ASSESSING CLINICAL DIAGNOSIS OF SEXUALLY TRANSMITTED INFECTIONS AMONG WOMEN INTITIATING CONTRACEPTIVE IMPLANTS IN KINGSTON, JAMAICA

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BACKGROUND

Clinical diagnosis of sexually transmitted infections (STIs) may result in under- or over-diagnosis of certain infections. Syndromic approaches are currently the standard practice for STI assessment in Jamaica.

STUDY OBJECTIVES

- To compare clinically-diagnosed cervicitis and vaginitis and laboratory-confirmed diagnoses of gonorrhea (GC), chlamydia (CT), and trichomonas (Tvag)
- To assess factors associated with missed infections, defined as cases that were clinically healthy but had a laboratory-confirmed STI

METHODS

- Data and specimens from a clinical trial in Jamaica, the Sino-Implant Study, which randomized 414 women to receive levonorgestrel implant at either baseline or 3-months later to evaluate unprotected sex after implant initiation
- Available vaginal swabs from 254 women were tested for GC, CT, Tvag using the Aptima combo 2 for CT/GC and Aptima Tvag assays (Hologic, San Diego, CA).
- Clinically-diagnosed STIs were determined from medical records by assessing clinical impressions and prescriptions.
- Log binomial regression models fit with generalized estimating equations used to assess associations of clinically-diagnosed STIs and laboratory confirmed diagnoses and participant characteristics, adjusting for study arm and pre- vs. post-randomization visits.

Table 1. Characteristics of Sino-Implant Study participants tested for sexually transmitted infections at one or more study visits (N=254)

Baseline characteristics	Overall (N=254)	
	n	%
Immediate implant study arm	123	48.40%
Single vs. cohabiting, married, divorced	177	69.70%
Did not complete high school	74	29.10%
Four or more alcoholic drinks in 1 day during past week~	9	3.50%
Unprotected sex in 2 days~	40	15.80%
Ever received money or gifts in exchange for sex~	14	5.50%
Hormonal contraception in past month~	65	25.60%
More than 1 partner in past month~	15	5.90%
Baseline positive PSA test	64	25.20%
Baseline positive STI lab result*	99	40.20%
	Median (IQR)	
Age	25	21-30
Parity**	2	1-3

~Self-reported
Includes oral, injectable, or implant use
*Missing baseline STI lab results, N=246
**Missing values from 8 participants

RESULTS

- During the study period:
  - 195 (76.8%) women had laboratory-confirmed STI (CT, GC or Tvag)
  - 65 (25.6%) women had clinically-diagnosed cervicitis and/or vaginitis
- Clinical diagnosis missed 79.7% of laboratory-confirmed STIs (Figure 1):
  - 85% of GC (n= 17/20)
  - 78.8% of CT (n= 141/179)
  - 80.0% of Tvag (n= 180/225)
- Factors associated with clinical diagnoses:
  - Hormonal contraceptive use in the month prior to enrollment (Prevalence Ratio (PR): 1.65, 95% Confidence Interval (CI): 1.07, 2.54).
- Factors associated with clinically missed infections:
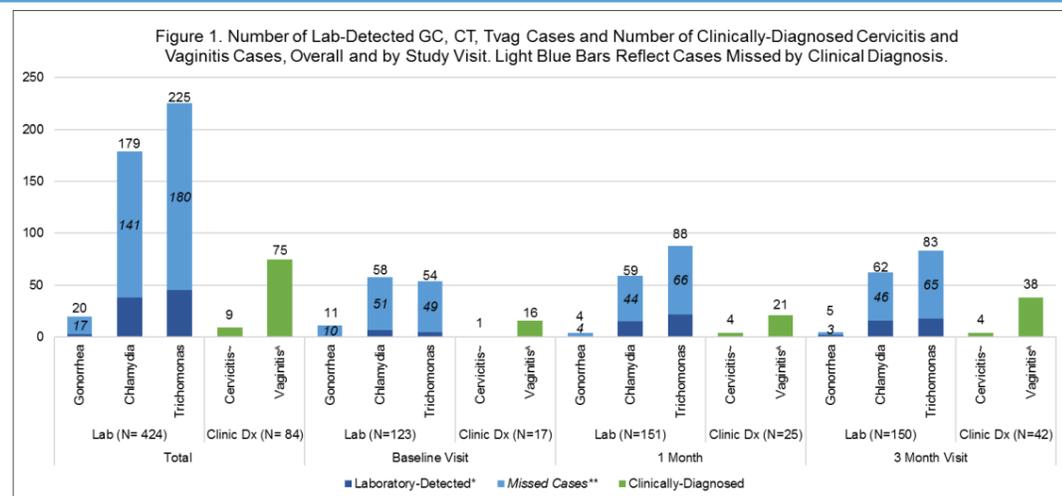 - Younger age (PR: 0.98 per year increase, CI: 0.97, 1.00).

Figure 1. Number of Lab-Detected GC, CT, Tvag Cases and Number of Clinically-Diagnosed Cervicitis and Vaginitis Cases, Overall and by Study Visit. Light Blue Bars Reflect Cases Missed by Clinical Diagnosis.

*Laboratory-detected cases include unmatched cases, defined as cases where the expected clinical STI code was identified in accordance with the lab results of GC, CT and/or Tvag or when the clinical STI code indicated yeast infection, HSV/HPV, or other undetermined STI. There were 61 total unmatched cases, of which 3 were GC, 31 CT, and 21 Tvag.
**Defined as cases that were clinically diagnosed as healthy but had a laboratory-confirmed STI

SUMMARY and CONCLUSIONS

- The prevalence of laboratory-confirmed STIs was much higher than what was captured by clinical diagnoses. GC, CT, and Tvag were not accurately diagnosed clinically without laboratory testing .
- Missed diagnoses decreased with older age.
- Increased laboratory capacity and refinement of the syndromic approach are needed to protect the health of sexually-active Jamaican women.

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