Are intravaginal practices associated with precancerous lesions and HPV infection?

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INTRODUCTION

- Women commonly perform intravaginal practices in many parts of the world[1]
- Intravaginal practices (IVP) comprise a broad category of substances and application methods, which vary in frequency of use and timing and serve various purposes[1,2]
- Limited research suggests an association between IVP and HPV infection and abnormal cytology[3-8]
- Some studies suggest IVP is protective and removes HPV from the place of infection thus shortening the duration of viral exposure[4]
- IVP have also been found to be risk factors as they may increase susceptibility of infection because of alterations in the vaginal pH, microflora, or cervical mucosa [5-7]

OBJECTIVE

- To determine whether there is an association between intravaginal practices and high-risk HPV infection among care-seeking women in rural Malawi.
  - To examine the association with different frequency of IVP
  - To examine the association by different types of IVP

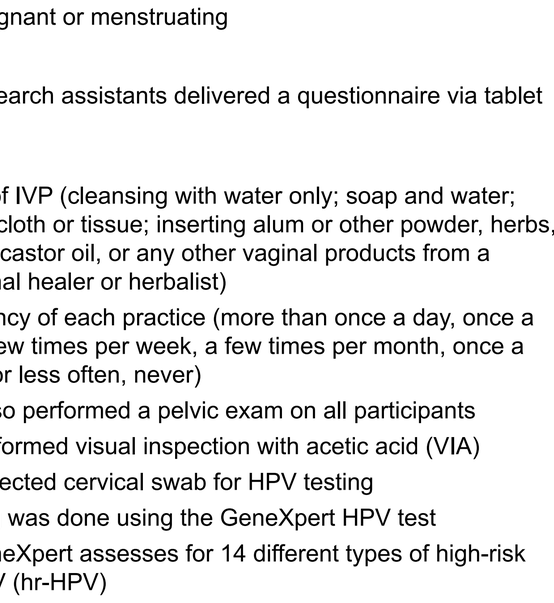
METHODS

Study design and setting

- Nested within a clinic-based, cross-sectional study on schistosomiasis and HIV, “Bwenzi la Thanzi” (BLT)
- Enrollment January 2015-July 2015
- Eligibility
  - Female
  - Speak Chichewa
  - 18-49 years of age
  - Seeking care at a rural clinic in Lilongwe District, Malawi with genitourinary symptoms
  - Not pregnant or menstruating

Measures

- Trained research assistants delivered a questionnaire via tablet computers
- Assessed:
  - Types of IVP (cleansing with water only; soap and water; cotton, cloth or tissue; inserting alum or other powder, herbs, leaves, castor oil, or any other vaginal products from a traditional healer or herbalist)
  - Frequency of each practice (more than once a day, once a day, a few times per week, a few times per month, once a month or less often, never)
- Clinician also performed a pelvic exam on all participants
  - Performed visual inspection with acetic acid (VIA)
  - Collected cervical swab for HPV testing
- HPV testing was done using the GeneXpert HPV test
  - GeneXpert assesses for 14 different types of high-risk HPV (hr-HPV)
- For this analysis we dichotomized all results into hr-HPV positive or negative



METHODS

Analysis

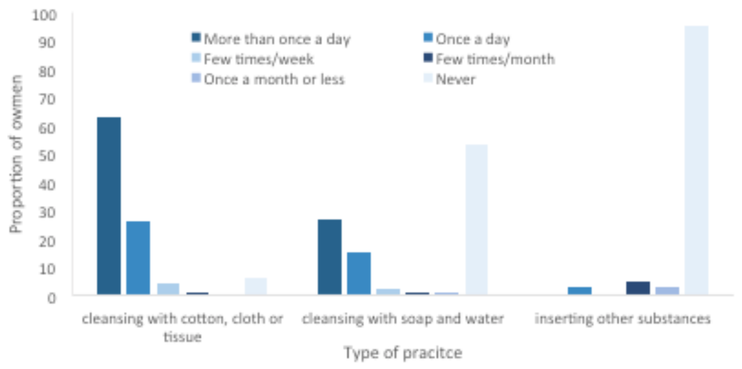
- We used fisher’s exact test to assess for significance of association between type of IVP and hr-HPV and abnormal cervical lesions
- We used logistic regression to assess for unadjusted associations between frequency of IVP and hr-HPV
  - Due to the small number of participants who reported using any substance other than soap, cotton, cloth and tissue, we were not able to include this group in a logistic regression analysis

RESULTS

Participant characteristics (n=179)

- Median age: 33 years (Interquartile range (IQR): 29-38)
- Median years of schooling: 7 (IQR: 4,9)
- Median number of partners: 2 (IQR: 1, 3)
- 57% reported ever using a condom with main partner
- 3% were HIV positive (confirmed by rapid test)
- 9% of women had abnormal cervical lesions
- 21% had hr-HPV
- 3% of women had both abnormal lesions and hr-HPV

Figure 1: Frequency of IVP by type



[1]*Women could select multiple practices*

- IVP were common and frequently performed
- 92% reported using some type of IVP at least once a day
- Cleansing with cloth, cotton or tissue was most commonly reported with 89% of participants reporting doing so more than once per day

Figure 2: Prevalence of hr-HPV by IVP type

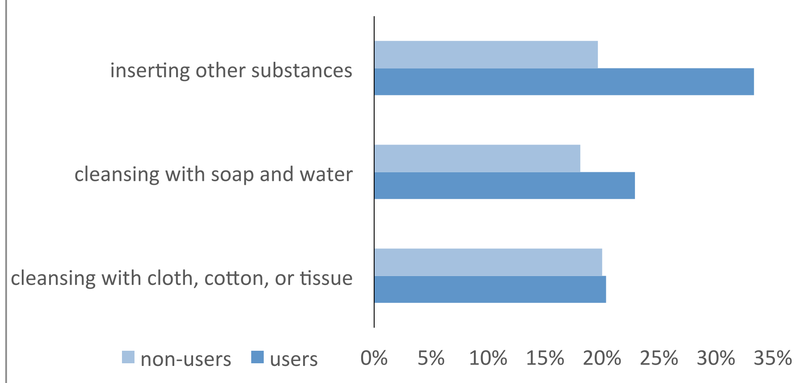
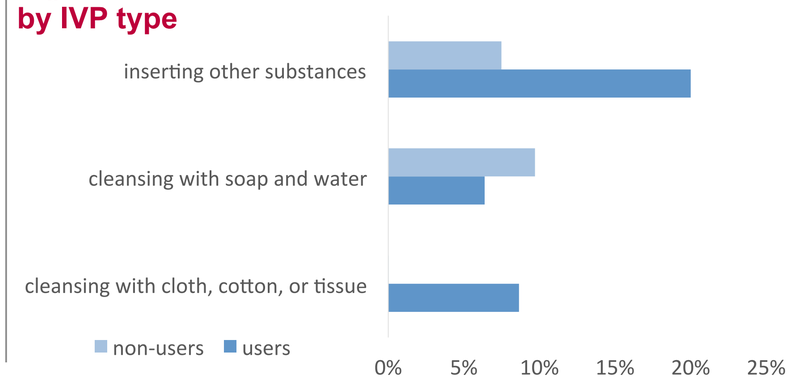
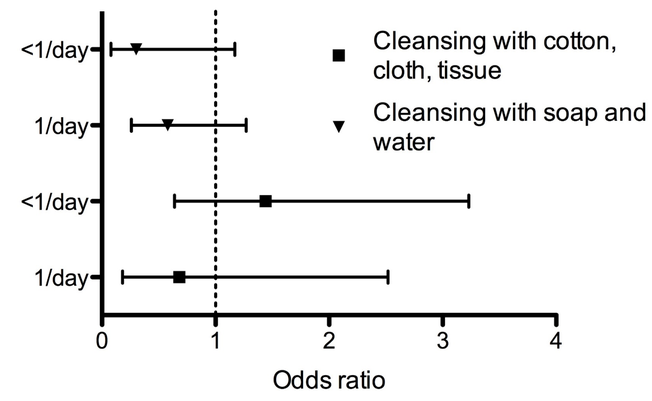


Figure 3: Prevalence of abnormal cervical lesions by IVP type



- Not a significant association between type of IVP and hr-HPV or abnormal lesions

Figure 4: ORs and 95% CIs for association between frequency of IVP and hr-HPV



Reference group is >1/day
Participants were able to select more than one type of IVP.

Unadjusted analyses

- We found no significant associations between frequency of IVP and hr-HPV

DISCUSSION

- IVP are commonly reported among this sample of care-seeking women in rural Malawi
- In unadjusted analyses, we did not observe any significant associations between IVP and hr-HPV or abnormal lesions
- Our power to detect significant differences was limited by the small number of women who did not report IVP
- Larger, longitudinal studies are needed to examine any causal relationship between IVP and hr-HPV

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