Fidelity of multimonth antiretroviral therapy dispensing and viral load outcomes: results from a cohort study in Côte d’Ivoire

Lauren Greenberg¹; Marc N’Goran²; Nicole Herrera¹; Marie-Huguette Kingbo²; Ban Ignace Tosseu²; Charles Joseph Diby²; Fathim Kamagate³; Alexandre K. Ekra³; Samuel Tchwenko³; Viviane N’da⁴; Yannick Meless²; Appolinaire Tiam¹

¹Elizabeth Glaser Pediatric AIDS Foundation, Washington, D.C., USA
²Elizabeth Glaser Pediatric AIDS Foundation, Côte d’Ivoire
³Centers for Disease Control and Prevention, Center for Global Health, Division of Global HIV/AIDS and TB, Abidjan, Côte d’Ivoire
⁴National AIDS Control Program, Ministry of Health and Public Hygiene, Côte d’Ivoire
Introduction and expansion of multimonth dispensing (MMD) in Côte d’Ivoire

**Pre-COVID:**
- "Test and Treat All" introduced in 2017
- Standards updated in April 2019 with specific guidance for MMD (provision of at least three months of antiretroviral therapy (ART) at a single pickup visit)
- 3-6 MMD for clinically stable patients on ART for ≥3 months

**Revised October 2020:**
- Move to 6 MMD as standard
- 3 MMD eligibility expanded to new ART initiators and clinically unstable patients

- Adult HIV Prevalence (2017-2018): 2.9%
- Clients on ART (2020): 279,404
Prospective cohort of clients on ART newly initiating MMD

- **Purpose**: Follow a cohort of clients *newly transitioning to MMD* for 18-24 months to better understand *patterns in MMD receipt* and *virological outcomes* after transition to MMD.
- **Study population**: Virally suppressed people living with HIV (PLHIV) on ART ages 1 year and older newly transitioned to MMD model (first receipt of at least 90 days of ART no earlier than January 2020).
- **Sites**: 29 sites across Côte d'Ivoire.
- **Enrollment**: March 2020-January 2021.
- **Data collection**: March 2020-August 2022.
- **Outcomes/indicators**: Consistent receipt of MMD (receipt of 3 months or more at each study visit); viral load (VL) coverage; and VL suppression.
Study enrollment and participant demographics: high retention in follow-up

Adults (N=659)
• Median age at enrollment: 41 years
• 70% female
• Median time on ART at enrollment: 9 months

Children and adolescents <18 years (N=52):
• Median age at enrollment: 7 years
• 54% male
• Median time on ART at enrollment: 17 months
• 77% had other household members on ART

Enrolled N=711
M6 N=690 (97%)
M12 N=656 (92%)
M18 N=618 (87%)

*An additional 318 clients completed a 24-month study visit before the scheduled end of study

87% adults
85% children
Trends in multimonth dispensing:
higher MMD consistency in adults; lower in children

Enrolled
N=711

≥ 3 ART pickups
N=654 (92%)

Multimonth supply at every study visit
N=492 (75%)*

*78% consistent MMD among adults
*38% consistent MMD among children <18 years

Trend towards 6 MMD among adults: 10% received 6 MMD at enrollment, up to 67% at 24 months

Among adults, having at least secondary education was significantly associated with MMD every pickup (AOR: 1.6, 95% CI: 1.1-2.5)
Why didn't clients receive MMD?

- Provider preference
- Clinical instability
- Adherence concerns
- Regimen change
- Stockouts
- Alignment with other services
High viral load coverage among study participants, even in context of COVID

*No difference in VL coverage by consistent receipt of MMD*
Viral suppression after starting MMD: #ADHERENCE2023
88% in adults and 72% in children

Adults N=659
VL ≥ 6 months after the first MMD N=602 (91%)
VL suppressed N=530 (88%)
≥ 1 VL not suppressed N=72 (12%)

Children/Adolescents N=52
VL ≥ 6 months after the first MMD N=50 (96%)
VL suppressed N=36 (72%)
≥ 1 VL not suppressed N=14 (28%)

Age, sex, marital status, education, and time on ART not significantly associated with suppression
Conclusions

• National guidelines in Côte d'Ivoire recommended MMD as the standard of care for eligible clients, and eligibility expanded during the COVID-19 pandemic.
• Clients who transitioned to the MMD model did not necessarily continue to receive a multimonth supply of ART at every visit; this was particularly true of children.
• Health care provider discretion played an important role in implementation of MMD and decisions about ART dispensing for individual clients.
• Viral load coverage was high in the study population, and viral suppression was comparable to national data results among adults and children after initiation of MMD.
• Health care workers should be supported to roll out MMD consistently, and patients on MMD should be monitored to ensure sustained viral suppression.
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