.67353 5 | .3108363 9.010271 | 4.771116 | .6347524 35.8620 |
| | Received free condoms in the last twelve | .837918 7 | .3323882 2.112313 | .6838251 | .2923228 1.599659 |
| | Has been approached by a HIV educator | 1.06559 6 | .8809718 1.28891 | 1.206542 | .6615416 2.2005 |
| Refuses main myth about HIV transmission. | Any PASMO Activity | 1.38937 6 | .3275802 5.892805 | .7466333 | .1999102 2.788559 |
| | IPC | .931991 | .1751958 4.957923 | .1580659 | .0131757 1.896288 |
| | Biomedical | 1.11802 3 | .1905689 6.55917 | 1.607367 | .1814364 14.23986 |
| | Complimentary | 8.66756 3 | .8829441 85.086 | 2.657109 | .1630131 43.31082 |
| | Received free condoms in the last twelve | 2.12217 | .5260388 8.561387 | .7174866 | .1806816 2.849139 |

| | | | | | | | |
|--|---------------------------------------|----------|----------|----------|----------|----------|----------|
| | Has been approached by a HIV educator | 1.228574 | .7976841 | 1.892222 | 1.219156 | .9060462 | 1.640469 |
|--|---------------------------------------|----------|----------|----------|----------|----------|----------|

| | | Model 1 (Exposed to any PASMO activity) | | | Model 2 (comparative of exposition to each component) | | |
|---|--|--|-----------------|-----------------|--|----------|----------|
| Behavior | Type of Exposition | O.R Adjusted | Interval | | O.R Adjusted | interval | |
| Took a HIV test and received results in the past 12 months. | Any PASMO Activity | 1.412149 | .5141026 | 3.878924 | 1.009893 | .3574052 | 2.853581 |
| | IPC | .7184326 | .2053823 | 2.513096 | .5283225 | .0205168 | 13.60467 |
| | Biomedical | 2.418358 | .2676029 | 21.85498 | 1.162842 | .0833925 | 16.2149 |
| | Complimentary | .1197051 | .0202831 | .7064647 | -- | -- | |
| | Received free condoms in the last twelve | 1.526421 | .5474897 | 4.255718 | 4.12105 | .4576413 | 37.10999 |
| | Has been approached by a HIV educator | .9569455 | .9060105 | 1.010744 | .8210674 | .6743494 | .9997068 |
| Had STI symptoms | Any PASMO Activity | 2.786672 | 1.033874 | 7.51111 | 2.988445 | .9707595 | 9.199814 |
| | IPC | 1.085278 | .2643358 | 4.455804 | .2860918 | .0278367 | 2.940314 |
| | Biomedical | .9179203 | .2648719 | 3.181076 | 1.684128 | .3997517 | 7.095124 |
| | Complimentary | 5.649751 | 1.043048 | 30.60232 | 19.53602 | 3.402322 | 112.175 |
| | Received free condoms in the last twelve | 1.399861 | .526294 | 3.723413 | .4821459 | .1774264 | 1.310203 |
| | Has been approached by a HIV educator | .9978813 | .9672284 | 1.029506 | 1.256751 | 1.046871 | 1.508708 |

Matched by Coarsened Exact Matching (N=267 L1=0.0593254) by:

Socioeconomical level, most of your friends are MSM, your relatives know you are MSM, you have participated in any sexual diversity organization..

Exposure categories:

- *IPC: Exposed to informative activity, educational or communication directed by PASMO or its partners.*
- *Biomedical: took a HIV test or any other STI test under reference of PASMO or its partners.*
- *Complimentary: received any type of complimentary information for services*

EVALUATION TABLE

Factors related with behavior outcomes in Belize, 2012.

Risk Group: Men who have sex with men (MSM) between 18-40 years.

| Matched sample (N=247) | | | | | | |
|---|--|--|----------|----------|--|-------------------|
| Behavior | Type of Exposure | Model 1 (Exposed to any PASMO activity) | | | Model 2 (comparative of exposition to each component) | |
| | | O.R Adjusted | Interval | | O.R Adjusted | interval |
| Use a condom with every type of sex partner in the last thirty days. | Any exposure | .7428819 | .340153 | 1.622428 | .8262647 | .3460847 1.972677 |
| | Exposure to PASMO campaign | .7368615 | .3250139 | 1.67059 | .6393453 | .2614656 1.56335 |
| | Exposure to internet activities | -- | -- | | -- | -- |
| | Any exposure /CIP Activities | -- | -- | | 1.132831 | .4476921 2.866494 |
| | Received free condoms in the last twelve | .4879338 | .1987785 | 1.197712 | .2772743 | .0952662 .8070122 |
| | Has been approached by a HIV educator | 1.03393 | .9963535 | 1.072924 | .95865 | .7891565 1.164566 |
| Use a condom with all clients in the last thirty days. | Any exposure | .3906393 | .1362586 | 1.119922 | .5303398 | .1817614 1.547415 |
| | Exposure to PASMO campaign | 1.141893 | .3778572 | 3.450829 | .7824601 | .3058724 2.001631 |
| | Exposure to internet activities | -- | --- | | -- | -- |
| | Any exposure /CIP Activities | -- | -- | | .6031344 | .2121037 1.715062 |
| | Received free condoms in the last twelve | 1.685822 | .5903964 | 4.813708 | 1.018557 | .3882302 2.672275 |
| | Has been approached by a HIV educator | .6776049 | .2228158 | 2.060664 | 1.238207 | .8659759 1.77043 |
| Use a condom with friends and affective partners in the last thirty days. | Any exposure | .7450315 | .3372391 | 1.64593 | 1.051349 | .4229809 2.613203 |
| | Exposure to PASMO campaign | 1.223762 | .5288596 | 2.83174 | 1.177822 | .5489508 2.527121 |
| | Exposure to internet activities | -- | -- | | -- | -- |
| | Any exposure /CIP Activities | -- | -- | | 1.875413 | .7006718 5.019717 |
| | Received free condoms in the last twelve | .8553057 | .347651 | 2.104259 | .3946525 | .1788086 .8710463 |
| | Has been approached by a HIV educator | 1.032281 | 1.004078 | 1.061275 | .9165519 | .7397613 1.1355 |

| | Model 1 (Exposed to any PASMO activity) | Model 2 (comparative of exposition to each component) |
|--|--|--|
|--|--|--|

| Behavior | Type of Exposition | O.R Adjusted | Interval | O.R Adjusted | interval |
|--|--|--------------|----------------------|--------------|-------------------|
| Behavior Use a condom with casual sex partners in the last thirty days. | Any exposure | .6270011 | .2691051 1.46088 | .5709738 | .2403778 1.356244 |
| | Exposure to PASMO campaign | .8792282 | .3592793 2.151647 | .7792368 | .3247725 1.869647 |
| | Exposure to internet activities | -- | -- | -- | -- |
| | Any exposure /CIP Activities | -- | -- | .5338788 | .2040074 1.397138 |
| | Received free condoms in the last twelve | 1.294133 | .5257736 3.185366 | 1.176643 | .4935574 2.805122 |
| | Has been approached by a HIV educator | .9795727 | .946684 1.013604 | 1.105299 | .8935384 1.367244 |
| Use a condom during the last sex intercourse. | Any exposure | 1.531812 | .6830183 3.43540 | 1.572514 | .702563 3.519683 |
| | Exposure to PASMO campaign | .871511 | .3632695 2.090821 | 1.036266 | .5125203 2.095229 |
| | Exposure to internet activities | -- | -- | -- | -- |
| | Any exposure /CIP Activities | -- | -- | .8938034 | .4024531 1.985037 |
| | Received free condoms in the last twelve | .7933597 | .3206577 1.962902 | .7604077 | .3367411 1.717105 |
| | Has been approached by a HIV educator | 1.018699 | .9907325 1.047456 | .931161 | .781347 1.1097 |
| Refuses main myth about HIV transmission. | Any exposure | .3748706 | .0991483 1.417351 | .3103938 | .0786635 1.224765 |
| | Exposure to PASMO campaign | 1.171728 | .2802722 4.89862 | .5723823 | .222171 1.474637 |
| | Exposure to internet activities | -- | -- | -- | --- |
| | Any exposure /CIP Activities | -- | -- | .1891224 | 0481441 .742921 |
| | Received free condoms in the last twelve | 2.122174 | .5260388 8.561387 | .5389109 | .1363086 2.13064 |
| | Has been approached by a HIV educator | 1.228574 | .7976841 1.892222 | 1.254723 | .8921334 1.764681 |
| | | | | | |

| | | |
|--|---|--|
| | Model 1 (Exposed to any PASMO activity) | Model 2 (comparative of exposition to each component) |
|--|---|--|

| Behavior | Type of Exposure | O.R Adjusted | Interval | O.R Adjusted | interval |
|---|--|--------------|-------------------|--------------|-------------------|
| Behavior Took a HIV test and received results in the past 12 months. | Any exposure | .3760216 | .1513401 .9342681 | .3249319 | .1246358 .8471139 |
| | Exposure to PASMO campaign | .6671917 | .2296577 1.938297 | .4193204 | .1882794 .9338757 |
| | Exposure to internet activities | -- | -- | -- | -- |
| | Any exposure /CIP Activities | -- | -- | 1.181571 | .305597 4.56847 |
| | Received free condoms in the last twelve | 1.52642 | .5474897 4.255718 | 2.222635 | .3893723 12.68736 |
| | Has been approached by a HIV educator | .9569455 | .9060105 1.010744 | .8872224 | .6998064 1.12483 |
| Had STI symptoms | Any exposure | .3983016 | .1575245 1.007108 | .408634 | .1551473 1.076279 |
| | Exposure to PASMO campaign | .6450999 | .23389 1.7792 | .5964703 | .2262506 1.57249 |
| | Exposure to internet activities | -- | -- | -- | -- |
| | Any exposure /CIP Activities | -- | -- | .45957 | .1742992 1.211766 |
| | Received free condoms in the last twelve | 1.399861 | .526294 3.723413 | .8076699 | .2796108 2.332996 |
| | Has been approached by a HIV educator | .9978813 | .9672284 1.02950 | 1.197576 | .9873155 1.452614 |
| | | | | | |

Matched through Coarsened Exact Matching (N=247 L1=0.19966108) by:

Elementary completed vs. Other educational levels, has watched tv cable in the past 12 months, if has listened radio in the past 12 months has read printed media.

Exposure categories:

- *IPC: Exposed to informative activity, educational or communication directed by PASMO or its partners.*
- *Biomedical: took a HIV test or any other STI test under reference of PASMO or its partners.*
- *Complimentary: received any type of complimentary information for services*

POPULATION CHARACTERISTICS.

Risk Group: Men who have sex with Men (MSM) between 18 y 40 years in Belize.

| Population Characteristics. | Belize N=282 |
|---|----------------------|
| <i>Category</i> | % |
| - MSM (Not trans or MSW) | 74.5 |
| - Male Sex Workers | 22.7 |
| - Trans. | 2.8% |
| <i>Age</i> | % |
| - 18 to 24 years | 38.3 |
| - 25 to 34 years | 44.7 |
| - 35 and more. | 17.0 |
| - Age mean. | <i>Mean</i> 27.42 |
| <i>Education Level</i> | % |
| - Without studies. | 0.7 |
| - Elementary Incomplete. | 8.5 |
| - High School Incomplete | 13.8 |
| - High School complete and more. | 22.3 |
| <i>Civil Status</i> | % |
| - Single | 71.6 |
| - Free union/Married. | 16.7 |
| - Separated | 10.6 |
| - Divorced | 0.7 |
| <i>ID from this country.</i> | % |
| - Yes | 94.0 |
| - No | 6.0 |
| <i>Income 2012(en BZD)</i> | % |
| - Less than \$376 | 20.9 |
| - \$377 to \$939 | 46.1 |
| - \$940 to \$1502 | 24.1 |
| - \$1503 to \$2065 | 4.6 |
| - \$2066 to \$2629 | 2.1 |
| - \$2630 and more. | 0.4 |
| <i>Number of sons.</i> | % |
| - No sons. | 65.6 |
| - With Sons. | 34.4 |
| - Mean of sons. | 0.67 |
| <i>Number of people who depends of your income.</i> | % |
| - Nobody | 41.8 |
| - 1 to 2 persons. | 39.4 |
| - 3 a 4 persons | 14.2 |
| - 5 a 6 persons | 2.8 |
| - 7 persons and more. | 1.8 |
| - Mean of persons who depends of your income. | <i>mean</i> 1.38 |

RELIABILITY ANALYSIS

Risk group: Men who have sex with men (MSM) from 18 to 40 years in Belize 2013.

| Composed variables | (N=282) Alfa de Cronbach |
|---|-----------------------------|
| OPORTUNITY | |
| <p><i>Social Norm: Scale of MSM who supports discrimination statements (1=totally disagree, 2=disagree, 3=agree, 4=totally agree)</i></p> <ul style="list-style-type: none"> -Q21: When people find somebody is MSM usually they reject him. -Q22: Most of MSM has to hide they are MSM to avoid to be discriminated. -Q23: A MSM is not well seen by society. -Q24: In order to be respected, being a MSM must be hidden. -Q25: People feel uncomfortable being near a MSM. | 0.896 |
| <ul style="list-style-type: none"> -Q11 MSM feel proud about having several sexual partners. -Q12 MSM cannot control their own sexual impulse. -Q13 MSM do not waste a chance to have sex. -Q14 MSM need to have more than one couple -Q15 MSM they don't approve to try to reduce the number of couples. | 0.854 |
| MOTIVATION | |
| <p><i>Attitude (VCT): Scale of MSM who supports positive attitude towards HIV prevention practices 1=totally disagree, 2=disagree, 3=agree, 4=totally agree</i></p> <ul style="list-style-type: none"> -S41: Before having sex with somebody without a condom, both must do a HIV test. -S42 Is important for you to know your HIV status. -S43 You have planned to do a HIV test soon (in less than three months). -S44 Next time you have sex you will use condom definitely. | 0.851 |