The Learning Agenda Treatment Acceleration Program (TAP) for AIDS in Ghana

A collaboration between the Ghana Health Service and the World Bank

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Overview of HIV and AIDS in Ghana

- In 2007, the estimated adult national HIV prevalence was 1.9%,
  - range around the estimate 1.7% to 2.2%.
- Estimated 264,481 persons Living with HIV and AIDS
  - 110,666 males
  - 153,815 females
- Urban HIV prevalence is estimated at 2.25% and rural at 1.66%
- 4 ART sites in 2004 to 114 sites in Sept 2008

Objectives

- Scale up Anti-Retroviral Treatment (ART).
- Learn from documented experiences to enable improvement in delivery of ART in Ghana.

Research Questions

1. What is the full socio-economic benefit of treatment for the patient and his family?
2. What is the impact of treatment availability on prevention in HIV positive and negative people?
3. How can adherence be improved?
4. How are ART beneficiaries identified? (How to encourage timely ART uptake)
5. How can the quality of HIV/AIDS service delivery be assured?

Research Methods

- A longitudinal HH survey (3 phases)
  - Apr-Sept 07, Oct 07- Mar 08, Apr-Sept 08
  - 780 HHs of PLHA
  - 386 neighboring HHs as controls
  - Biomedical data of PLHA
- Institutional survey- 20 health facilities delivering ART
- General population survey
  - Questions on perception of ART
  - Ghana Behavioral Surveillance Survey (BSS 2006)

Preliminary Results

1. HH Mortality
2. Quality of Life
3. Risky Sexual Behavior and HIV/AIDS Knowledge

Household Mortality

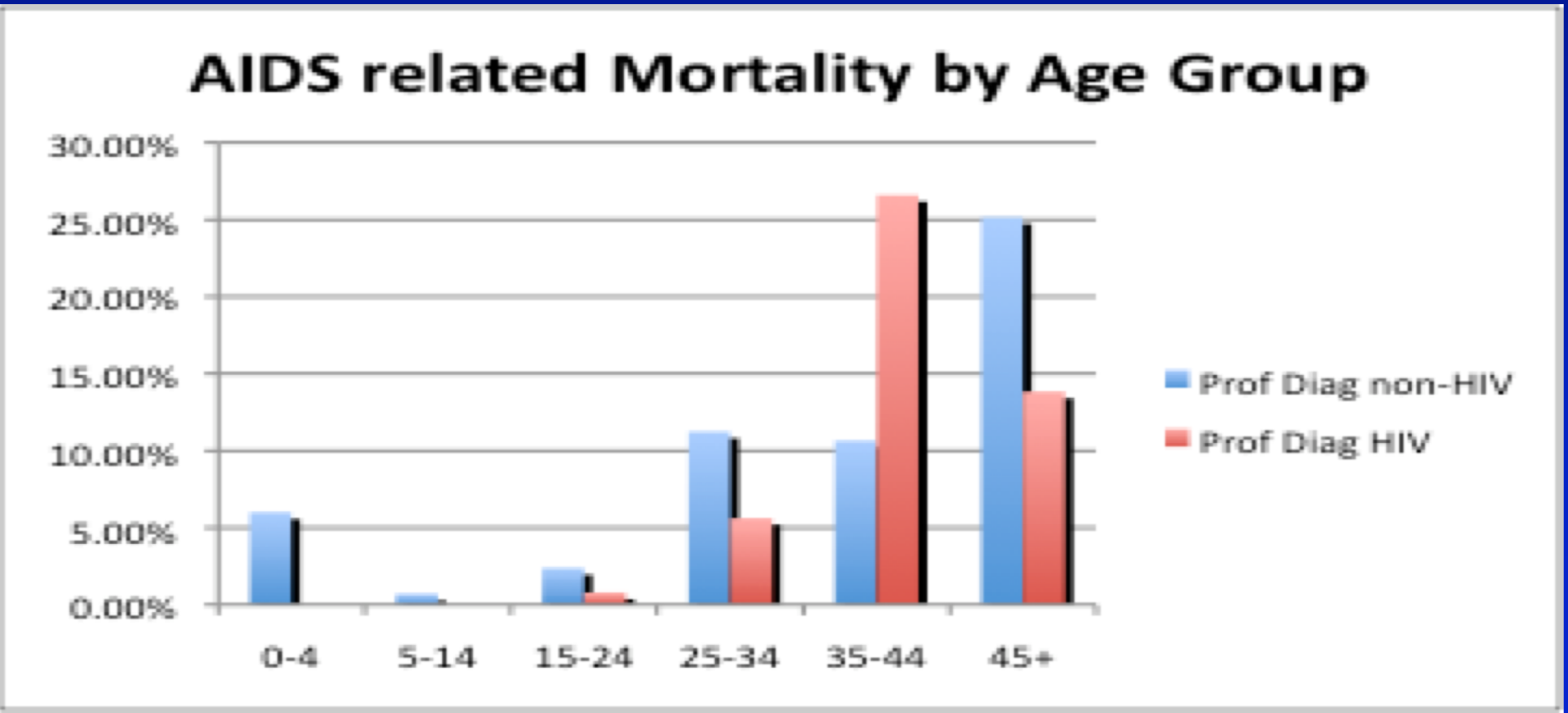
- Examine trends in mortality from 2002-2007
- Impact of AIDS-related vs non-AIDS related deaths on economic outcomes for the HH
- Demographic trends among AIDS-related deaths
- Differences in impact of AIDS-related deaths on HHs by
  - Gender of deceased
  - Marital status of deceased
  - Position in HH of deceased

Household Mortality

- 230 deaths in 189 HHs in 5 yrs
  - 193 died illnesses
  - 7 died of traffic accidents & injuries
  - 159 diagnosed by a health professional
  - 56 diagnosed as HIV/AIDS related

Mortality by Age: Professional Diagnosis

- Children are not brought for HIV testing or diagnosis - same is seen in Mozambique and Rwanda
- Higher non-AIDS mortality at later age groups



AIDS related vs non-AIDS related Adult deaths

- AIDS related death
  - Death occurred at younger age
  - HH more likely to sell assets to pay for medical expenses
  - HH more likely to receive contributions from friends

Variable	AIDS related Death	non-AIDS related Death	t-test
Age at death	41.849	47.033	1.78
Sell Assets to pay for medical exp	34.55%	14.49%	-2.59
Received Contributions to pay for medical expenses	37.50%	17.14%	-2.56

Household Mortality

- AIDS related death
  - HH more likely to have income generating activities affected
  - HH less likely to have children or relatives stay at HH for extended period (Measure: personal diagnosis)
  - HH more likely to lose assets or land

Variable	AIDS related Death	non-AIDS related Death	t-test
Income generating activities affected	73.21%	44.29%	-3.42
Relatives stayed for extended period	25.00%	47.87%	2.87
Lose assets	10.91%	2.86%	-1.72

AIDS related Adult deaths

Variable	Female AIDS Death	Male AIDS Death	t-test
Age at death	36.529	44.051	3.256
Attended School	52.63%	80.00%	2.043
Married	47.06%	90.00%	3.212
Sell Assets to pay for medical exp	36.84%	30.77%	-0.446
Income generating activities affected	47.37%	82.50%	2.652
Lose assets	0.00%	15.00%	2.623

AIDS related Adult deaths

- Deceased Females were
  - Less likely to have attended school
  - Less likely to be married
  - More likely to be younger

- If deceased was Male
  - HH more likely to lose assets or land
  - HH more likely to have income generating activities affected

- No gender differences in likelihood HH had to sell assets to pay for medical expenses

AIDS related Adult deaths

Variable	Married AIDS Death	Not Married AIDS Death	t-test
Received Contrbutions to pay for medical expenses	43.18%	15.38%	-2.161
Income generating activities affected	81.82%	38.46%	-2.848

Household Mortality

- If the deceased was married
  - HH more likely to have income generating activities affected
  - HH more likely to receive contributions from friends or relatives to pay for medical expenses
- If death occurred in the last 12 months
  - HH more likely to have income generating activities affected

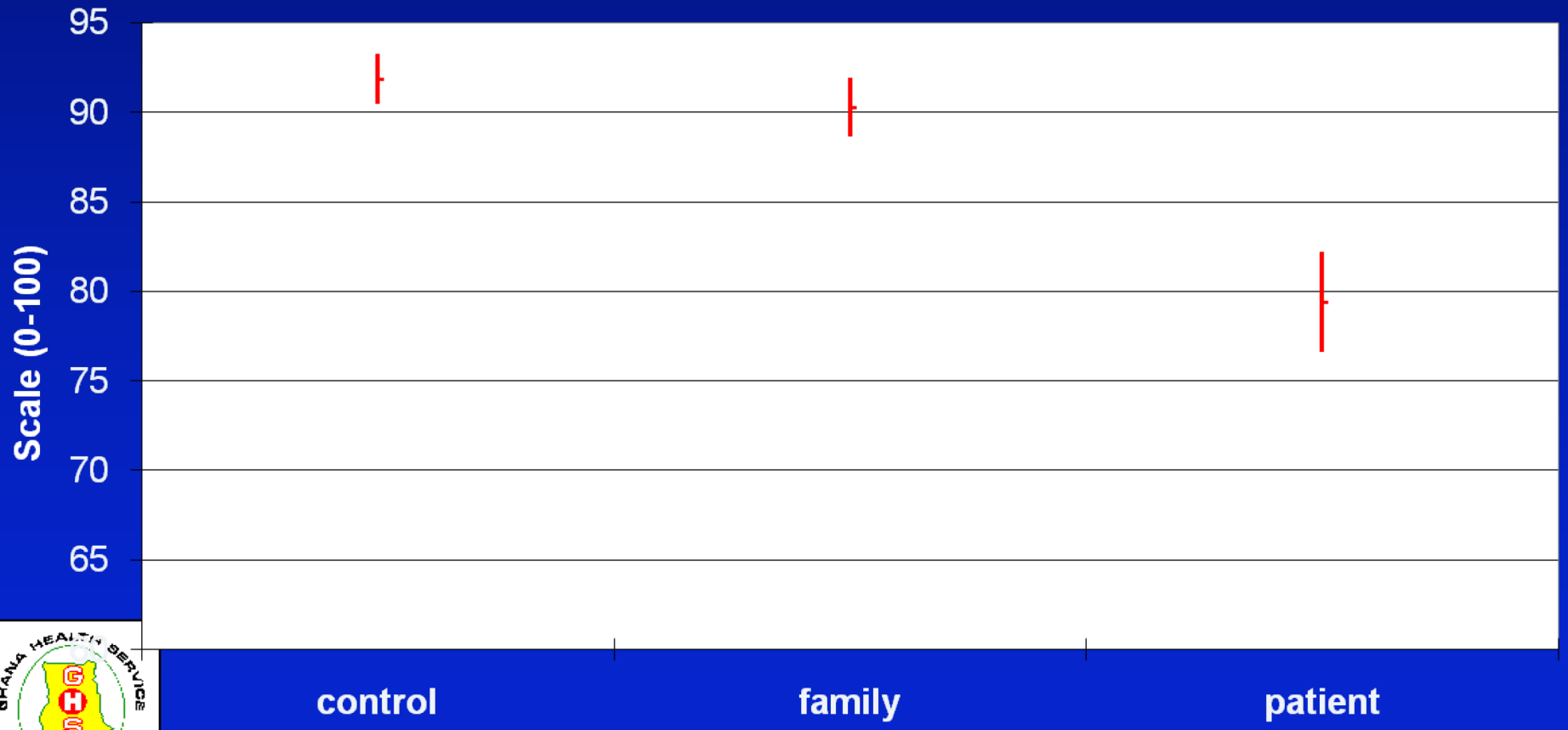
Quality of Life

Comparing the physical and mental health of patients on ARV, their family members and the general population ("control")

- Using composite indices of physical and mental health for 3 measures of physical health and mental health
- By comparing means (graph with 95% CI)

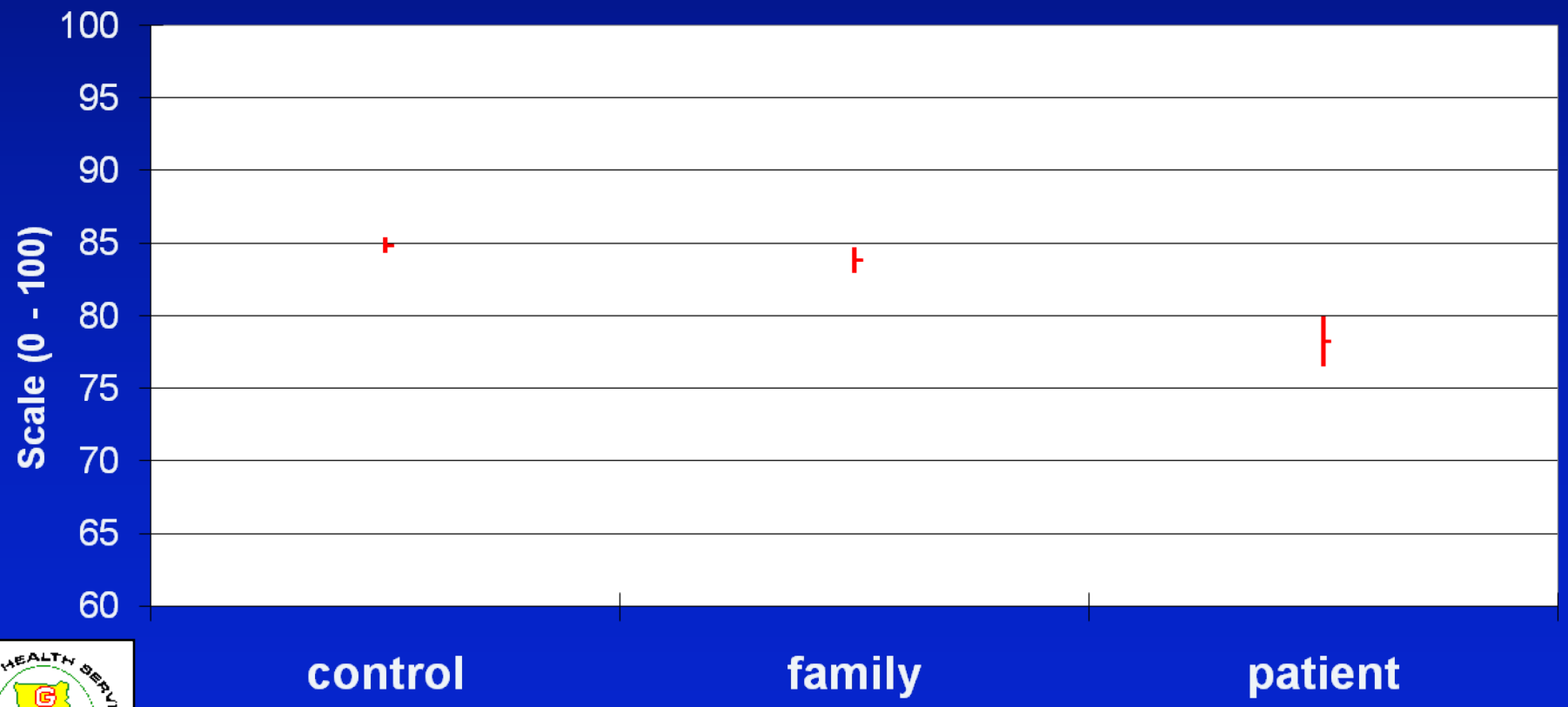
Quality of Life

Physical functioning (100 = optimal health) (Means with 95% confidence intervals)



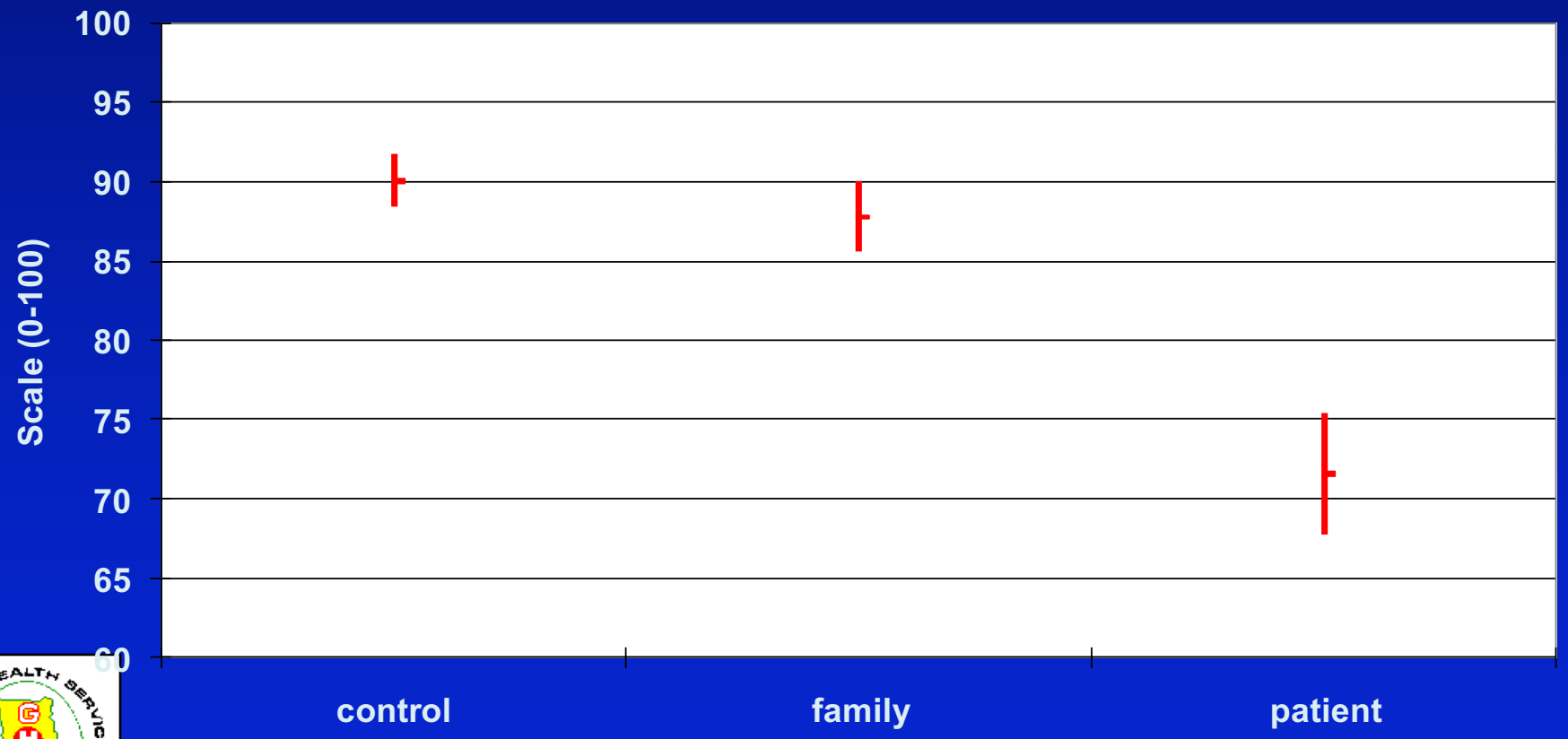
Quality of Life

Effects of Pain (100 = optimal)
(Means with 95% confidence intervals)



Quality of Life

Role limitations due to physical health (100 = optimal) (Means with 95% confidence intervals)



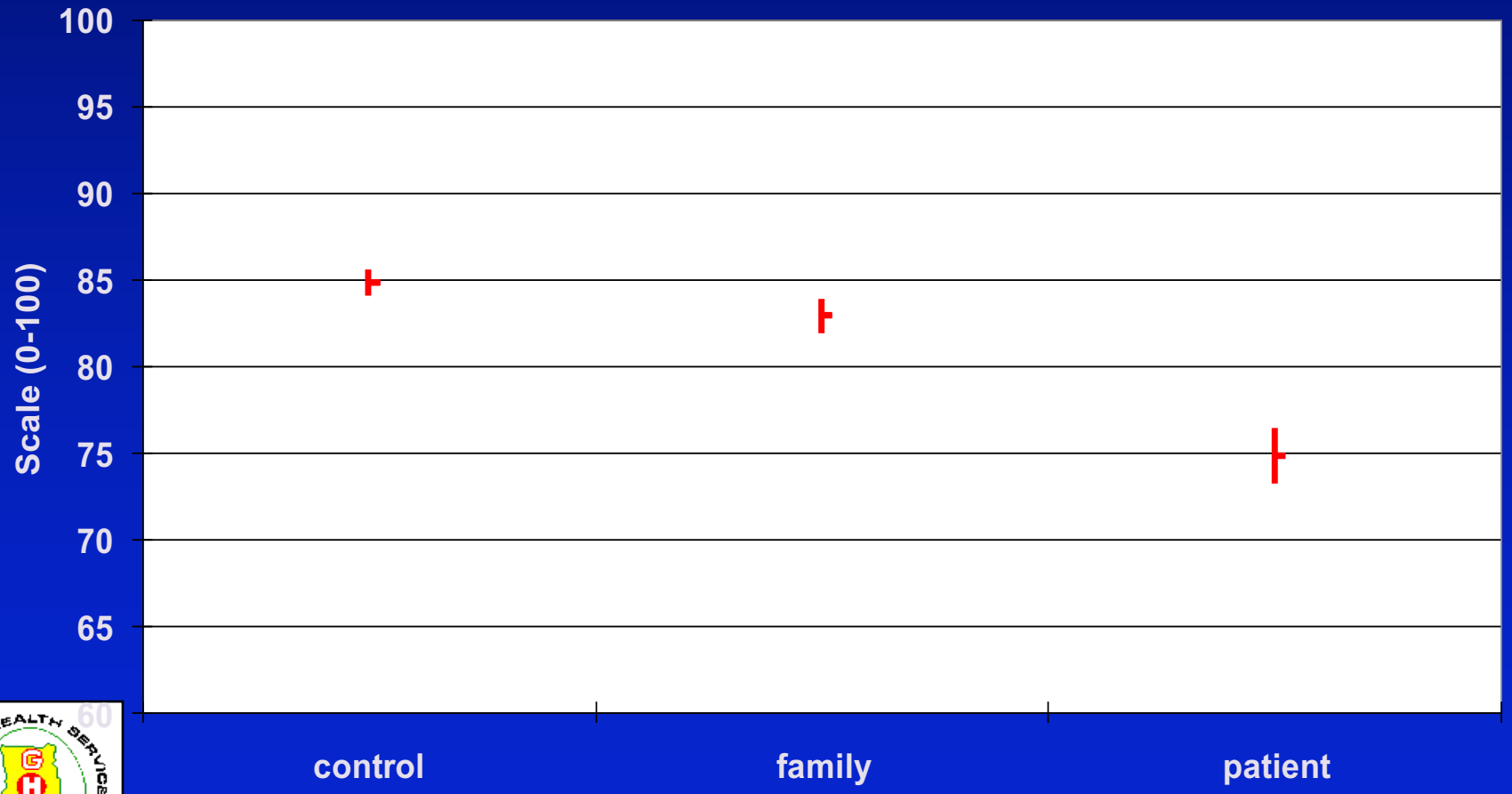
Quality of Life

Conclusions physical health:

- Persons living with HIV/AIDS have a significantly lower health status, compared to the members of the control HHs
- To a lesser degree, this is also true for the family members of HIV/AIDS patients.
- Not very surprising at baseline survey, but important to measure

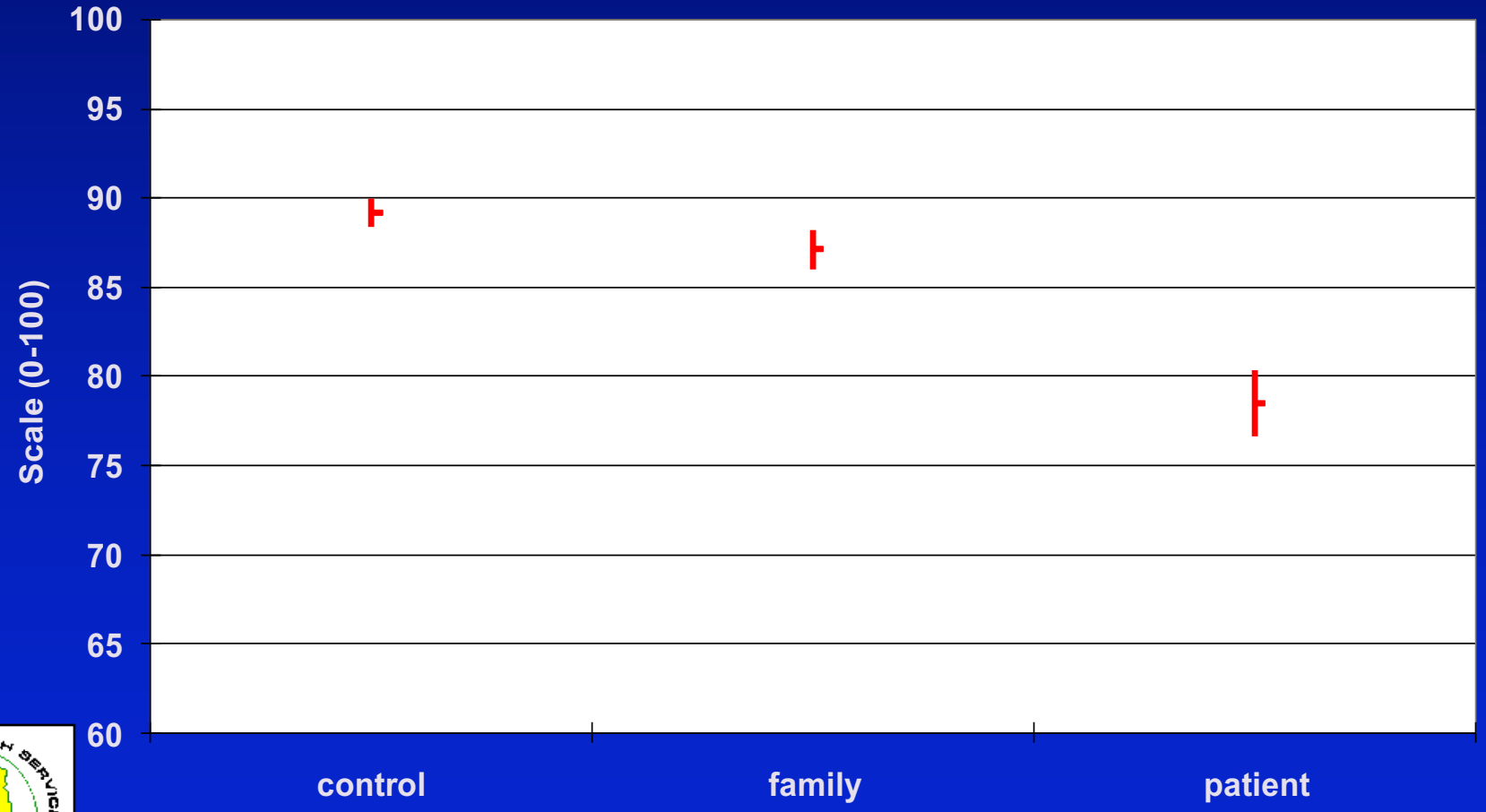
Quality of Life

Mental health Index I (100 = optimal)
(Means with 95% confidence intervals)



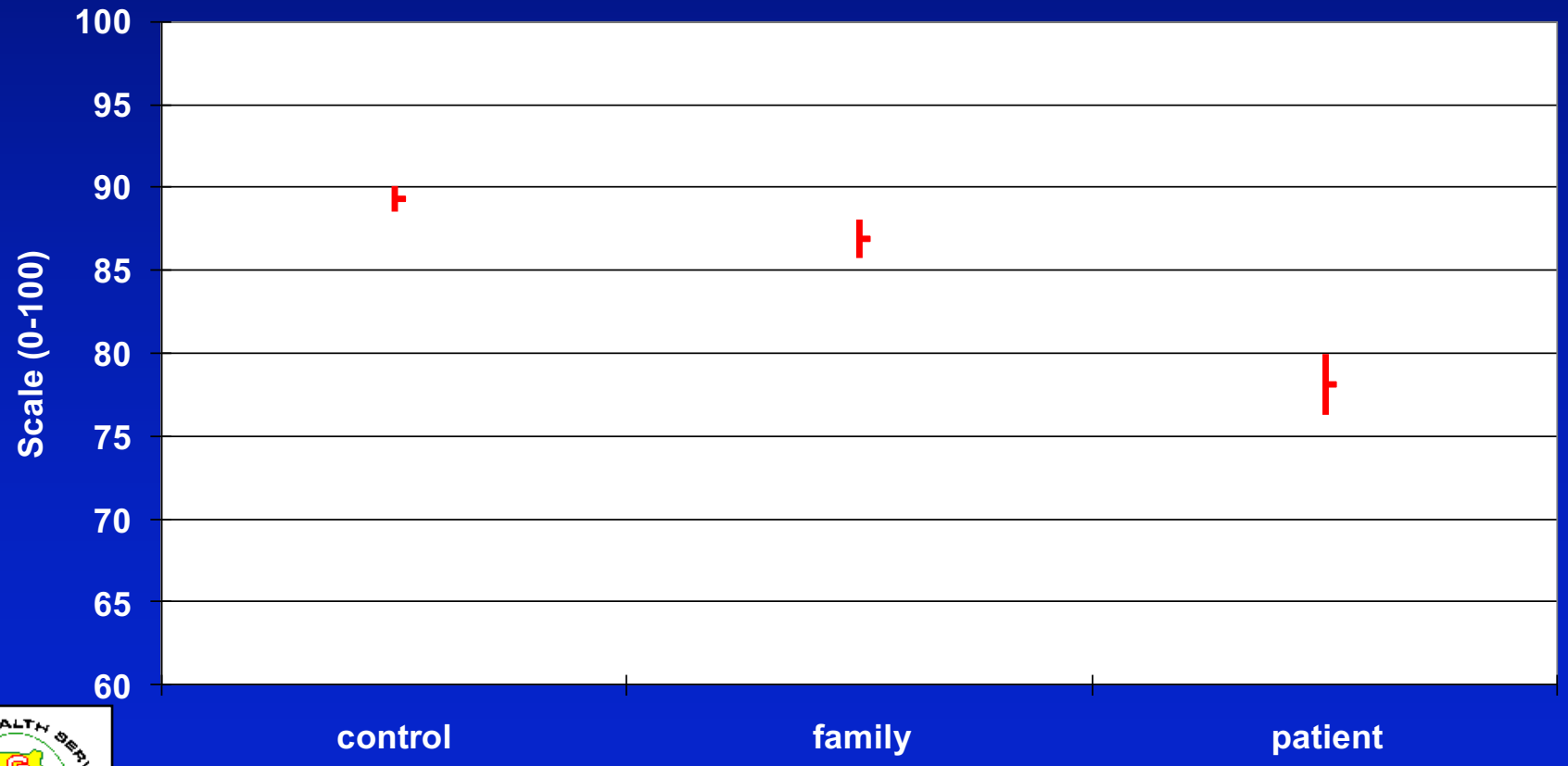
Quality of Life

Psychological distress (100 = optimal)
(Means with 95% confidence intervals)



Quality of Life

Depression/Behavioral & emotional control (100 = optimal)
(Means with 95% confidence intervals)



Quality of Life

Conclusions mental health:

- HIV/AIDS patients have a significantly lower health status, compared to the members of the control HHs and other members of their own HHs.
- To a lesser degree, but significantly so, this is also true for the family members of HIV/AIDS patients.
- Suggests that AIDS affects mental health of the patients, but also of their family members.

Quality of Life: Conclusions

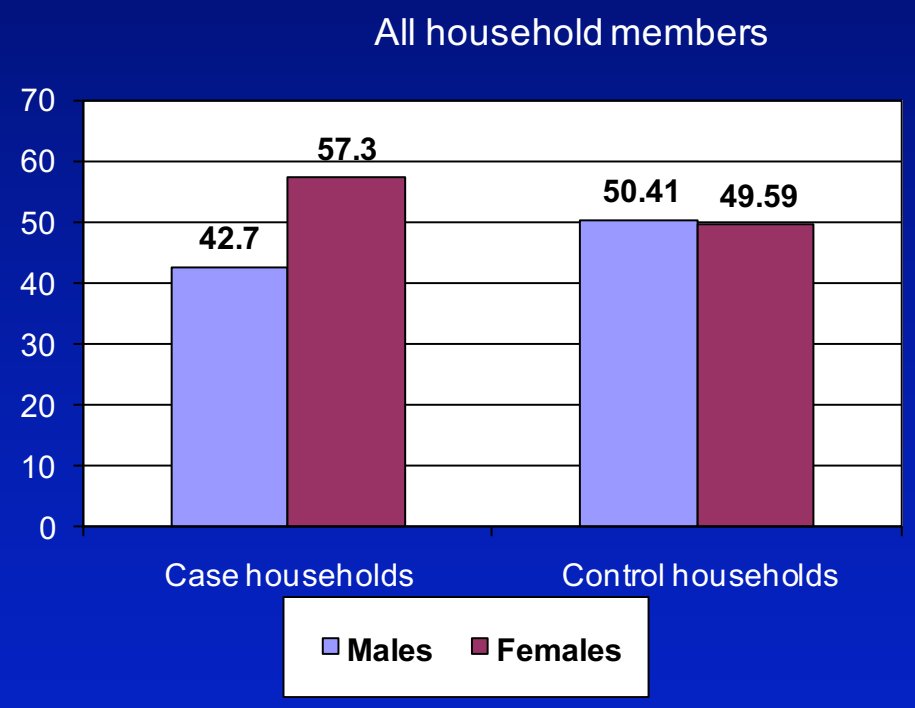
- With physical health measures, patients are doing worse than family members and control, who have similar outcomes
- With mental health measures, patients are doing worse than the 2 other groups, but family members are doing worse than controls.
- Suggests that AIDS affects mental health of the patients, but also of their family members.

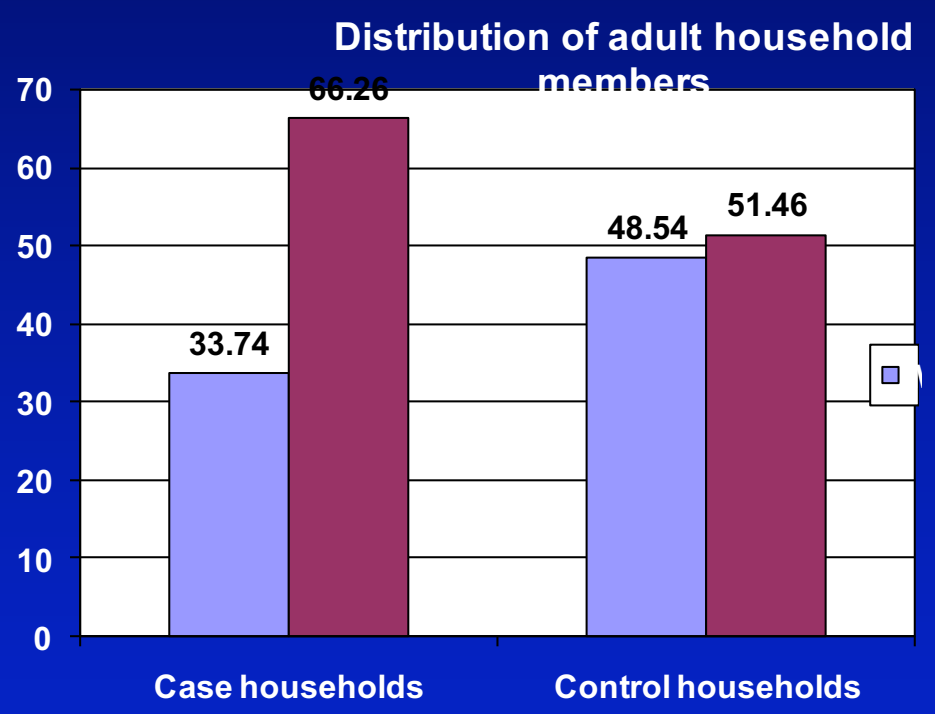
Risky Sexual Behavior and HIV/AIDS Knowledge

Question: How does knowledge of HIV/AIDS influence sexual behavior?

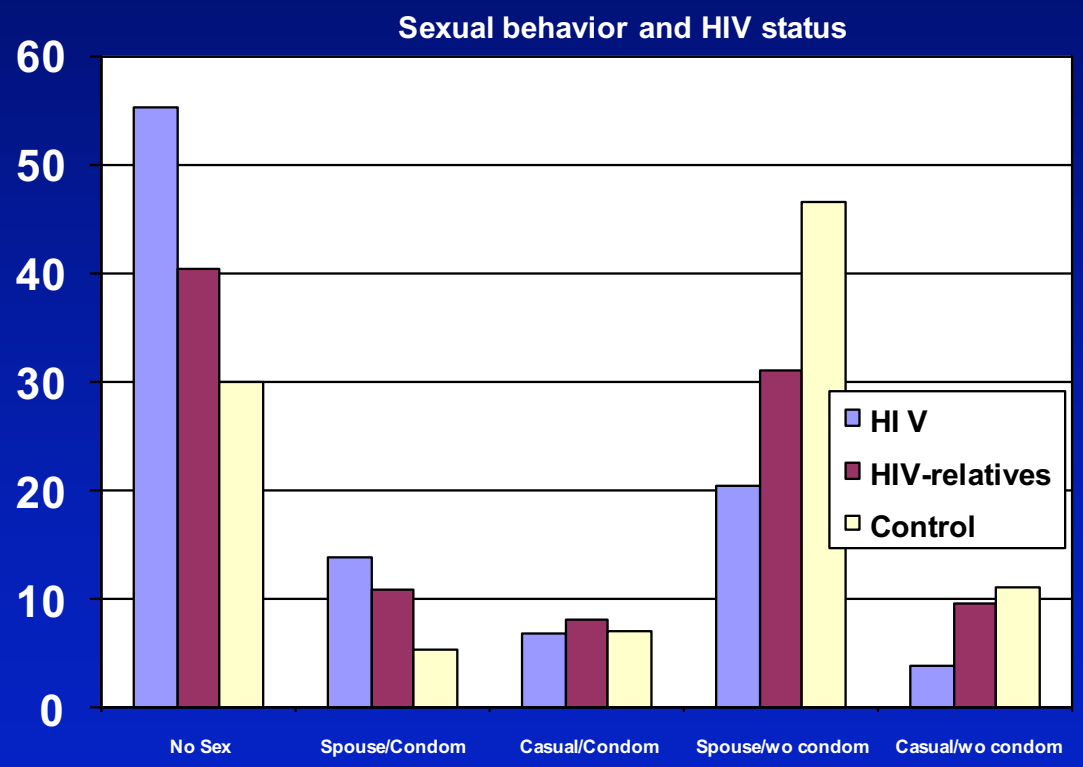
- Hypotheses:
  - More knowledge of HIV/AIDS & access to treatment encourages testing and early detection
  - Individuals adopt safer sexual behavior when they know they are sero-negative

Risky Sexual Behavior and HIV/AIDS Knowledge





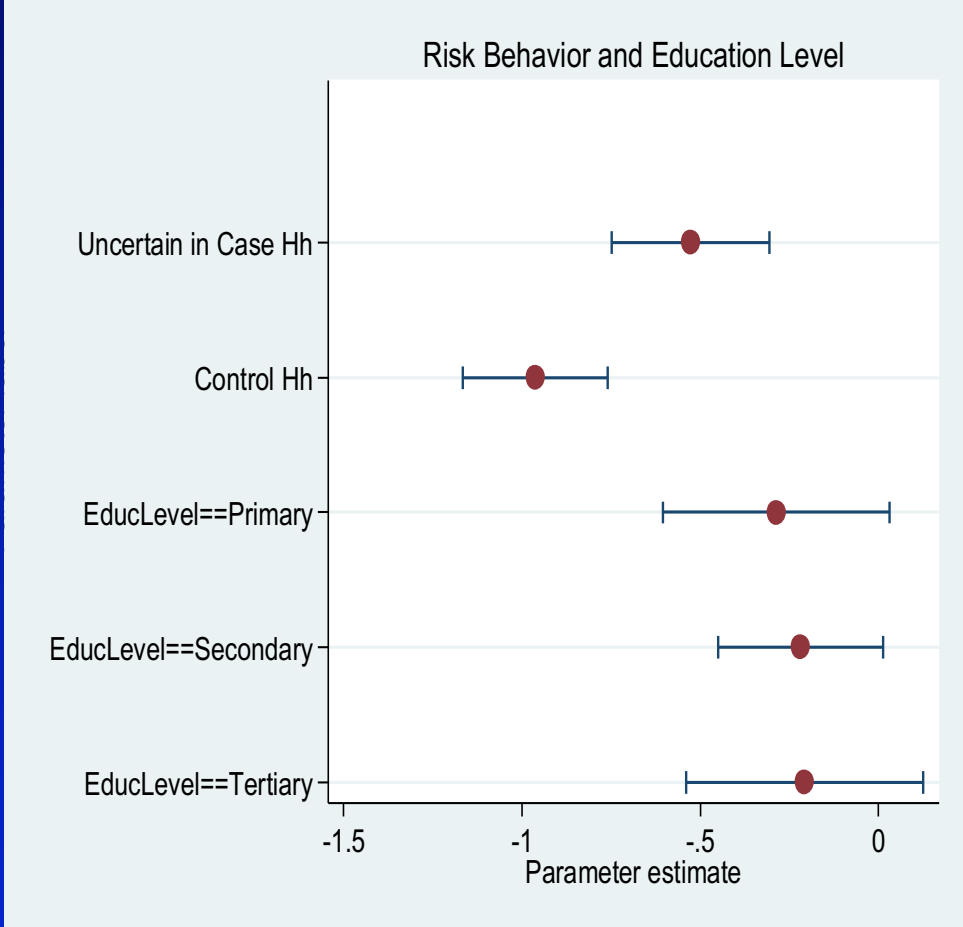
Risky Sexual Behavior and HIV/AIDS Knowledge



Sexual behavior

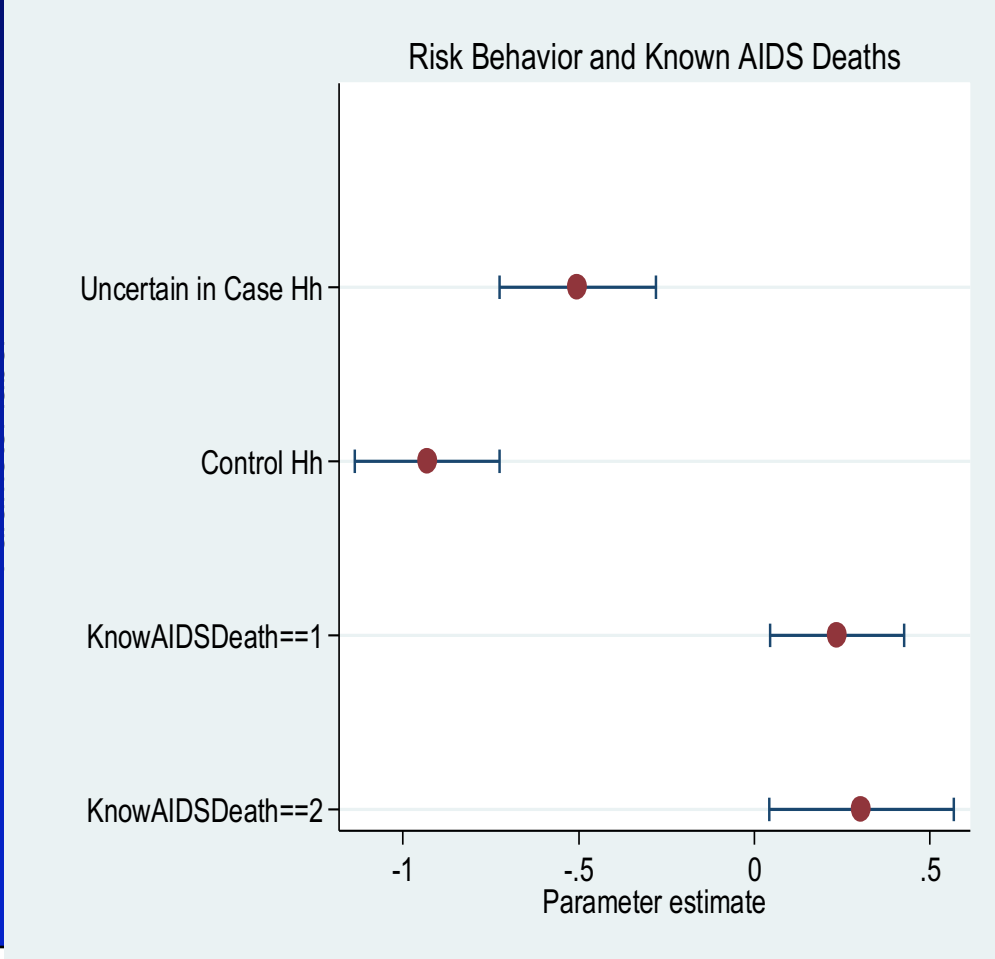
- Patients more likely to adopt safest behavior (no sex)
- Patients less likely to adopt riskiest behavior (casual w/o condom)
- Relatives of patients (who live with them) adopt safer behaviors than controls: spillover effects of counseling?

Risky Sexual Behavior and HIV/AIDS Knowledge



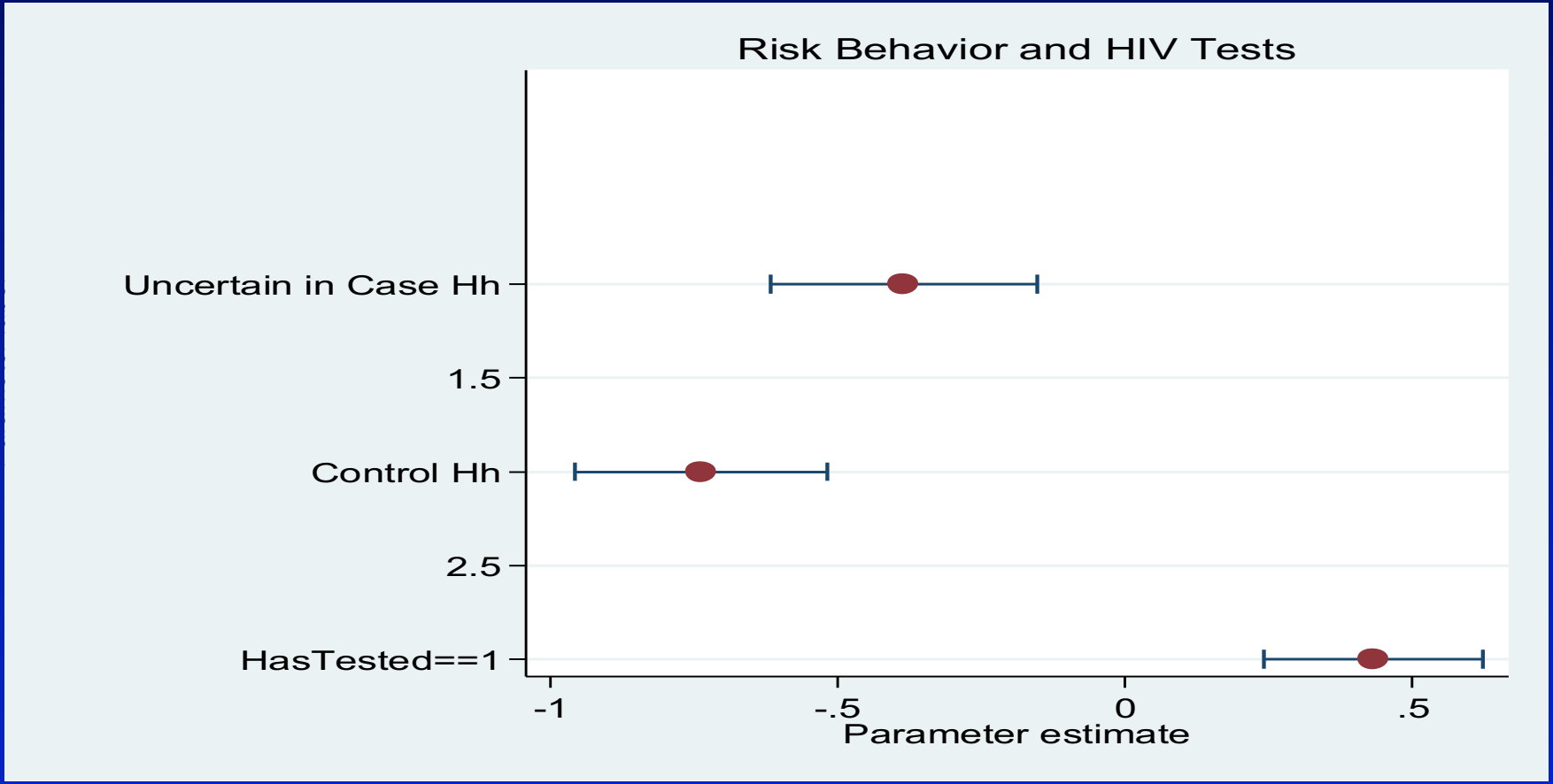
- Definition of risky behavior:
  - 1 (safe: no sex, spouse or casual partner with condom)
  - 0 (risky: spouse, casual w/o condom)
- Estimated coefficient (red dot) with 95% confidence interval
- Coefficient not statistically different from zero when confidence interval includes zero
- Education levels do not influence behavior significantly
- Compared to uncertain, controls adopt riskier behavior

Risky Sexual Behavior and HIV/AIDS Knowledge



- Knows of AIDS Death:
  - 1-Distant relation
  - 2-Close relation
- Knowing someone who died from HIV/AIDS lead to safer behavior,
- The effect is slightly larger if the dead person was a close relation

Risky Sexual Behavior and HIV/AIDS Knowledge



Having tested for HIV is associated with safer behavior

Next Steps

- Collect Biodata on PLHA
- Conduct institutional survey of ART sites
- Complete the analysis of the baseline survey data
- Complete data entry for phases 2 & 3
- Analyze HH data from the follow-up (phase 2 & 3) surveys

Thank you !