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OHIO UNIVERSITY
Heritage College of Osteopathic Medicine

Actualizacion de Investigacion: hallazgos del trabajo en curso sobre conocimiento y stigma sobre el VIH en Quito y Cariamanga

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Background

- HIV/AIDS is a generalized epidemic in Ecuador.[1,2]
- AIDS mortality rate remained stable between 2005 and 2010 HIV/AIDS incidence increased 3.4-fold.[2]
- In 2012 the prevalence of people living with HIV was assessed to be 0.6% of adults ages 15-49.[3]
- With the rising incidence of HIV in Ecuador, more effective public health interventions are necessary.
- Research suggests interventions can be used to decrease stigma, but the efficacy of these programs is dependent on community-specific dynamics.[4,5]

Timeline

- **2017** – Pilot HIV Knowledge Assessment in Cariamanga with 3 Focus Groups

- **2018** – Data Collection Quito and Cariamanga
  - HIV Knowledge Assessment
  - HIV Stigma Assessment

- **2019** – Community Intervention in Cariamanga

PHASE 1.

ASSESSMENT OF HIV KNOWLEDGE AND STIGMA – QUITO AND CARIAMANGA (2018)

Methods

Study Design

- Cross-sectional survey-based in Quito and Cariamanga
- Data collected via convenience sampling in public spaces (C=7 sites, Q=6 sites)

Survey

- Demographic Questions (5 questions)
- HIV Knowledge Assessment (18 questions)
- HIV Stigma Scale (14 questions)
- Public Perception & Intervention Strategies (5 questions)

Demographics

	Cariamanga	Quito
	N (%)	N (%)
Gender Distribution		
Men	94 (49)	95 (49)
Women	98 (51)	99 (51)
Age Distribution		
18-24	27 (14)	69 (36)
25-34	37 (19)	59 (30)
35-44	40 (21)	28 (14)
45-54	46 (24)	24 (12)
55-64	17 (9)	7 (4)
65+	10 (5)	2 (1)

Demographics

	Cariamanga	Quito
	N (%)	N (%)
Civil Status		
Married	91 (47)	48 (25)
Divorced	10 (5)	17 (9)
Single	75 (39)	103 (53)
Single with partner	10 (5)	21 (11)
Widow/Widower	6 (3)	3 (2)
Education Level		
Primary	51 (26)	4 (4)
Secondary	74 (39)	95 (47)
University	54 (28)	81 (42)
Graduate/Professional	6 (3)	12 (6)
Pregnancy Status		
Pregnant	6 (3)	2 (1)

HIV Knowledge Assessment

	Cariamanga (N=192)	Quito (N=194)
	Correct	Correct
Coughing and sneezing do not spread HIV (T)	47%	54%
A person can get HIV by sharing a glass of water with someone who has HIV (F)	67%	87%
Pulling out the penis before a man climaxes/cums keeps a woman from getting HIV (F)	67%	83%
A woman can get HIV if she has anal sex with a man (T)	78%	76%
Showering, or washing one's genitals/private parts, after sex keeps a person from getting HIV (F)	76%	88%
All pregnant women infected with HIV will have babies born with AIDS (F)	24%	45%
People who have been infected with HIV quickly show serious signs of being infected (F)	70%	80%
There is a vaccine that can stop adults from getting HIV (F)	60%	73%
People are likely to get HIV by deep kissing, putting their tongue in their partner's mouth, if their partner has HIV (F)	44%	64%

Note: Correct answer is displayed in parenthesis after question (T=True, F=False)
All responses have 7.0% MOE, 95% CI. Average response rate: C=98%, Q=99%.

HIV Knowledge Assessment

	Cariamanga (N=192)	Quito (N=194)
	Correct	Correct
A woman cannot get HIV if she has sex during her period (F)	69%	80%
There is a female condom that can help decrease a woman's chance of getting HIV (T)	59%	52%
A natural skin condom works better against HIV than does a latex condom (F)	27%	30%
A person will not get HIV is she or he is taking antibiotics (F)	75%	84%
Having sex with more than one partner can increase a person's chance of being infected with HIV (T)	95%	96%
Taking a test for HIV one week after having sex will tell a person if she or he has HIV (F)	33%	35%
A person can get HIV by sitting in a hot tub or a swimming pool with a person who has HIV (F)	67%	70%
A person can get HIV from oral sex (T)	52%	55%
Using Vaseline or baby oil with condoms lowers the chance of getting HIV (F)	66%	74%

Note: Correct answer is displayed in parenthesis after question (T=True, F=False)
All responses have 7.0% MOE, 95% CI. Average response rate: C=98%, Q=99%.

HIV Stigma Scale

	Cariamanga (N=192)	Quito (N=194)
	Agree*	Agree*
Support for coercive policies		
People living with HIV/AIDS should be legally separated from others to protect the public health	30%	7%
The names of people with HIV/AIDS should be made public so that others can avoid them	41%	17%
Women who are pregnant should be required to get tested for HIV in order to protect the health of their baby	97%	89%
Negative feelings towards people living with HIV/AIDS		
Anger	9%	7%
Fear	41%	23%
Disgust	15%	4%

**Percent responding "somewhat agree" or "strongly agree"*

Note: All responses have 7.0% MOE, 95% CI. Average response rate: C=95%, Q=98%.

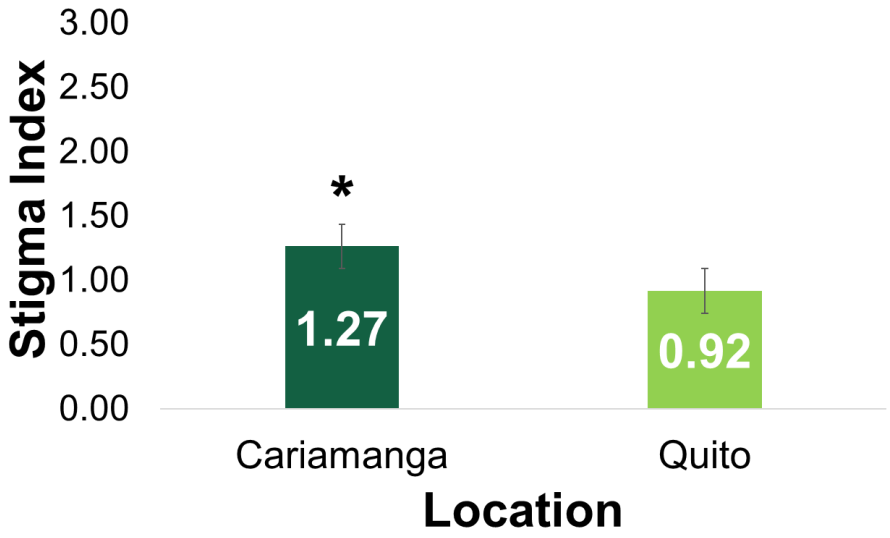
HIV Stigma Scale

	Cariamanga (N=192)	Quito (N=194)
	Agree*	Agree*
Responsibility and blame		
People who got HIV/AIDS through sex or drugs use have gotten what they deserve	77%	56%
Most people living with HIV/AIDS don't care if they infect others with the virus	58%	41%
Most people living with HIV/AIDS are responsible for having their disease	57%	39%
Discomfort		
Child attending school	42%	21%
Office co-worker	36%	19%
Neighborhood grocer	45%	18%
Doctor	44%	28%
Sympathy		
I feel sympathetic towards individuals living with HIV/AIDS	76%	62%

** Percent responding "somewhat agree" or "strongly agree"*

Note: All responses have 7.0% MOE, 95% CI. Average response rate: C=95%, Q=98%.

HIV Stigma and HIV Knowledge



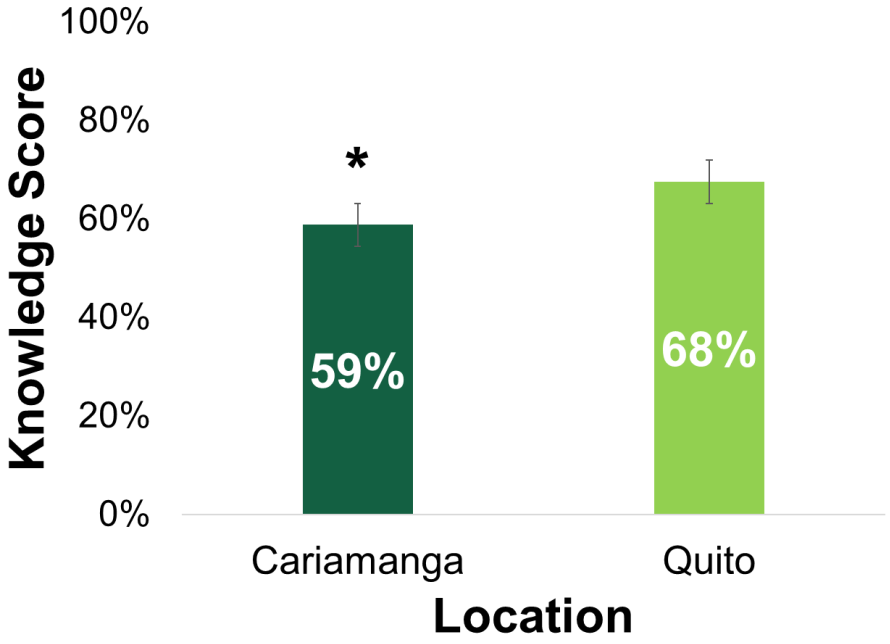


Figure 1. Stigma index by region. Values range from 0 (low stigma) to 3 (high stigma). Error bars denote one SEM. Asterisk denotes significant difference ($t_{(384)}$=4.56, p<0.001, d=0.717).

Figure 2. Knowledge score by region. Error bars denote one SEM. Asterisk denotes significant difference ($t_{(384)}$=4.56, p<0.001, d=0.464).

Potential Intervention Strategies to Increase Knowledge & Awareness

Table 1. Top five identified intervention strategies by region (10 options available). Percent includes all surveys collected (C=192, Q=194).

Cariamanga		
Rank	**Strategy**	**Percent**
1	Free community class	88%
2	Sexual education in schools	86%
3	Media campaign	85%
4	Local health campaign	82%
5	Posters or pamphlets	74%

Quito		
Rank	**Strategy**	**Percent**
1	Sexual education in schools	85%
1	Media campaign	85%
3	Free community class	75%
4	Government health campaign	66%
5	Local public health campaign	61%

PHASE 2.

INTERVENTION TO INCREASE HIV KNOWLEDGE AND DECREASE STIGMA –CARIAMANGA (2019)

Objectives

- **Measure difference** in HIV knowledge between intervention and comparison group
- **Measure difference** in HIV stigma between intervention and comparison group
- **Determine efficacy** of intervention in increasing HIV knowledge and decreasing HIV stigma

Methods – Study Design

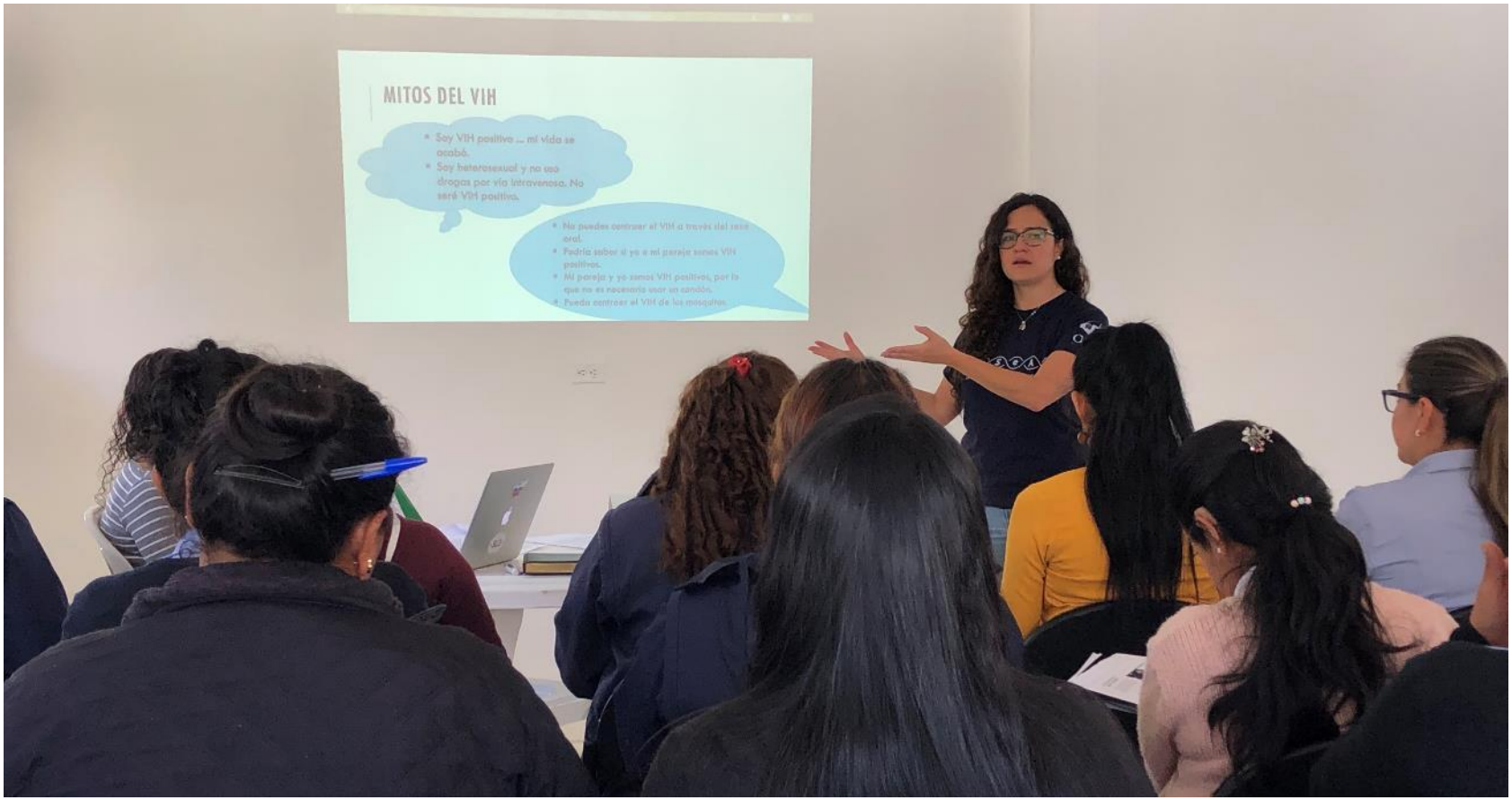
- **Cross-sectional post-test comparison group**
- Two groups (intervention and comparison) according to gender, age, relationship status, education level, and pregnancy status.
- Five sessions were offered over one week in June 2019
- Data collected from convenience sample of the community of Cariamanga, Ecuador
- Summer 2019

Methods - Recruitment

- Flyers
- Radio
- Local Television
- Military Academy
- Vocational School
- MIES

Methods - Intervention

1. **Didactic presentation** addressing key points of the knowledge questionnaire involving transmission and prevention of HIV (*30 minutes*) using a script



Methods - Intervention

2. Two video narratives of people (women) living with HIV (*20 minutes*)

Methods - Intervention

3. Structured discussion about life stories of women in videos (30-45 minutes)

Methods - Assessment

Intervention Group (Post intervention)

1. HIV Knowledge Assessment
2. HIV Stigma Scale
3. Qualitative feedback from participants

Comparison Group (no intervention)

1. HIV Knowledge Assessment
2. HIV Stigma Scale

Demographics 2019

	N (%)		N (%)
Gender Distribution		**Education Level**	
Men	69 (52)	Incomplete Primary	2 (2)
Women	61 (46)	Complete Primary	14 (11)
Age Distribution		Complete Secondary	55 (42)
18-34	59 (47)	Additional Education	60 (46)
35-54	66 (53)	**Pregnancy Status**	
55+	0 (0)	Pregnant	0 (0)
Relationship Status		Not pregnant	62 (100)
In relationship	106 (82)		
Not in relationship	23 (18)		

Knowledge Assessment Results (2019)

	Intervention (N=64)	Comparison (N=69)
	Correct	Correct
Coughing and sneezing do not spread HIV (T).	42%	14%
A person can get HIV by sharing a glass of water with someone who has HIV (F).	99%	62%
Pulling out the penis before a man climaxes/cums keeps a woman from getting HIV (F).	65%	33%
A woman can get HIV if she has anal sex with a man (T).	86%	55%
Showering, or washing one's genitals/private parts, after sex keeps a person from getting HIV (F).	71%	54%
All pregnant women infected with HIV will have babies born with AIDS (F).	65%	17%
People who have been infected with HIV quickly show serious signs of being infected (F).	90%	46%
There is a vaccine that can stop adults from getting HIV (F).	81%	51%
People are likely to get HIV by deep kissing, putting their tongue in their partner's mouth, if their partner has HIV (F).	81%	32%

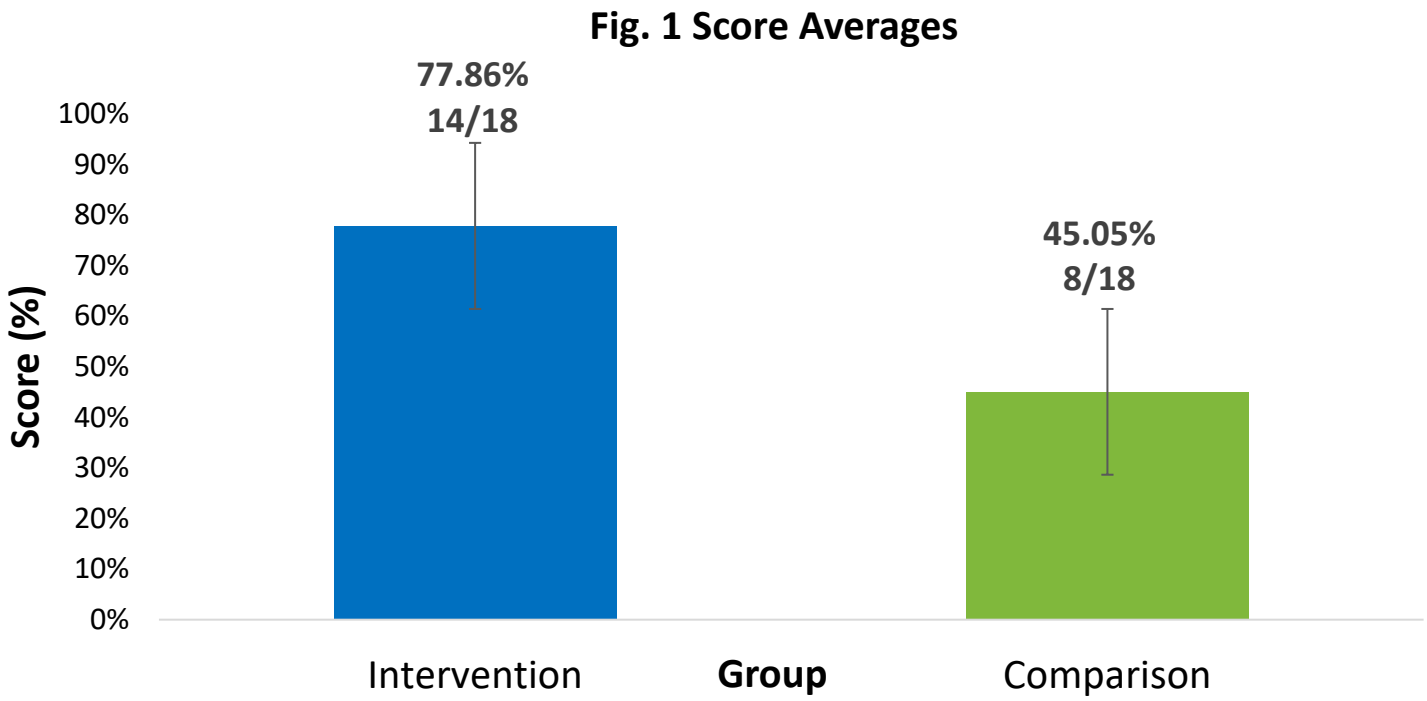
Note: Correct answer is displayed in parenthesis after question (T=True, F=False)
All responses have 7.0% MOE, 95% CI.

Knowledge Assessment Results (2019)

	Intervention (N=69)	Comparison (N=64)
	Correct	Correct
A woman cannot get HIV if she has sex during her period (F).	62%	45%
There is a female condom that can help decrease a woman's chance of getting HIV (T).	87%	52%
A natural skin condom works better against HIV than does a latex condom (F).	59%	19%
A person will not get HIV is she or he is taking antibiotics (F).	83%	51%
Having sex with more than one partner can increase a person's chance of being infected with HIV (T).	99%	81%
Taking a test for HIV one week after having sex will tell a person if she or he has HIV (F).	70%	7%
A person can get HIV by sitting in a hot tub or a swimming pool with a person who has HIV (F).	97%	51%
A person can get HIV from oral sex (T).	78%	43%
Using Vaseline or baby oil with condoms lowers the chance of getting HIV (F).	87%	38%

Note: Correct answer is displayed in parenthesis after question (T=True, F=False)
All responses have 7.0% MOE, 95% CI.

Results - Knowledge Assessment (2019)



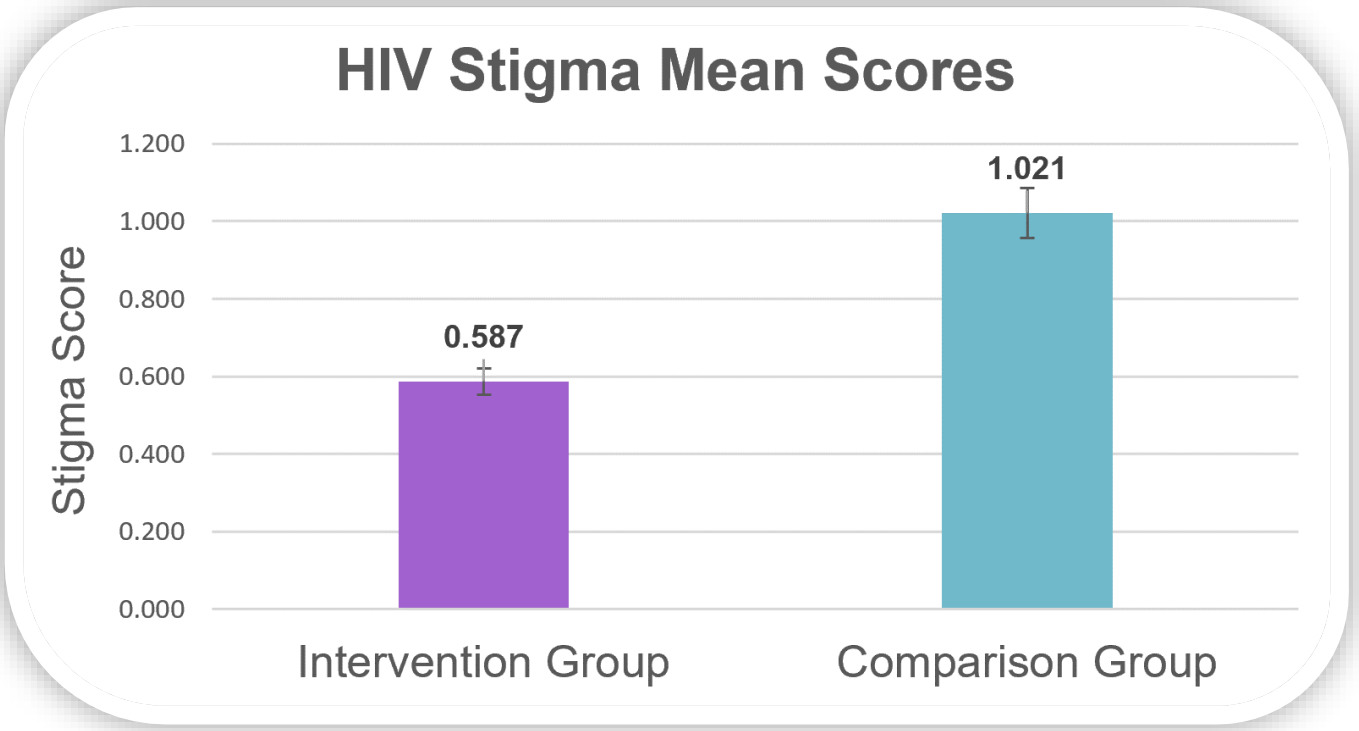
Participants who received the intervention had significantly higher HIV Knowledge scores than participants that did not receive the intervention ($p<0.001$).

Results - Stigma Assessment (2019)

Responses to the HIV Stigma Scale	Comparison % Agree n= 64	Intervention % Agree n= 69
Sympathy		
1. I feel sympathy towards PLWHA	37%	29%
Negative Feelings towards PLWHA		
2. I feel angry toward PLWHA	4%	0%
3. I feel afraid of PLWHA	21%	11%
4. I feel disgusted by PLWHA	8%	1%
Support for coercive policies		
5. PLWHA should be legally separated from others	25%	2%
6. The names of PLWHA should be made public	22%	15%
7. Women who are pregnant should be required to get tested for HIV in order to protect their unborn baby	58%	63%
Responsibility and blame		
8. Most PLWHA don't care if they infect others with the virus	38%	21%
9. Most PLWHA are responsible for having their disease	34%	29%
10. People who got HIV through sex/drug use got what they deserve	34%	29%
Discomfort		
11. I would be uncomfortable if my child attended school with a PLWHA	24%	9%
12. I would be uncomfortable working in an office with a PLWHA	15%	7%
13. I would be uncomfortable shopping at a grocery store with a PLWHA	15%	8%
14. I would be uncomfortable going to a doctor who was a PLWHA	25%	7%

Table 1. Percent of responses that were strongly agree or somewhat agree per question on the stigma survey. There were errors on questions 10 and 13 of the Spanish version. Highlighted questions showed a statistically significant difference between the groups ($p<0.05$). Question 10 had 33.1% missing responses, and question 13 had 19.5% missing responses.

Results - Stigma Assessment (2019)



Participants who received the intervention had significantly lower HIV stigma scores than participants that did not receive the intervention ($p<0.001$).

Conclusions

- Those who participated in the intervention scored significantly higher in HIV Knowledge than those who did not
- Those who participated in the intervention scored significantly lower in HIV Stigma than those who did not
- Age, relationship status, education level, or pregnancy status did not impact results.
- Effective and replicable
- Cost-effective
- Low training needs (script)

Qualitative Feedback

- "...what I liked about this workshop was that I learned so much... They left me with an education that is self-respect and respect for all people."
- "This workshop clarified certain myths, thus avoiding transmission of false hypotheses of HIV".
- "People with AIDS are human beings that no one should exclude. They should follow their treatment like any other person living with a chronic disease."

Program Evaluation

- A systematic way of evaluating a program based on the inputs, activities, outputs, and outcomes of the program
- We specifically evaluated:
  - Whether the intervention was carried out as intended
  - Efficiency
  - Cost-effectiveness
  - Overall effectiveness of achieving short-term goals
  - Whether the results can be attributed to the intervention itself
- The goal is to provide feedback, recommendations, and aid in developing future community-based health interventions in Ecuador

Program Evaluation - Methods

- Participant Workshop Evaluations
- Facilitator Workshop Evaluations
- Facilitator Observational Analysis performed only by program evaluators
- Document Analyses
- Facilitator & Administrator Audio-Recorded Interviews

Qualitative Feedback From Participants

- When asked what participants liked:
  - 57% included responses mentioning learning about the virus/prevention
  - 33% included responses regarding learning about PLWHA
  - 33% included responses regarding the tone/way in which the presenters presented
  - 30% included responses that included changing their attitude/disposition towards the subject

Qualitative Feedback From Participants

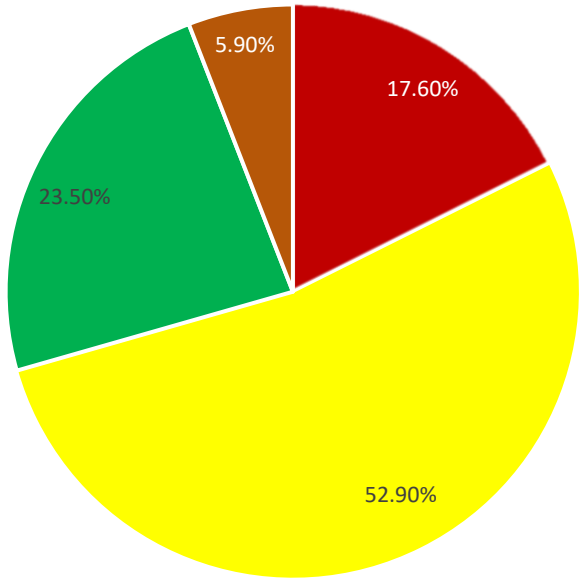
- "...what I liked about this workshop was that I learned so much... They left me with an education that is self-respect and respect for all people."
- "This workshop clarified certain myths, thus avoiding transmission of false hypotheses of HIV".
- "People with AIDS are human beings that no one should exclude. They should follow their treatment like any other person living with a chronic disease."

Workshop Participant Satisfaction

- 100% satisfied to very satisfied.

Feedback From Facilitators

I felt prepared for the workshop



Out of the questions asked to facilitators after each intervention, this proved to be the area needing the most improvement.

Program Evaluation – Preliminary Conclusions

- This community-based HIV/AIDS intervention was:
  - **Effective** on a short-term impact scale
    - decreased HIV/AIDS stigma
    - Increased HIV/AIDS knowledge
  - **Efficient**
    - ranged from 1hr25mins to 2hrs20mins with some participants asking for more content in their responses – none said it was too long
  - **Cost-effective**
    - $0.28/person without food
    - $2.50/person with food
  - Did deviate some from what was intended initially, but after the point a script was made it was consistent
  - Whether any outliers could effect data are still currently being considered

Thank you