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Evaluating and Revising an Adapted Scale for Measuring Anti-retroviral Therapy (ART) Adherence Self-efficacy

Lauren Sheu, BS[1], Austin Wesevich, MD, MPH, MS[1,2], Maganizo B. Chagomerana, PhD[2], Wiza Kumwenda, MSc[2], Jacob N. Phulusa, MPH[2], Allan Jumbe, RN, PgDip[2], Madalitso Maliwichi, MBBS[2], Kate Burrows PhD, MPH[1], and Mina Hosseinipour, MD, MPH[2]. (1) University of Chicago, (2) UNC Project-Malawi.

BACKGROUND

- **HIV during pregnancy**
  - Maintaining HIV suppression via anti-retroviral therapy (ART) is critical for preventing vertical transmission
- **ART adherence self-efficacy**
  - One's confidence in their ability to adhere to ART
  - Survey-based tool that can be readily administered in communities with less-resourced healthcare systems, such as Malawi
- **ASES-Chichewa (Fig. 1C)**
  - Our version of the HIV treatment adherence self-efficacy scale (HIV-ASES), adapted to measure the adherence self-efficacy of pregnant women living with HIV in Malawi

OBJECTIVE: Evaluate ASES-Chichewa's ability to predict HIV suppression, particularly for newly diagnosed mothers who may require increased support with ART adoption.

METHODS

Study Design, Setting, and Sample
- Prospective observational study

Setting
- Bwaila Maternity Hospital (Lilongwe, Malawi); 2015-16

Sample
- 399 pregnant women living with HIV, 199 of which were newly diagnosed

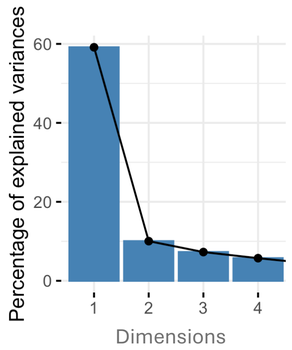
Measurements
- HIV viral load (VL), at enrollment and regularly for 36mo
- Antenatal ASES-Chichewa values at enrollment

Statistical Analysis
- Principal components analysis (PCA) of ASES-Chichewa values **(Fig. 1)**, through which item f was identified as a major contributor to data variance **(Fig. 1A-B)**
- Comparison of self-efficacy groups **(Fig. 2)**
  - Perfect (100%) and imperfect (<100%) self-efficacy groups defined by ASES-Chichewa (**Fig. 2A**) or item f (**Fig. 2B-C**).
  - Analyses: time to VL suppression survival analysis (log-rank) and comparison of % suppressed by 6mo follow-up (chi-square).

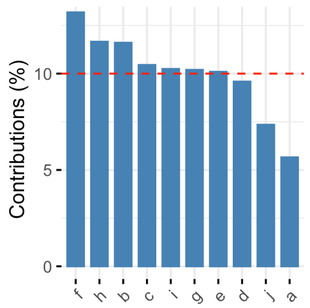
RESULTS

Figure 1. Antenatal ASES-Chichewa Principal Components Analysis (PCA).

1A. PCA Scree Plot



1B. Contribution of Survey Items to Dimension 1



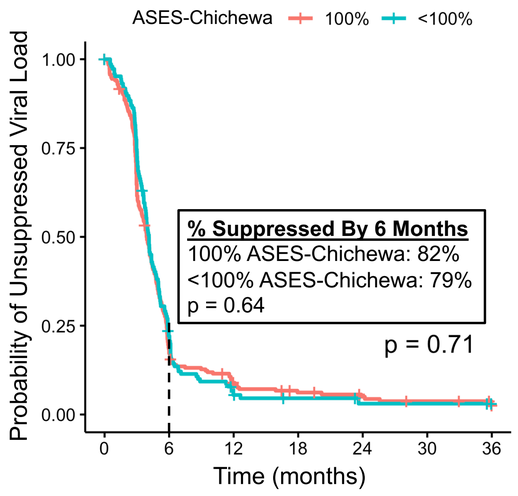
Item f = Major contributor to variance

1C. ASES-Chichewa Survey, in English.

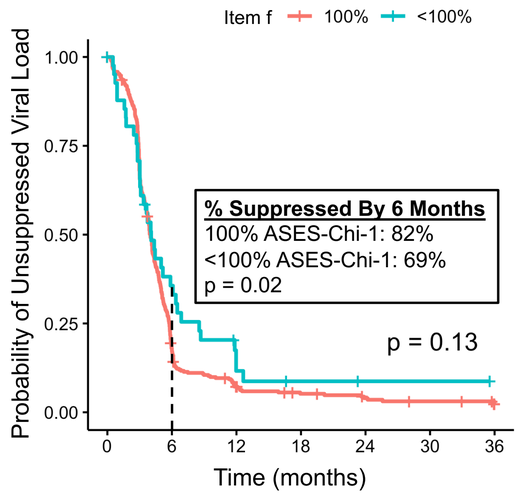
	From 0 ("cannot do at all") to 10 ("certain can do"), how confident are you that you can:
a	Stick to your treatment plan even when side effects begin to interfere with daily activities
b	Integrate your treatment into your daily routine?
c	Integrate your treatment into your daily routine even if it means taking medication or doing other things in front of people who don't know you are HIV-infected?
d	Stick to your treatment schedule even when your daily routine is disrupted?
e	Stick to your treatment schedule when you aren't feeling well?
f	Continue with your treatment even if doing so interferes with your daily activities?
g	Continue with your treatment even when you are feeling discouraged about your health?
h	Continue with your treatment even when getting to your clinic appointments is a major hassle?
i	Continue with your treatment even when people close to you tell you that they don't think that it is doing any good?
j	Get something positive out of your participation in treatment, even if the medication you are taking does not improve your health?

Figure 2. Time to HIV Suppression Analysis Comparing Self-Efficacy Groups Defined By:

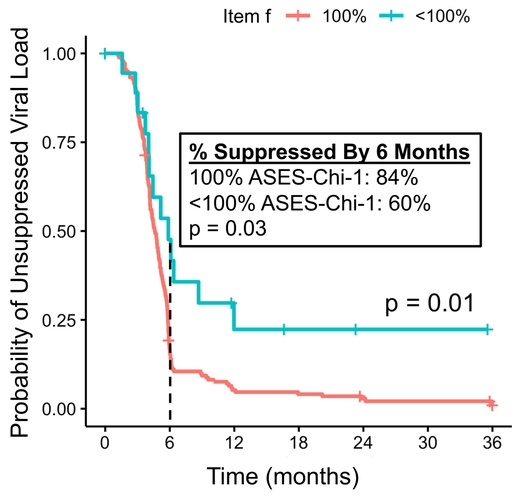
2A. ASES-Chichewa, all participants (n = 399)



2B. Item f, all participants (n = 399)



2C. Item f, newly diagnosed only (n = 199)



1-item screener question may identify pregnant individuals in Malawi living with HIV more likely to be unsuppressed by delivery

CONCLUSIONS

- ASES-Chichewa was ineffective in identifying participants with a lower likelihood of achieving viral suppression
- Item f of ASES-Chichewa particularly effective at identifying newly diagnosed mothers with lower likelihood of achieving suppression → warrants further study and interventions to improve self-efficacy