# Feasibility of implementing advanced HIV disease management package as part of routine, standard of HIV care at ART centres in Mumbai, India

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#### BACKGROUND

# AHD defined as presenting with CD4 < 200 cells/mm3 and/or WHO clinical stage 3 or 4 or children < 5 years age not established on ART

- Patients presenting with advanced HIV disease (AHD) are at higher risk of opportunistic infections and death.
- AHD defined as: CD4 count <200 cells/mm<sup>3</sup> and/or WHO clinical stage 3 or 4 or All children younger than five years old with HIV]
- WHO recommends Advanced Disease Management (ADM) package of care to all PLHIV with AHD
- Nearly 35% of PLHIV newly enrolled in India's National AIDS Control program continue to present with AHD
- We assessed the feasibility of implementing the complete WHO ADM package of care into routine HIV care in Mumbai

Same day or <b>Rapid</b> <b>RT</b> (within a week) nitiation	<ul> <li>Prophylaxis and Pre-emptive treatment</li> <li>Cotrimoxazole prophylaxis</li> <li>TB Preventive Therapy</li> <li>Fluconazole pre-emptive treatment</li> </ul>
Adapted adherence support	Screening and diagnosis
<ul><li>ART adherence and</li><li>Adherence to ADM</li></ul>	<ul> <li>LF-LAM to assist TB diagnosis</li> <li>Cryptococcal antigen (CrAg) screening</li> </ul>
package	

### **METHODS**

# Under program settings, we implemented WHO recommended ADM package in 17 ART centres during Nov 2020-Dec 2021

- PLHIV aged >9 years of age with AHD (both new to care and treatment experienced) were provided ADM package
- PLHIV with AHD were identified by review of CD4 count and WHO clinical staging which are routinely done
- Different component of ADM package depicted in Figure-1
- We trained the ART centre staff, developed job aids and standard operating procedures for use in the ART centre upon identification of a patient with AHD
- Hands-on training on the laboratory workflow with emphasis on the preanalytical procedures to Nurse and Lab technician

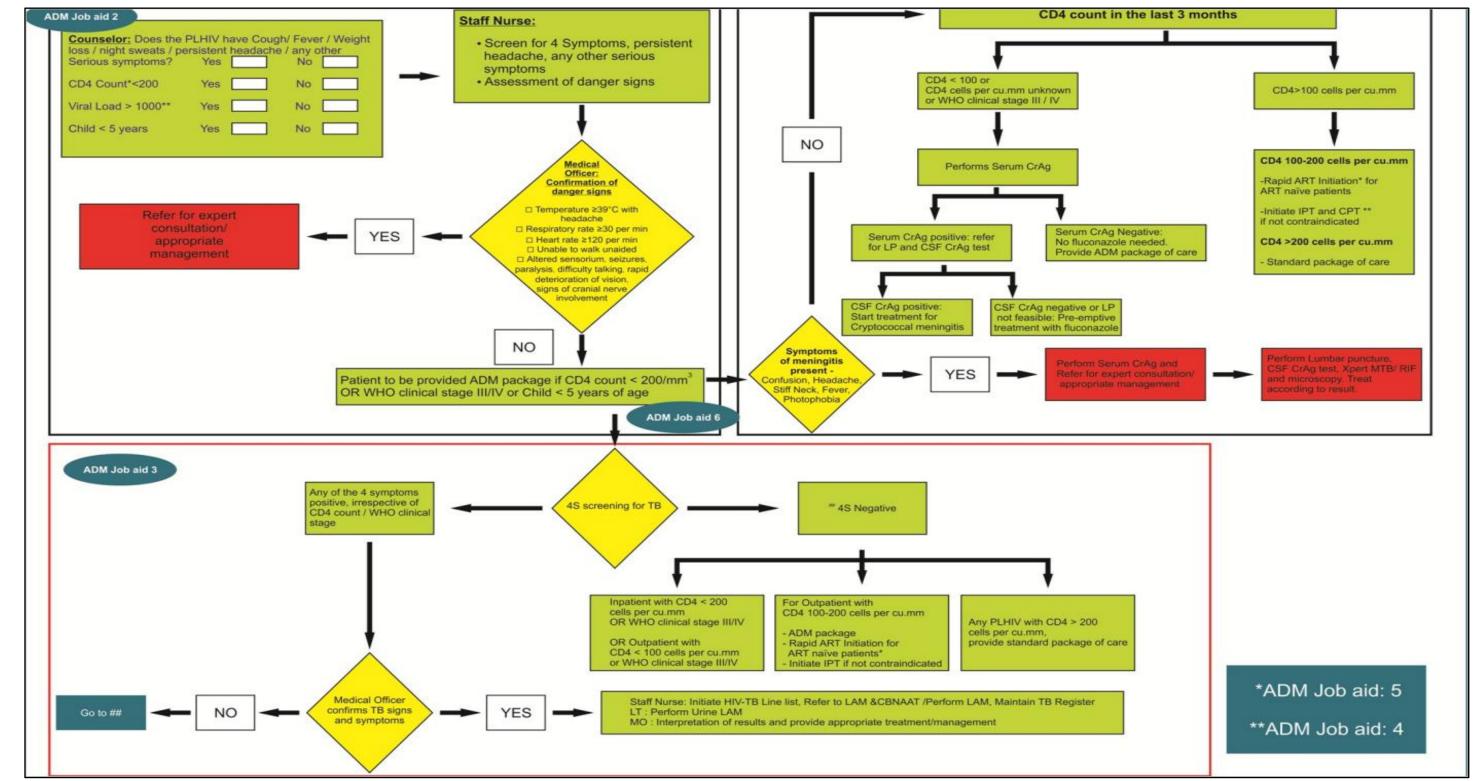


Figure 2:Job aids for use by ART center staff

N (%)

# RESULTS

**Characteristics** 

- A total of 4,334 patients with AHD identified
- 2,804 (64%) provided with ADM package
- Baseline characteristics of PLHIV provided ADM package (Table 1)
- At the end of 12 months, 2,485 (88%) provided with ADM package were alive

Characteristics	N (%) or median	
Males	1892 (67%)	
Median (IQR) age (in years)	43 (35,50)	
Median (IQR) CD cell/mm <sup>3</sup>	137 (80,218)	
Treatment experienced	2212 (78.9%)	

Table 1: Baseline characteristics of PLHIV provided with ADM

Rapid initiation of ART			
<ul> <li>Eligible PLHIV who are new on ART</li> </ul>	494		
<ul> <li>Rapid initiation of ART</li> </ul>	385 (78.0%)		
Tuberculosis preventive treatment (TPT)			
Eligible for TPT	1394		
<ul> <li>Initiated TPT</li> </ul>	1130 (83.5%)		
Cotrimoxazole prophylaxis			
<ul> <li>Eligible for Cotrimoxazole prophylaxis</li> </ul>	2804		
<ul> <li>Cotrimoxazole prophylaxis given</li> </ul>	2733 (97%)		
Tuberculosis screening by TB LAM			
<ul> <li>Eligible for TB screening</li> </ul>	2524		
<ul> <li>Total screened for TB</li> </ul>	2508 (99%)		
<ul> <li>Total TB LAM positive</li> </ul>	171 (6.8%)		
<ul> <li>TB LAM positive initiated on TB treatment</li> </ul>	157 (91.8%)		
Cryptococcal infection screening by CrAg			
<ul> <li>Eligible for CrAg screening</li> </ul>	2804		
<ul> <li>Total screened for CrAg</li> </ul>	2688 (95.9%)		
<ul> <li>Total CrAg positive</li> </ul>	25 (0.9%)		
<ul> <li>Referred for Cerebrospinal fluid CrAg</li> </ul>	92% (23/25)		
<ul> <li>Positive to Cerebrospinal fluid CrAg</li> </ul>	4.3% (1/23)		

CONCLUSION

- Implementing of AHDM package is feasible in routine setting with the existing patient flow without additional staff at ART centre
- Availability of point of care tests enhanced the diagnostic and clinical management capabilities among AHD patients

#### REFERENCES

- World Health Organization. Consolidated guidelines on the use of antiretroviral drugs for treating HIV infection: recommendations for a public health approach. 2nd ed. Geneva, Switzerland: WHO, 2016
- National Aids Control Organization. National Guidelines for HIV Care and Treatment, 2021. 2021
- Acharya S, Deshpande P, Asirvatham ES, Palkar A, Sarman CJ, Laxmeshwar C, Setia MS, Rathod D, Koli S, Dale J, Yeldandi V, Allam R, Agarwal R, Verma S, Upadhyaya S, Nyendak M. Utility of the lateral flow urine lipoarabinomannan tuberculosis assay in patients with advanced HIV disease at antiretroviral therapy centres in Mumbai, India. PLoS One. 2022 Sep 14;17(9)
- Acharya S, Allam RR, Karanjkar VK, et al. Implementation of point-of-care testing and prevalence of cryptococcal antigenaemia among patients with advanced HIV disease in Mumbai, India. BMJ Open 2023;13



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