

Tanakorn Apornpong^{*1}, Nittaya Phanuphak¹, Sompop Limpongsanurak², Wicharn Luesomboon³, Auchara Tangsathapornpong⁴,
Nonglux Singhakovinta⁵, Chantana Viravasiri⁶, Patricia Toro⁷, Elaine Abrams⁷, and Praphan Phanuphak¹

Correspondence to:
Tanakorn Apornpong
The Thai Red Cross AIDS Research Centre
104 Rajdumri Road, Pathumwan
Bangkok 10330 Thailand
tana_tanakorn@yahoo.com
Tel: +66-2-253-0996
Fax: +66-2-253-0998



¹The Thai Red Cross AIDS Research Centre, Bangkok, Thailand,
² King Chulalongkorn Memorial Hospital, Bangkok, ³Queen Sawangwattana Memorial Hospital, Chonburi, Thailand,
⁴Thammasat University Hospital, Pathumthani, Thailand, ⁵Queen Sirikit Hospital, Chonburi, Thailand, ⁶Police General Hospital, Bangkok, Thailand,
and ⁷Columbia University, New York, NY, USA

Background:

Most women with HIV worldwide are infected during reproductive years and decision to have children, particularly with increased access to antiretroviral treatment (ART), is complex and challenging. We were interested in studying risk factors of recurrent pregnancy and how to best give recommendation in this area.

Methods:

MTCT-Plus Initiative enrolled women at pregnancy and after delivery along with male partners and exposed children. Multidisciplinary team staff assessed family planning (FP) method used at every clinic visit and free condoms were provided. Data on age, ART, CD4 counts, FP, husband HIV status, disclosure, number of children and time since the last delivery were retrieved from case record forms of women following postpartumly.

Results:

There were 557 postpartum women, 36.6% had HIV-infected partners enrolled, 29.3% had seronegative partners and 34.1% had partners with unknown status or reported no partners. There were 18 (3.2%) recurrent pregnancies. Only 3/18 (16.7%) had CD4 count <200 cells/mm³ and 9/18 (50.0%) were on ART. Last FP methods reported were condom only (7), tubal resection (TR) with condom (1), oral contraceptives (OC) only (1), OC with condom (2), injection/implantation with condom (1) and natural rhythm (6). Among eleven (61.1%) who had current seronegative partners, 8 disclosed and 3 did not disclose status to partners, 3 had new partners.

By univariate test, significant factors were age, ART status, CD4 count and FP methods. By multivariate test, **younger age** ($P=0.006$, OR1.2, 1.1-1.3), **being on ART** ($P=0.008$, OR5.3, 1.6-18.3), **CD4 >200 cells/mm³** ($P=0.004$, OR6.9, 1.9-25.0) **remained significant risk factors while TR** ($P=0.049$, OR0.1, 0.01-1.99) **and use of condom alone** ($P=0.025$, OR0.2, 0.1-0.8) **remained significant protective factors**. Husband HIV status, disclosure, number of children and time since the last delivery were not significant factors.

Characteristics of women with or without recurrent pregnancies

Characteristics of women	With recurrent pregnancies (N=18)	Without recurrent pregnancies (N=539)
Age (mean±SD, years)	25.2±5.2	29.1±5.1
Median CD4 count ((cell/mm ³)	455	387
ARV status		
On ARV (N,%)	9 (50.0%)	83 (15.4%)
ARV naive (N,%)	9 (50.0%)	456 (84.6%)
Partner HIV status (N,%)		
Positive	5 (27.8%)	198 (36.7%)
Negative	11 (61.1%)	158 (29.3%)
Unknown	2 (11.1%)	183 (34.0%)
Last FP methods (N,%)		
Condom only	7 (38.9%)	236 (43.8%)
TR with condom	1 (5.6%)	193 (35.8%)
OC only	1 (5.6%)	1 (0.2%)
OC with condom	2 (11.1%)	19 (3.5%)
Injection/implantation with condom	1 (5.6%)	26 (4.8%)
Natural rhythm	6 (33.2%)	64 (11.9%)
Number of children (mean±SD)	1.1±0.9	1.1±0.7
Time since the last delivery (mean±SD, years)	3.0±1.7	2.6±2.0

Conclusions:

- Being young, on ART and having high CD4 count were risk factors for recurrent pregnancy among our Thai women.
- It was interesting that condom use alone for FP was found more protective than dual methods which might result in inconsistent use of each method.
- To prevent any unplanned pregnancy, we propose that woman along with her family should be assessed formally for the desire to have baby and counseled properly for effective use of family planning methods at regular clinic visits.