LATE PRESENTATION IN OLDER PWH IS ASSOCIATED WITH MORTALITY AND POOR IMMUNE RESPONSE

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BACKGROUND

- HIV late presentation is increasingly observed among older people, although their healthcare access may be easier versus younger people.
- Data are limited regarding the burden of late presentation in older people in resource-limited settings, including whether they are at risk of poor HIV treatment outcomes.
- We investigated whether late presentation is associated with increased risks of mortality and poor immune response in a large Thai National database.

METHODS

- We included people living with HIV (PWH) ≥15 years of age at ART initiation in the Thai National AIDS Program (NAP) from 2008 to 2019. The minimum follow-up was 1 year after ART start.
- Age and CD4 cell count distributions in a 6-month window before ART initiation were assessed.
- **Late presentation to care** was defined as CD4 <200 cells/mm^3 at ART start.
- **Immunological response (IR)** was defined as achieving CD4 >350 cells/mm^3 one year after ART initiation. Death was confirmed by National death registry linkage.
- We used Cox regression to investigate the association of age at ART initiation, late presentation to care and other demographic characteristics with IR and all-cause mortality.

RESULTS

- A total of 286,933 PWH (**39% female**) were included. Median (IQR) age at ART initiation was 36 (28-43) years; 18%, 26%, 29% and 27% started ART during years 2008-2010, 2011-2013, 2014-2016 and 2017-2019, respectively.
- Median CD4 at ART initiation was 191 (IQR 67-363) cells/mm^3.
- In 2019, the porportion of late presentation was 26%, 42%, 49% and 52% in PWH aged 15-24, 25-34, 35-49 and ≥50 years, respectively.
- Median CD4 was lowest among PWH aged ≥50 years over the study period (***Figure 1B-F***).
- Median time from ART start to IR was 12 (IQR 6-27) months.

An **increasing proportion of older PWH who present late to care was observed** in the Thai National Program during 2008-2019. *Starting ART at older age and late presentation* increased mortality risk. Older age at ART initiation also resulted in poor immunological response.

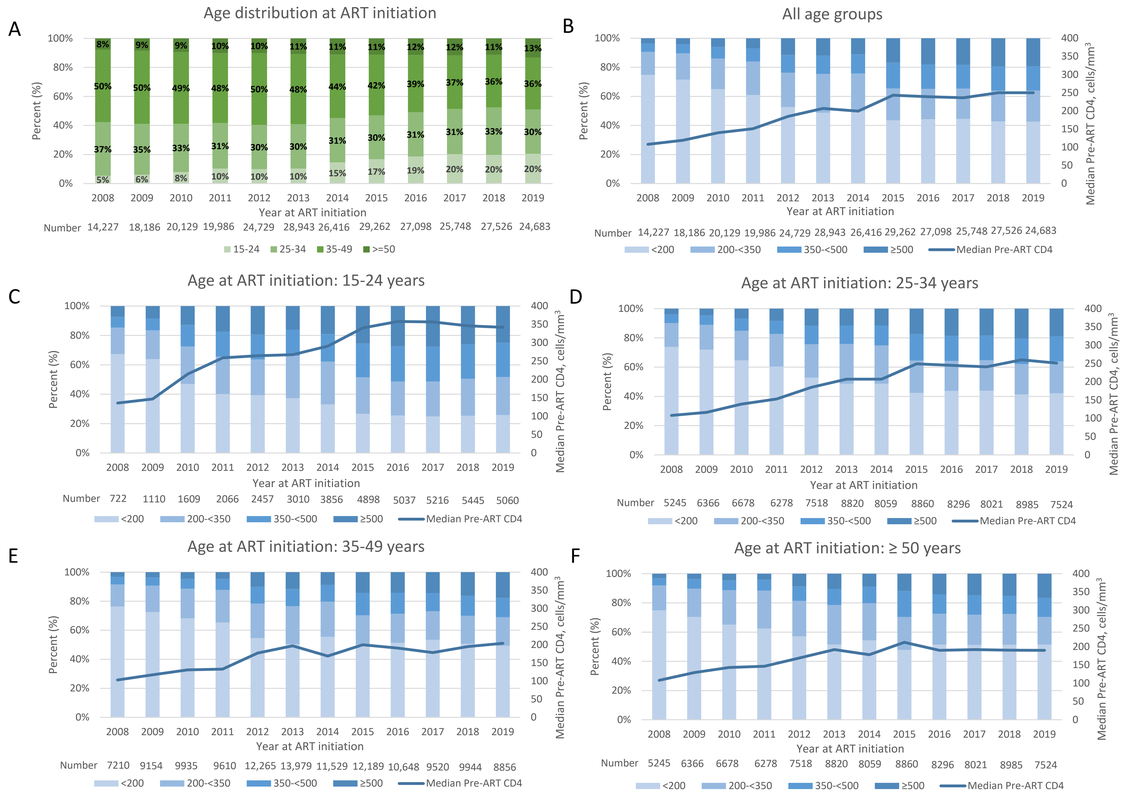


Figure 1. Distribution of age and CD4 count at ART initiation in the Thai National AIDS Program (NAP)

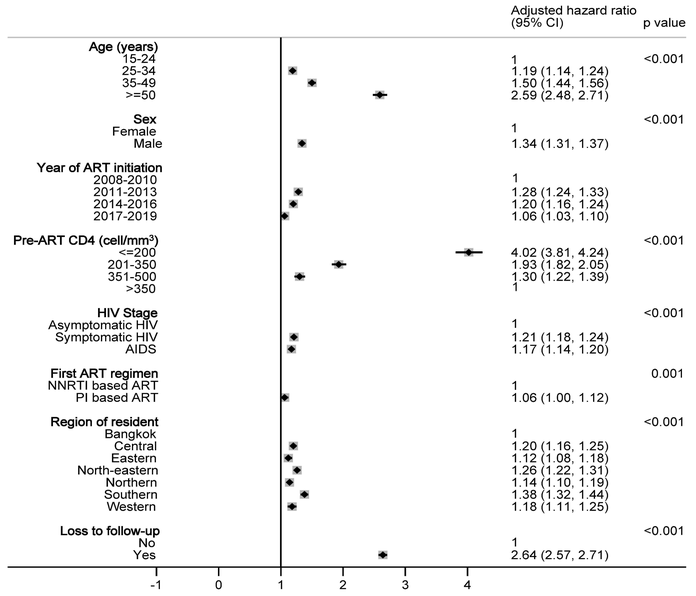


Figure 2. Multivariate Cox model for factors associated with all-causemortality

- ***IR was less likely in PWH aged ≥50 years*** (adjusted hazard ratio [aHR]: *0.81, 95%CI 0.79-0.82*) after adjusting for CD4 at ART start, sex, within country residential region, HIV stage, ART duration and type.
- Over 1,669,397 person-years of follow-up (PYS), 37496 (13%) died. The crude death rate was 2.25 (2.22-2.27)/100 PYS; the median of time from ART initiation to death was 1.9 (IQR, 0.5-4.5) years.
- ***PWH starting ART at aged ≥50 years*** (aHR: *2.59, 95%CI 2.48-2.71* vs. 15-24 years) ***and those who presented late*** (aHR: *4.02, 95%CI 3.81-4.24*) ***had higher mortality risk (Figure 2).***

CONCLUSIONS

- Despite recent increases in HIV diagnoses among younger individuals, particularly young MSM in Thailand, the increasing proportion of older PWH who present late to care is concerning.
- The association of poor HIV outcomes in older PWH with late presentation signals an urgent need for implementation of targeted HIV testing to improve early diagnosis, and linkage to care for this vulnerable group.

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