



# Planlamadan Doğuma HIV-Gebe Yönetimi

Doç. Dr. Seniha ŞENBAYRAK

Sağlık Bilimleri Üniversitesi Haydarpaşa Numune SUAM  
Enfeksiyon Hastalıkları ve Klinik Mikrobiyoloji

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# Sunum planı

- Epidemiyoloji
- HIV ile yaşayan bireylerde gebelik öncesi danışmanlık
- HIV ile yaşayan bireylerde konsepsiyon
- Gebelikte antiretroviral tedavi seçimi
- HIV ile enfekte gebenin izlemi
- Doğum
- Emzirme

# EPIDEMIOLOJİ

UNAIDS  
DATA  
2021

## REGIONAL HIV AND AIDS STATISTICS AND FEATURES, 2020

	Adults and children living with HIV	Adults and children newly infected with HIV	Adult and child deaths due to AIDS
<b>Eastern and southern Africa</b>	20.6 million [16.8 million–24.4 million]	670 000 [470 000–930 000]	310 000 [220 000–470 000]
<b>Western and central Africa</b>	4.7 million [3.9 million–5.8 million]	200 000 [130 000–330 000]	150 000 [100 000–210 000]
<b>Middle East and North Africa</b>	230 000 [190 000–310 000]	16 000 [12 000–28 000]	7900 [6000–13 000]
<b>Asia and the Pacific</b>	5.8 million [4.3 million–7.0 million]	240 000 [170 000–310 000]	130 000 [87 000–200 000]
<b>Latin America</b>	2.1 million [1.4 million–2.7 million]	100 000 [66 000–150 000]	31 000 [20 000–46 000]
<b>Caribbean</b>	330 000 [280 000–390 000]	13 000 [8700–18 000]	6000 [4300–8500]
<b>Eastern Europe and central Asia</b>	1.6 million [1.5 million–1.8 million]	140 000 [120 000–160 000]	35 000 [28 000–43 000]
<b>Western and central Europe and North America</b>	2.2 million [1.9 million–2.6 million]	67 000 [53 000–81 000]	13 000 [9200–17 000]
<b>GLOBAL</b>	<b>37.7 million</b> [30.2 million–45.1 million]	<b>1.5 million</b> [1.0 million–2.0 million]	<b>680 000</b> [480 000–1.0 million]

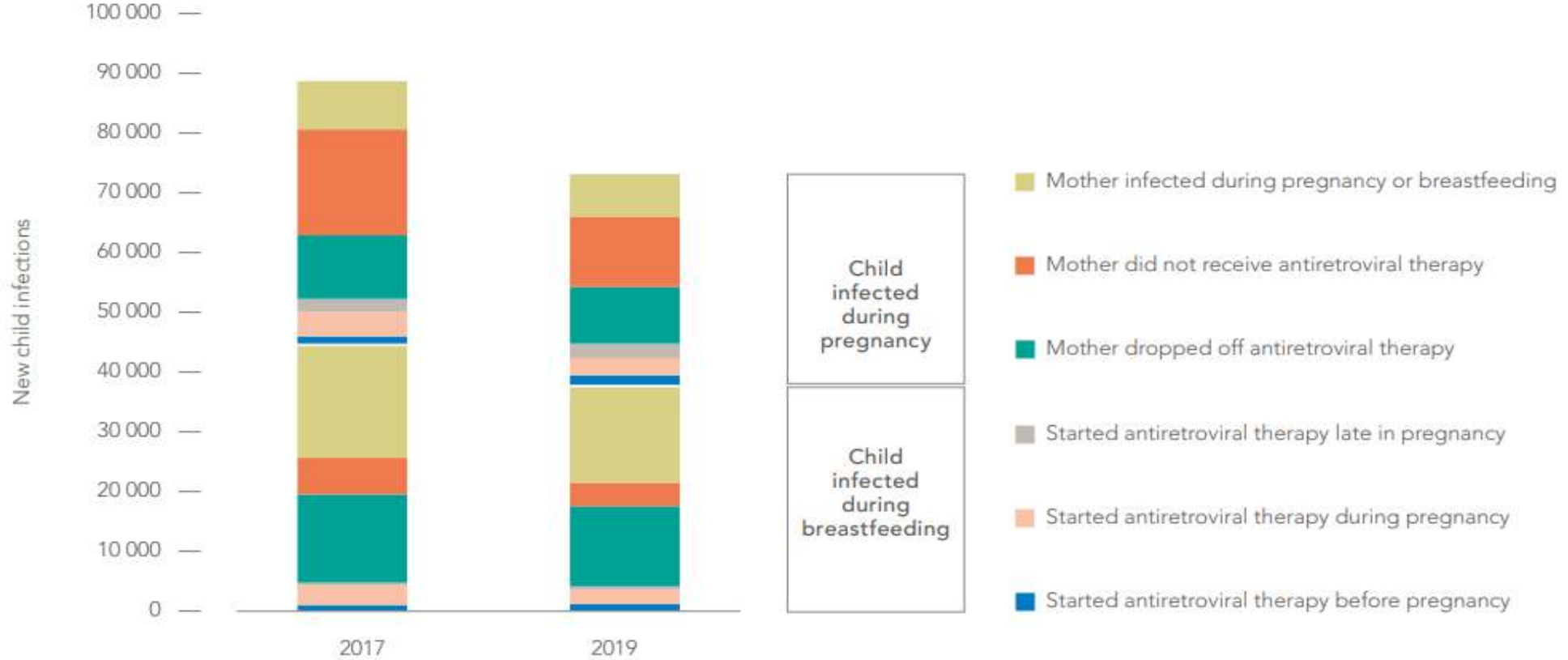
# 2020'de her gn 4000 yeni HIV enfeksiyonu (yetiřkin ve ocuk)

- 60% Sahra altı Afrika
- 10% 15 yař altı ocuk
- 90% 15 yař st yetiřkin;
  - 51% kadınlar
  - 31% genlerde (15–24)
  - **20% gen kadınlarda (15–24)**



UNAIDS epidemiological estimates, 2021 (<https://aidsinfo.unaids.org/>)

## New child infections due to gaps in prevention of vertical transmission, eastern and southern Africa, 2017 and 2019

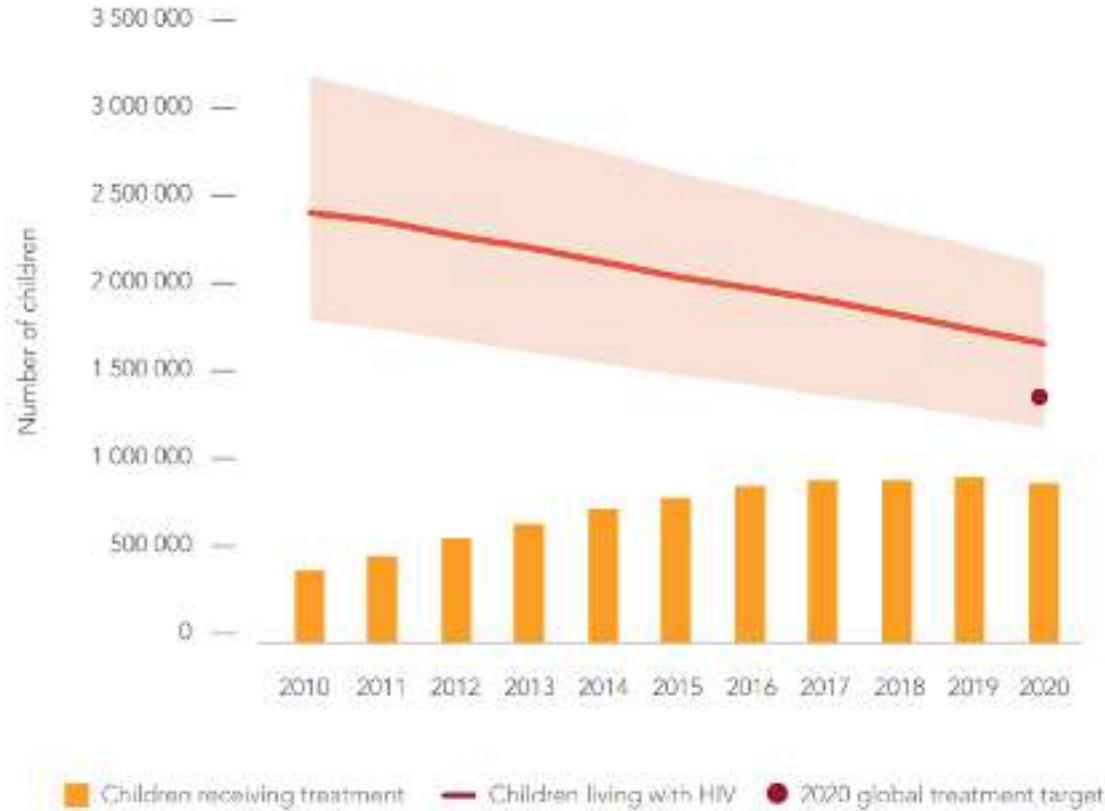


Source: UNAIDS epidemiological estimates, 2020 (see <https://aidsinfo.unaids.org/>).

Çocuklar arasında yeni HIV enfeksiyonları;  
HIV ile yaşayan gebe ve emziren kadınlarda artan ART kullanımıyla 2010'dan 2020'ye % 54 azaldı

# ENDING PAEDIATRIC AIDS AND ELIMINATING VERTICAL TRANSMISSION

NUMBER OF CHILDREN LIVING WITH HIV AND THOSE RECEIVING  
ANTIRETROVIRAL THERAPY, GLOBAL, 2010–2020



- 2020’de ART alan çocukların sayısı azaldı
- 800.000 çocuk ART alamadı (0-14 yaş arası)
- Üçte ikisi 5-14 yaş arasında

# Guidelines for the Use of Antiretroviral Agents in Adults and Adolescents with HIV



Developed by the DHHS Panel on Antiretroviral Guidelines for Adults and Adolescents – A Working Group of the Office of AIDS Research Advisory Council (OARAC)



**EACS**  
European  
AIDS  
Clinical  
Society

# GUIDELINES

Version 11.0

October 2021

*English*



# GEBELİK ÖNCESİ DANIŞMANLIK

- Cinsel aktif tüm kişilere Anti-HIV testi önerin (**AII**)
- Doğurganlık çağındaki tüm kişilerin çocuk sahibi olma isteğini sorgulayın (**AIII**)
- CYBE'dan korumak ve dirençli HIV türlerinin bulaşma riskini azaltmak için etkili ve uygun doğum kontrol yöntemleri hakkında (kondom gibi) bilgi verin (**AI**)
- Her iki partneri tüm CYBE için tarayın ve saptanırsa tedavi edin
- Alkol, nikotin ürünleri ve uyuşturucuların kullanımını sorun (**AII**)
- Gebe kalmadan önce maksimum viral baskılamayı sağlayın (**AI**)



# GEBELİK ÖNCESİ DANIŞMANLIK

- Çocuk doğurma potansiyeli olan kişiler için ART seçerken;
- Etkinliğini, hepatit B durumunu, gebe ve fetüsü için olası olumsuz sonuçları göz önünde bulundurun (**AII**)
- HIV enfeksiyonu herhangi bir doğum kontrol yönteminin kullanılmasını engellemez;
- Ancak hormonal kontraseptifler, ART'ler ve diğer ilaçlar arasındaki ilaç-ilaç etkileşimleri dikkate alınmalı (**AII**).

## Drug-drug Interactions between Contraceptives and ARVs

Contraceptives		ATV/c	ATV/r	DRV/c	DRV/r	LPV/r	DOR	EFV	ETV	NVP	RPV	FTR	MVC	BIC	CAB oral	CAB/ RPV	DTG	EVG/c	RAL	TAF	TDF	
EAs	ethinylestradiol (COC, TS, VR)	↑1% <sup>a</sup>	↓19% <sup>b</sup>	↓30%	↓44% <sup>a</sup>	↓42% <sup>a</sup>	↓2%	c	↑22%	↓20%	↑14%	↑40% <sup>d</sup>	↓<1%	↑4%	↑2%	↔	↑3%	↓25% <sup>e</sup>	↓2%	↑11%	↔	
	desogestrel (COC)	↑	↑ <sup>f,b</sup>	↑	↑ <sup>g</sup>	↑ <sup>g</sup>	↔	↓ <sup>h</sup>	↓	↓	↔	↔ <sup>d</sup>	↔	↔	↔	↔	↔	↑ <sup>e,f</sup>	↔	↔	↔	
Progestins	desogestrel (POP)	↑	↑	↑	↑	↑	↔	↓ <sup>h</sup>	↓	↓	↔	↔	↔	↔	↔	↔	↔	↑	↔	↔	↔	
	drospirenone (COC)	↑130%	↑ <sup>f,b</sup>	↑58% <sup>g</sup>	↑ <sup>g</sup>	↑ <sup>g</sup>	↔	↓ <sup>h</sup>	↓	↓	↔	↔ <sup>d</sup>	↔	↔	↔	↔	↔	↑ <sup>e,f</sup>	↔	↔	↔	
	etonogestrel (IP)	↑	↑	↑	↑	↑52%	↔	↓63% <sup>h</sup>	↓	↓	↑18%	↔	↔	↔	↔	↔	↔	↑ 19-54%	↑	↔	↔	↔
	etonogestrel (VR)	↑	↑~79% <sup>i</sup>	↑ <sup>i</sup>	↑ <sup>i</sup>	↑ <sup>i</sup>	↔	↓~79% <sup>h</sup>	↓	↓	↔	↔ <sup>d</sup>	↔	↔	↔	↔	↔	↔	↑ <sup>i</sup>	↔	↔	↔
	gestodene (COC)	↑	↑ <sup>f,b</sup>	↑	↑ <sup>g</sup>	↑ <sup>g</sup>	↔	↓ <sup>h</sup>	↓	↓	↔	↔ <sup>d</sup>	↔	↔	↔	↔	↔	↔	↑ <sup>e,f</sup>	↔	↔	↔
	levonorgestrel (COC)	↓8%	↑ <sup>f,b</sup>	↑	↑ <sup>g</sup>	↑ <sup>g</sup>	↑21%	↓ <sup>h</sup>	↓	↑	↔	↔ <sup>d</sup>	↓2%	↔	↔	↑12%	↔	↔	↑	↔	↔	↔
	levonorgestrel (IP)	↑	↑	↑	↑	↑	↔	↓57% <sup>h</sup>	↓	↑14%	↑28%	↔	↔	↔	↔	↔	↔	↔	↑	↔	↔	↔
	levonorgestrel (IUD)	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
	levonorgestrel (POP)	↑	↑	↑	↑	↑	↔	↓ <sup>h</sup>	↓	↑	↔	↔	↔	↔	↔	↔	↔	↔	↑	↔	↔	↔
	medroxy-progesterone (POI)	↔	↔	↔	↔	↑~70%	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
	norelgestromin (TS)	↑	↑ <sup>f,b</sup>	↑	↑ <sup>g</sup>	↑83% <sup>g</sup>	↔	↓ <sup>h</sup>	↓	↓	↔	↔ <sup>d</sup>	↔	↔	↔	↔	↔	↔	↑ <sup>e,f</sup>	↔	↔	↔
	norethisterone (COC)	↑	↑ <sup>f,j</sup>	↑	↓14% <sup>g</sup>	↓17% <sup>g</sup>	↔	↓ <sup>h</sup>	↓5%	↓19%	↓11%	↑8% <sup>d</sup>	↔	↔	↔	↔	↔	↔	↑ <sup>e,f</sup>	↔	↔	↔
	norethisterone (POI)	↔	↔	↔	↔	↔	↔	↓	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
	norethisterone (POP)	↑	↑50%	↑	↑50%	↑50%	↔	↓ <sup>h</sup>	↓	↓	↔	↔	↔	↔	↔	↔	↔	↔	↑	↔	↔	↔
	norgestimate (COC)	↑	↑85% <sup>f,b</sup>	↑	↑ <sup>g</sup>	↑ <sup>g</sup>	↔	↓64% <sup>h</sup>	↓	↓	↔	↔ <sup>d</sup>	↔	↔	↑8%	↔	↔	↓2%	↑126% <sup>e,f</sup>	↑14%	↔	↔
	norgestrel (COC)	↑	↑ <sup>f,b</sup>	↑	↑ <sup>g</sup>	↑ <sup>g</sup>	↔	↓ <sup>h</sup>	↓	↑	↔	↔ <sup>d</sup>	↔	↔	↔	↔	↔	↔	↑ <sup>e,f</sup>	↔	↔	↔
Other	levonorgestrel (EC)	↑ <sup>k</sup>	↑ <sup>k</sup>	↑ <sup>k</sup>	↑ <sup>k</sup>	↑ <sup>k</sup>	↔	↓58% <sup>l</sup>	↔	↔	↔	↔	↔	↔	↔	↔	↔	↑ <sup>k</sup>	↔	↔	↔	
	mifepristone	↑ <sup>k</sup>	↑ <sup>k</sup>	↑ <sup>k</sup>	↑ <sup>k</sup>	↑ <sup>k</sup>	F <sup>k</sup>	↓	↓	↓	F <sup>k</sup>	↔	F <sup>k</sup>	F <sup>k</sup>	↔	↔	↔	↑ <sup>k</sup>	↔	↔	↔	
	ulipristal	↑ <sup>k</sup>	↑ <sup>k</sup>	↑ <sup>k</sup>	↑ <sup>k</sup>	↑ <sup>k</sup>	↔	↓ <sup>m</sup>	↓ <sup>m</sup>	↓ <sup>m</sup>	↔	↔	↔	↔	↔	↔	↔	↑ <sup>k</sup>	↔	↔	↔	

# HIV İLE YAŞAYAN BİREYLERDE KONSEPSİYON

- Partnerlerin HIV serolojisi farklı olduğunda;
- HIV (+) kişi ART alıyor ve sürekli viral baskılama sağlanmışsa (**en az 3 ay arayla iki negatif viral yük olması**)
- Bulaşma riski olmadığından kondomsuz cinsel ilişki ile gebe kalmaya izin verilir
- HIV bulaşma riskini azaltmak ve gebelik olasılığını artırmak için ovulasyon takibi ile ovulasyon döneminde kondomsuz cinsel ilişki tavsiye edilir (**CIII**)

## Reproductive Options When One or Both Partners Have HIV

(Last updated December 30, 2021; last reviewed December 30, 2021)

Panel's Recommendations
<p><b>For People Who Want to Conceive When One or Both Partners Have HIV</b></p> <ul style="list-style-type: none"><li>• Expert consultation is recommended to tailor guidance to an individual's specific needs (<b>AIII</b>).</li><li>• People with HIV should achieve sustained viral suppression (e.g., two recorded measurements of plasma viral loads that are below the limits of detection at least 3 months apart) before attempting conception to maximize their health, prevent HIV sexual transmission (<b>AI</b>) and—for pregnant people with HIV—minimize the risk of HIV transmission to their infants (<b>AI</b>).</li><li>• Both persons should be screened and treated for genital tract infections before attempting to conceive (<b>AI</b>).</li><li>• When people have different HIV statuses, sexual intercourse without a condom allows conception with effectively no risk of sexual HIV transmission to the person without HIV if the person with HIV is on antiretroviral therapy (ART) and has achieved sustained viral suppression (<b>BII</b>).</li><li>• Additional guidance might be required in the following scenarios:<ul style="list-style-type: none"><li>○ The person with HIV has not achieved sustained viral suppression or their HIV viral suppression status is unknown,</li><li>○ Concerns exist that the person with HIV might be inconsistently adherent to ART during the periconception period, or</li><li>○ The provider wishes to share additional information regarding options to prevent sexual HIV transmission during the periconception period.</li></ul></li><li>• In these circumstances, providers can choose to provide counseling about the following options:<ul style="list-style-type: none"><li>○ Administration of antiretroviral pre-exposure prophylaxis (PrEP) to the partner without HIV reduces the risk of sexual acquisition of HIV (<b>AI</b>) (see <a href="#">Pre-Exposure Prophylaxis (PrEP) to Prevent HIV During Periconception, Antepartum, and Postpartum Periods</a>). When partners with different HIV statuses attempt conception, the partner without HIV can choose to take PrEP even if the partner with HIV has achieved viral suppression (<b>CIII</b>).</li><li>○ Consider advising timing condomless sex to coincide with ovulation (peak fertility) in order to reduce HIV transmission risk and to optimize the probability of conception (<b>CIII</b>).</li></ul></li></ul>

## Sexual and Reproductive Health of PLWH

Screening questions about sexual and reproductive health and sexual function should be routinely asked at HIV consultation.

Effective Measures to Reduce Sexual transmission of HIV	
Measure	Comment
<b>ART for HIV-positive partner</b>	<ul style="list-style-type: none"><li>• Undetectable equals untransmissible (U=U) from 6 months of fully suppressive ART if no active STIs</li><li>• Consider in e.g. sero-different couples<sup>(i)</sup></li></ul>
<b>Pre-exposure prophylaxis (PrEP)</b>	<ul style="list-style-type: none"><li>• Effective in HIV-negative persons with high risk sexual situations, see <a href="#">Pre-exposure prophylaxis (PrEP)</a></li></ul>
<b>Post-exposure prophylaxis (PEP)</b>	<ul style="list-style-type: none"><li>• Consider after situations of unprotected anal or vaginal intercourse, if one partner has detectable HIV-VL and the other partner is seronegative</li><li>• Start as soon as possible and within 48/72 hours post sexual exposure</li><li>See <a href="#">Post-exposure prophylaxis (PEP)</a></li></ul>
<b>Male condom or female condom use</b>	<ul style="list-style-type: none"><li>• Effective in treated and untreated PLWH</li></ul>

U=U should be discussed with all PLWH, at diagnosis and when starting/switching ART. The evidence is now clear that PLWH with an undetectable VL do not transmit HIV sexually. Large studies of sexual HIV transmission among thousands of sero-different couples, one partner of which was living with HIV and the other was not, were undertaken in recent years. In those studies, there was not a single case of linked sexual transmission of HIV from a virally suppressed PLWH to their HIV-negative partner. However, a person can only know whether he or she is virally suppressed by taking a VL test.



# Evidence of HIV Treatment and Viral Suppression in Preventing the Sexual Transmission of HIV

HIV treatment has dramatically improved the health, quality of life, and life expectancy of people with HIV.<sup>1,2,3,4</sup> HIV treatment has also transformed the HIV prevention landscape. Over the last decade, research has shown the profound impact of HIV treatment in preventing the sexual transmission of HIV, sometimes called "Treatment as Prevention" (TasP).<sup>1,5,6,7,8,9,10</sup> This fact sheet summarizes the evidence, reviews key factors needed to maximize the effectiveness of TasP, and provides an overview of what CDC is doing to increase awareness of this prevention strategy.

**Düzenli ART kullanımı ile viral yükü saptanamaz düzeyde olan ve devamlı viral süpresyonu sağlanan bireyler HIV'i cinsel partnerlerine bulaştırmazlar**

**CDC, EACS ve DHHS**

People with HIV who take HIV medicine as prescribed and get and keep an undetectable viral load (or stay virally suppressed) will not transmit HIV to their sexual partners.





The studies reported transmission risk estimates and their corresponding 95% confidence intervals as:

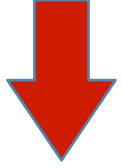
- PARTNER study:<sup>8</sup>
  - For any sex among heterosexual and male-male couples: 0.00 (0.00 – 0.30) per 100 couple-years
  - For anal sex among male-male couples: 0.00 (0.00 – 0.89) per 100 couple-years
- Opposites Attract study:<sup>9</sup>
  - For anal sex among male-male couples: 0.00 (0.00 – 1.59) per 100 couple-years
- PARTNER2 study (*which includes data from PARTNER*):<sup>10</sup>
  - For anal sex among male-male couples: 0.00 (0.00 – 0.24) per 100 couple-years

1-Rodger AJ, et al. *JAMA* 2016;316(2):171-81. 2-Bavinton BR, et al. *Lancet* 2018;5(8):e438-47. 3- Rodger AJ. Risk of HIV transmission through condomless sex in MSM couples with suppressive ART: The PARTNER2 Study extended results in gay men. Presented at the 22nd International AIDS Conference; July 23-27, 2018; Amsterdam, the Netherlands.

<https://www.cdc.gov/hiv/risk/art/evidence-of-hiv-treatment.html>

# HIV İLE YAŞAYAN BİREYLERDE KONSEPSİYON

- Kadın (+) Erkek (-) ise ;

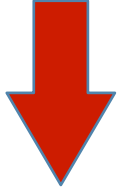


Spermin peri ovulatuvar donemde vajinaya enjektör ile boşaltılması



# HIV İLE YAŞAYAN BİREYLERDE KONSEPSİYON

- Erkek (+) Kadın (-) ise;



ART'nin etkinliđi nedeniyle, HIV viral yükü negatif olan erkeklerde sperm yıkama artık önerilmemekte

# HIV İLE YAŞAYAN BİREYLERDE KONSEPSİYON

- Partnerlerin HIV serolojisi farklı olduğunda ;
- **Viral supresyon sağlanmamışsa**
  - ART'nin ilk 6 ayında
  - HIV pozitif partnerin uyumu konusunda belirsizlik varsa



- Maruziyet Öncesi Profilaksi (PrEP) önerilir

# PrEP

- TDF / FTC ;
- Temastan 20 gün önce başlanıp 28 gün sonrasına kadar devam
- Gebeler ; PrEP kullanımına gebelik boyunca devam edebilir

# PrEP

- Dapivirin vajinal halka
  - Kabotegravir
- } HIV bulaşma riskini azalttığı gösterilmiş
- Kabotegravir, FDA tarafından PrEP olarak onaylanmış
  - Gebelik, hamilelik veya emzirmede kullanımları için güvenli veriler sınırlı!!!
  - TAF/FTC'nin HIV'i önlemede etkili olduğu gösterilmemiştir

# GEBELERDE HIV TESTLERİ

**TABLE 2B.** Timing of Diagnosis of Mothers of Infants With HIV Infection, United States 2002–2014

	Year	Before Pregnancy (%)	During Pregnancy (%)	At or After Delivery (%)
NHSS <sup>21</sup>	2002–2005	37.5	17.1	30.3
	2006–2009	42.9	17.9	23
	2010–2013	51.5	17.6	21.1
	Overall	41.8	17.5	15.8
EPS Supplemental Report <sup>5</sup>	2005–2008		69 <sup>a</sup>	29 <sup>f</sup>
Atlanta, GA <sup>22</sup>	2007–2012	74		
Florida <sup>24</sup>	2007–2014	53.9	14.4	23.6



- HIV enfekte infantların anneleri yaklaşık %17 oranında gebelik sırasında tanı almış

# GEBELERDE HIV TESTLERİ

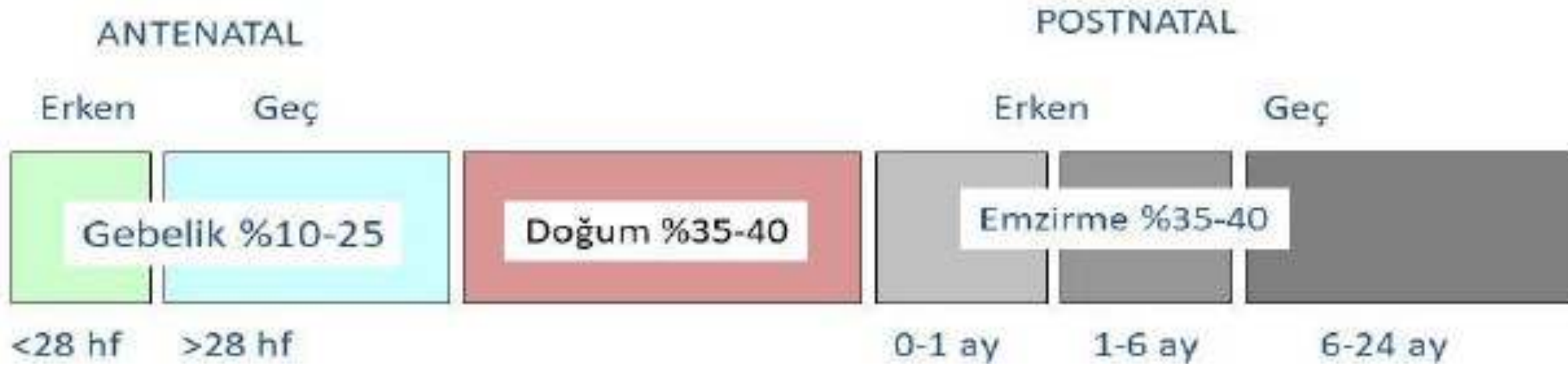
- Tüm gebe kadınlara HIV testi yapılmalı
- İlk trimesterde gebelik testi negatif gelirse, riskli gebelerde üçüncü trimesterde test tekrar edilmeli (**AII**)
- CYBE, akut HIV enfeksiyonunun belirtileri veya HIV'e maruziyet riski olan gebeler için test tekrarlanmalı ve negatifse PrEP başlanmalı (**AIII**)
- Doğum sırasında Hızlandırılmış HIV testi yapılmalı
  - HIV durumu belirsiz
  - Gebeliğin erken döneminde negatif ancak HIV riski yüksek olan
  - Üçüncü trimesterde yeniden test edilmemiş olan kişiler için (**AII**).

# HIV açısından riskli gebeler?

- Partneri HIV enfekte olanlar
- Seks işçileri
- Kendisi veya partneri damar içi madde kullananlar
- Gebeliği esnasında yeni veya birden fazla partneri olanlar
- Gebeliği esnasında cinsel yolla bulaşan hastalığı olanlar
- Akut retroviral sendromun semptom ve bulgusu olanlar
- Her 1000 gebe kadında bir veya daha fazlası HIV pozitif saptanan HIV/AIDS insidansı yüksek olan yerde yaşayanlar



# ANNEDEN BEBEĐE BULAŐ



- ART, viral y¼ke g¼re doĐumun planlaması ve emzirmenin ¼nlenmesi ile risk <%1

# Perinatal HIV bulaşının bilinen risk faktörleri

- Yüksek maternal viral yük
- Düşük CD4 sayısı
- Annede AIDS
- ART kullanmaksızın viral yükün  $>1000$  kopya /ml olduğu vajinal doğum
- $>4$  saat erken membran rüptürü
- Preterm infant ( $<37$  hafta)
- Emzirme

# GEBELİKTE ANTİRETROVİRAL TEDAVİ SEÇİMİ

- Erken viral supresyon perinatal geiş riskini azaltacağından;  
Zaman kaybetmeden ART başlanmalı
- Hızlı viral supresyon
- İla seçiminde;
  - Teratojenite
  - Gebelik fizyolojisine uygun ila dağılımı
  - Komorbiditeler
  - Koenfeksiyonlar-Hepatit B

# GEBELİKTE ANTİRETROVİRAL TEDAVİ SEÇİMİ

- CD4 sayısı
- HIV viral yükü
- Gebelik öncesi kullandığı ART
- ARV direnç testi sonuçları (HIV RNA > 500-1000 kopya/mL ise)
- HLA B\*5701 sonucu
- İlaça uyum problemleri
- Depresyon ve anksiyete yönelik değerlendirme
- Sigara, alkol alışkanlığı
- Partnerin değerlendirilmesi

# GEBELİKTE ANTİRETROVİRAL TEDAVİ SEÇİMİ

- HBV
- HCV
- Tüberküloz yönünden tarama
- CYBE yönünden tarama
- Kan sayımı, karaciğer ve böbrek testlerinin değerlendirilmesi
- *P. jirovecii* gibi fırsatçı enfeksiyonlara yönelik profilaksi ihtiyacı

# ART NAİV GEBEDE TEDAVİ SEÇİMİ

Regimen	Main requirements	Additional guidance (see footnotes)
<b>Recommended regimens</b>		
<b>2 NRTIs + INSTI (PREFERRED)</b>		
ABC/3TC + DTG or ABC/3TC/DTG	DTG to be discussed with women considering to become pregnant or if to be used in first 6 weeks of pregnancy HLA-B*57:01 negative HBsAg negative	I (ABC: HLA-B*57:01, may delay starting ART) II (DTG: neural tube defects risk during periconception)
TDF/XTC or TAF/FTC + DTG	DTG to be discussed with women considering to become pregnant or if to be used in first 6 weeks of pregnancy. TAF/FTC not recommended in first 14 weeks of pregnancy	II (DTG: neural tube defects risk during periconception) III (Tenofovir salts) IV (TAF & pregnancy)
TDF/XTC or TAF/FTC + RAL 400 mg bid	TAF/FTC not recommended in first 14 weeks of pregnancy	III (Tenofovir salts) IV (TAF & pregnancy) V (RAL in pregnancy, bid dosing)
<b>2 NRTIs + PI/r</b>		
TDF/XTC or TAF/FTC + DRV/r 600 mg/100 mg bid	With food TAF/FTC not recommended in first 14 weeks of pregnancy	III (Tenofovir salts) IV (TAF & pregnancy) VI (DRV dosing) VII (COBI boosting)

**II**-Tsepamo kohortuna göre, diğer tüm ART'lere kıyasla DTG alan kadınlarda nöral tüp defektlerinde istatistiksel olarak anlamlı olmayan küçük bir artış olduğu gösterildi

**IV**-TAF/FTC, bu kombinasyonun güvenliğini ve virolojik etkinliğini değerlendiren IMPACT 2010/VESTED randomize çalışması sadece 14-28. gebelik haftaları arasındaki kadınları kapsadığından gebeliğin ilk 14 haftasında önerilmez.

**V**-RAL 1200 mg qd ile ilgili veri yok: önerilmez.

**VI**-DRV/r 800/100 mg qd, düşük seviyeler nedeniyle gebelik sırasında önerilmez. DRV/c, gebeliğin ikinci ve üçüncü trimesterinde DRV ve COBI'ye önemli ölçüde daha düşük maruziyet nedeniyle gebelik sırasında önerilmez.

**VII**-İkinci trimesterden sonra COBI ile takviye önerilmez (yetersiz ilaç seviyeleri)

ORIGINAL ARTICLE

## Neural-Tube Defects and Antiretroviral Treatment Regimens in Botswana

Rebecca Zash, M.D., Lewis Holmes, M.D., Modiegi Diseko, B.P.H.,  
Denise L. Jacobson, Ph.D., M.P.H., Sean Brummel, Ph.D., Gloria Mayondi, B.Sc.,  
Arielle Isaacson, B.A., Sonya Davey, M.Phil., Judith Mabuta, Mompoti Mmalane, M.D.,  
Tendani Gaolathe, M.D., M. Essex, D.V.M., Ph.D., Shahin Lockman, M.D.,  
Joseph Makhema, M.B., B.S., and Roger L. Shapiro, M.D., M.P.H.

### CONCLUSIONS

Botswana'da yapılan çalışmada gebelikten önce DTG'ye başlayan ve gebelik sırasında DTG alan kadınlardan doğan bebeklerde NTD riskinde hafif bir artış saptanmış



# Recommendations for the Use of Antiretroviral Drugs During Pregnancy

- The Panel on Treatment of Pregnant Women with HIV Infection and Prevention of Perinatal Transmission (the Panel) recommends dolutegravir (DTG) as a preferred ARV for women with an increased risk of neural tube defects. Key features of DTG include once-daily dosing, being generally well-tolerated, and its importance for maternal health and the prevention of perinatal transmission.

- Dolutegravirin nöral tüp defekti yaptığına dair verilerde risk düşük
- Gebelik planlayan kadınlarda dahil olmak üzere kullanılabilir
- Günde tek doz kullanılması
- İyi tolere edilmesi
- Hızlı viral yük supresyonu



IAS 2021

## Update on neural tube defects with antiretroviral exposure in the Tsepamo study, Botswana

R. Zash<sup>1</sup>, L.B. Holmes<sup>2</sup>, M. Diseko<sup>3</sup>, D.L. Jacobson<sup>4</sup>, G. Mayondi<sup>3</sup>,  
J. Mabuta<sup>3</sup>, M. Jackson-Gibson<sup>5</sup>, M. Mmalane<sup>3</sup>, T. Gaolathe<sup>6</sup>, S. Lockman<sup>7</sup>,  
J. Makhema<sup>3</sup>, R.L. Shapiro<sup>8</sup>

Exposure group vs. comparison group	Prevalence Difference (%) (95% CI)
DTG at conception vs. Non-DTG at conception	0.06 (-0.03, 0.20)
DTG at conception vs. EFV at conception	0.09 (-0.00, 0.23)
DTG at conception vs. DTG started in pregnancy	0.10 (-0.03, 0.24)
DTG at conception vs. Non-DTG started in pregnancy	0.08 (-0.04, 0.23)
DTG at conception vs. Women without HIV	0.09 (0.01, 0.23)

Table. Current prevalence difference by exposure categories.

Gebe kalma aşamasında DTG kullananların yenidoğanlarında NTD prevalansında %0.15'e düşüş

Diğer ART'ler ile arasında istatistiksel olarak NTD açısından anlamlı farklılık saptanmamış

# ART NAİV GEBEDE TEDAVİ SEÇİMİ

Alternative regimens		
<b>2 NRTIs + INSTI</b>		
ABC/3TC + RAL 400 mg bid	HBsAg negative HLA-B*57:01 negative	<b>I</b> (ABC: HLA-B*57:01, may delay starting ART) <b>V</b> (RAL in pregnancy, bid dosing)
<b>2 NRTIs + NNRTI</b>		
ABC/3TC + EFV	HLA-B*57:01 negative HBsAg negative HIV-VL < 100,000 copies/mL At bedtime or 2 hours before dinner	<b>I</b> (ABC: HLA-B*57:01, may delay starting ART) <b>VIII</b> (EFV HIV-2 & group O)
TDF/XTC or TAF/FTC + EFV or TDF/FTC/EFV	At bedtime or 2 hours before dinner TAF/FTC not recommended in first 14 weeks of pregnancy	<b>III</b> (Tenofovir salts) <b>IV</b> (TAF & pregnancy) <b>VIII</b> (EFV HIV-2 & group O)
TDF/XTC or TAF/FTC + RPV or TDF/FTC/RPV or TAF/FTC/RPV	CD4 count > 200 cells/ $\mu$ L HIV-VL < 100,000 copies/mL Not on gastric pH increasing agents With food TAF/FTC not recommended in first 14 weeks of pregnancy	<b>II</b> (Tenofovir salts) <b>IV</b> (TAF & pregnancy) <b>IX</b> (RPV exposure during 2 <sup>nd</sup> and 3 <sup>rd</sup> trimester, HIV-2) <b>X</b> (Interactions)
<b>2 NRTIs + PI/r</b>		
ABC/3TC + DRV/r 600 mg/100 mg bid	HLA-B*57:01 negative HBsAg negative With food	<b>I</b> (ABC: HLA-B*57:01, may delay starting ART) <b>VI</b> (DRV dosing) <b>VII</b> (COBI boosting)

**VIII.** EFV, HIV-2 ve HIV-1 grup O suşuna karşı etkili değil

**IX:** İkinci ve üçüncü trimesterde RPV'nin etkinliği azalıyor, Viral yük daha sık izlenmeli, RPV, HIV-2'ye etkili değil.

**X.** Mide bulantısı için anti-H2 veya proton pompası inhibitörleri reçete edilir.



# DHHS-2021

<b>Preferred Dual-NRTI Backbones</b>	
<b>ABC/3TC</b>	Available as an FDC. Can be administered once daily. ABC <b>should not be used</b> in patients who test positive for HLA-B*5701 because of the risk of developing a hypersensitivity reaction. ABC/3TC administered with ATV/r or EFV is not recommended if pretreatment HIV RNA is >100,000 copies/mL.
<b>TAF/FTC</b> or <b>TAF plus 3TC</b>	TAF/FTC is available as an FDC. Either coformulated TAF/FTC or separate doses of TAF and 3TC can be administered once daily. When combined with DTG, the efficacy and toxicity of TAF/FTC and TDF/FTC for treatment of pregnant patients are similar, but TAF/FTC is associated with fewer adverse birth outcomes and slightly higher gestational weight gain.
<b>TDF/FTC</b> or <b>TDF/3TC</b>	TDF/FTC is available as an FDC. Either coformulated TDF/FTC or separate doses of TDF and 3TC can be administered once daily. TDF has potential renal toxicity; thus, TDF-based, dual-NRTI combinations should be used with caution in patients with renal insufficiency.
<b>Preferred INSTI Regimens</b>	
<b>DTG/ABC/3TC (FDC)</b> or <b>DTG plus a Preferred Dual-NRTI Backbone<sup>a</sup></b>	Administered once daily. The use of DTG/ABC/3TC requires HLA-B*5701 testing <b>before starting therapy</b> because this FDC contains ABC. INSTI-based regimens may be particularly useful when drug interactions or the potential for preterm delivery with a PI-based regimen are a concern. In nonpregnant adults, DTG is associated with lower rates of INSTI resistance than RAL; like RAL, DTG has been shown to rapidly decrease viral load in ARV-naïve pregnant women who present to care later in pregnancy. DTG is the only <b>Preferred agent recommended for the treatment of acute HIV infection during pregnancy</b> . <b>Either DTG or RAL is the Preferred agent for patients who present to care late in pregnancy. However, DTG is the only Preferred drug for pregnant patients with acute HIV (see Acute HIV Infection).</b> Specific timing and/or fasting recommendations apply if DTG is taken with calcium or iron (e.g., in prenatal vitamins; see <a href="#">Table 11</a> ). The use of DTG at conception has been associated with a small increase in the risk of NTDs, but this was not seen when DTG was started during pregnancy. However, in the most recent data from Botswana, there was no longer a significant difference in NTDs with the use of DTG-containing compared to non-DTG containing ARV regimens at conception. This information should be discussed with patients to ensure informed decision-making. For more information, see <a href="#">Recommendations for Use of Antiretroviral Drugs During Pregnancy, Table 5, Teratogenicity, and Appendix C: Antiretroviral Counseling Guide for Health Care Providers</a> .
<b>RAL plus a Preferred Dual-NRTI Backbone</b>	PK data are available for RAL in pregnancy when using the twice-daily formulation (400 mg twice daily), but data are not available for the once-daily 1,200 mg (2 × 600 mg) extended-release formulation "raltegravir HD." Twice-daily dosing is required in pregnancy. RAL has been shown to produce rapid viral load decline to undetectable levels in women who present for initial therapy late in pregnancy <b>and thus is a Preferred ARV option in this setting. However, RAL is an Alternative ARV for persons diagnosed with acute HIV during pregnancy (see Acute HIV Infection).</b> INSTI-based regimens may be particularly useful when drug interactions or the potential for preterm delivery with PI-based regimens are a concern. Specific timing and/or fasting recommendations apply if RAL is taken with calcium or iron (e.g., in prenatal vitamins; see <a href="#">Table 11</a> ).
<b>Preferred PI Regimens</b>	
<b>ATV/r plus a Preferred Dual-NRTI Backbone</b>	Once-daily administration. Extensive experience with use in pregnancy. Maternal hyperbilirubinemia; no clinically significant neonatal hyperbilirubinemia or kernicterus reported, but neonatal bilirubin monitoring is recommended. Cannot be administered with PPIs. Specific timing recommended for dosing with H2 blockers (see <a href="#">Table 11</a> ).
<b>DRV/r plus a Preferred Dual-NRTI Backbone</b>	Must be used twice daily in pregnancy.

### Insufficient Data in Pregnancy to Recommend for Initial Regimens in People Who Are ART-Naive

These drugs are approved for use in adults but lack adequate pregnancy-specific PK or safety data.

BIC/TAF/FTC (FDC)	Limited data on the use of BIC in pregnancy.
DOR	No data on the use of DOR in pregnancy.
IBA	No data on the use of IBA in pregnancy.

DHHS 2021

Gebelikte BIC, EVG, DOR, RAL qd ve ikili rejimler için yeterli veri yok  
**ATV, ZDV ve LPV/r alternatif rejimlerden kaldırıldı**

EACS 11 2021

# ART kullanırken gebe kalma durumunda;

- Kullanılan tedavi güvenli ise ve viral baskılama yapıyorsa
- ART aynı şekilde sürdürülmeli
- Toksikite nedeniyle güvenli olmayan ilaçlar değiştirilmeli
- **(sitavudin, didanozin gibi)**
- 2 ilaç tedavisi alan hastaların tedavisi ya değiştirilmeli ya da yeni ilaç eklenmeli **(DTG+3TC )**

# ART kullanırken gebe kalma durumunda;

- Atazanavir/cobistat, darunavir/cobistat, elvitağravir/cobistat kullanan gebelerde plazma konsantrasyonu düşük olması nedeniyle virolojik yetersizlik riski olabilir (1-2 ayda bir takip)
- RNA düzeyleri >500 kopya/mL fakat <1,000 kopya/mL ise ve virolojik yetersizlik varsa ARV direnç testlerine göre
- ARV değişikliği yapılmalı



ART Regimen Component	ART for Pregnant People Who Have Never Received ARV Drugs and Who Are Initiating ART for the First Time	Continuing ART for People Who Become Pregnant on a Fully Suppressive, Well-Tolerated Regimen	ART for Pregnant People Who Have Received ARV Drugs in the Past and Who Are Restarting ART <sup>a</sup>	New ART Regimen for Pregnant People Whose Current Regimen Is Not Well Tolerated and/or Is Not Fully Suppressive <sup>a</sup>	ART for Nonpregnant People Who Are Trying to Conceive <sup>a,b</sup>
<b>Integrase Strand Transfer Inhibitor (INSTI) Drugs</b>					
Used in combination with a dual-nucleoside reverse transcriptase inhibitor (NRTI) backbone <sup>e</sup>					
DTG	Preferred	Continue	Preferred	Preferred	Preferred
RAL	Preferred	Continue	Preferred	Preferred	Preferred
BIC	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data
CAB <sup>d</sup> Oral (lead-in) Long-acting (IM)	Not recommended	Insufficient data	Not recommended	Not recommended	Insufficient data
EVG/c <sup>e</sup>	Not recommended	Continue with frequent viral load monitoring or consider switching	Not recommended	Not recommended	Not recommended
<b>Protease Inhibitor (PI) Drugs</b>					
Used in combination with a dual-NRTI backbone <sup>e</sup>					
ATV/r	Preferred	Continue	Preferred	Preferred	Preferred
DRV/r	Preferred	Continue	Preferred	Preferred	Preferred
LPV/r	Not recommended, except in special circumstances	Continue	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
ATV/c <sup>e</sup>	Not recommended	Continue with frequent viral load monitoring or consider switching	Not recommended	Not recommended	Not recommended
DRV/c <sup>e</sup>	Not recommended	Continue with frequent viral load monitoring or consider switching	Not recommended	Not recommended	Not recommended
<b>Non-nucleoside Reverse Transcriptase Inhibitor (NNRTI) Drugs</b>					
Used in combination with a dual-NRTI backbone <sup>e</sup>					
EFV	Alternative	Continue	Alternative	Alternative	Alternative
RPV Oral <sup>f</sup>	Alternative	Continue	Alternative	Alternative	Alternative
RPV Long-acting (IM) <sup>d</sup>	Not recommended	Insufficient data	Not recommended	Not recommended	Insufficient data
DOR	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data
ETR <sup>g</sup>	Not recommended	Continue	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
NVP <sup>g</sup>	Not recommended	Continue	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
<b>NRTI Drugs<sup>e,h</sup></b>					
ABC <sup>i</sup>	Preferred	Continue	Preferred	Preferred	Preferred
FTC	Preferred	Continue	Preferred	Preferred	Preferred
3TC	Preferred	Continue	Preferred	Preferred	Preferred
TDF	Preferred	Continue	Preferred	Preferred	Preferred
ZDV	Alternative	Continue	Alternative	Alternative	Alternative
TAF	Preferred	Continue	Preferred	Preferred	Preferred

# Gebelik saptandıđında viral spresyon sađlanamamış ise;

- HIV perinatal geiş riski, antenatal viral yk ile iliřkili
- Mmkn olan en kısa srede viral yk baskılanmalı
- Yeterli tedavi periyodundan sonra viral spresyon sađlanamayan gebe hastalar iin ila uyumu, ila dozu, absorpsiyon ile ilgili sorunlar, yiyecek ve ila etkileřimleri deđerlendirilmeli
- Viral yk >500 kopya /mL ise diren testi yapılmalı
- İntegraz inhibitr ile deđerştirilmeli ya da eklenmeli (DTG/RAL)

# Viral baskılanma yok!

- En önemli sebep ilaç uyumsuzluğu
- İlaçları tolere edememek
- Yanlış dozda ilaç kullanılmak
- Absorbsiyon sorunları (bulantı, kusma, gastroözefageal reflü....)



ART Regimen Component	ART for Pregnant People Who Have Never Received ARV Drugs and Who Are Initiating ART for the First Time	Continuing ART for People Who Become Pregnant on a Fully Suppressive, Well-Tolerated Regimen	ART for Pregnant People Who Have Received ARV Drugs in the Past and Who Are Restarting ART <sup>a</sup>	New ART Regimen for Pregnant People Whose Current Regimen Is Not Well Tolerated and/or Is Not Fully Suppressive <sup>a</sup>	ART for Nonpregnant People Who Are Trying to Conceive <sup>a,b</sup>
<b>Integrase Strand Transfer Inhibitor (INSTI) Drugs</b>					
Used in combination with a dual-nucleoside reverse transcriptase inhibitor (dNRTI) backbone <sup>c</sup>					
DTG	Preferred	Continue	Preferred	Preferred	Preferred
RAL	Preferred	Continue	Preferred	Preferred	Preferred
BIC	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data
CAB <sup>d</sup> Oral (lead-in) Long-acting (IM)	Not recommended	Insufficient data	Not recommended	Not recommended	Insufficient data
EVG/c <sup>e</sup>	Not recommended	Continue with frequent viral load monitoring or consider switching	Not recommended	Not recommended	Not recommended
<b>Protease Inhibitor (PI) Drugs</b>					
Used in combination with a dual-NRTI backbone <sup>c</sup>					
ATV/r	Preferred	Continue	Preferred	Preferred	Preferred
DRV/r	Preferred	Continue	Preferred	Preferred	Preferred
LPV/r	Not recommended, except in special circumstances	Continue	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
ATV/c <sup>e</sup>	Not recommended	Continue with frequent viral load monitoring or consider switching	Not recommended	Not recommended	Not recommended
DRV/c <sup>e</sup>	Not recommended	Continue with frequent viral load monitoring or consider switching	Not recommended	Not recommended	Not recommended
<b>Non-nucleoside Reverse Transcriptase Inhibitor (NNRTI) Drugs</b>					
Used in combination with a dual-NRTI backbone <sup>c</sup>					
EFV	Alternative	Continue	Alternative	Alternative	Alternative
RPV Oral <sup>f</sup>	Alternative	Continue	Alternative	Alternative	Alternative
RPV Long-acting (IM) <sup>g</sup>	Not recommended	Insufficient data	Not recommended	Not recommended	Insufficient data
DOR	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data
ETR <sup>h</sup>	Not recommended	Continue	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
NVP <sup>h</sup>	Not recommended	Continue	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
<b>NRTI Drugs<sup>c,h</sup></b>					
ABC <sup>i</sup>	Preferred	Continue	Preferred	Preferred	Preferred
FTC	Preferred	Continue	Preferred	Preferred	Preferred
3TC	Preferred	Continue	Preferred	Preferred	Preferred
TDF	Preferred	Continue	Preferred	Preferred	Preferred
ZDV	Alternative	Continue	Alternative	Alternative	Alternative
TAF	Preferred	Continue	Preferred	Preferred	Preferred

# Gebelikten önce ART almış ama gebelik saptandığında tedavi almayanlar

- Daha önce kullanmış olduğu ARV ilaçlar, direnç testi sonuçları,
- ilaca uyum ve ilacın tolere edilip edilemediği sorgulanmalı
- Önceki kullandığı ARV ilaçlar, direnç testi sonuçları ve kullandığı diğer ilaçlar değerlendirilerek ART belirlenmeli
- HIV RNA eşik değerin üzerinde ise (500-1000 kopya/mL) direnç testi istenmeli
- Direnç testi sonucu görülmeden ART başlanmalı, direnç testi sonucuyla gerekirse yeniden tedavi düzenlenmeli
- Yetersiz viral baskılanma durumunda direnç testi tekrarı yapılmalı, uyum ve etkileşim sorunları irdelenmeli
- Gerektiğinde uzman desteği alınmalı



ART Regimen Component	ART for Pregnant People Who Have Never Received ARV Drugs and Who Are Initiating ART for the First Time	Continuing ART for People Who Become Pregnant on a Fully Suppressive, Well-Tolerated Regimen	ART for Pregnant People Who Have Received ARV Drugs in the Past and Who Are Restarting ART <sup>a</sup>	New ART Regimen for Pregnant People Whose Current Regimen Is Not Well Tolerated and/or Is Not Fully Suppressive <sup>a</sup>	ART for Nonpregnant People Who Are Trying to Conceive <sup>a,b</sup>
<b>Integrase Strand Transfer Inhibitor (INSTI) Drugs</b>					
Used in combination with a dual-nucleoside reverse transcriptase inhibitor (NRTI) backbone <sup>c</sup>					
DTG	Preferred	Continue	Preferred	Preferred	Preferred
RAL	Preferred	Continue	Preferred	Preferred	Preferred
BIC	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data
CAB <sup>d</sup> Oral (lead-in) Long-acting (IM)	Not recommended	Insufficient data	Not recommended	Not recommended	Insufficient data
EVG/c <sup>e</sup>	Not recommended	Continue with frequent viral load monitoring or consider switching	Not recommended	Not recommended	Not recommended
<b>Protease Inhibitor (PI) Drugs</b>					
Used in combination with a dual-NRTI backbone <sup>c</sup>					
ATV/r	Preferred	Continue	Preferred	Preferred	Preferred
DRV/r	Preferred	Continue	Preferred	Preferred	Preferred
LPV/r	Not recommended, except in special circumstances	Continue	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
ATV/c <sup>e</sup>	Not recommended	Continue with frequent viral load monitoring or consider switching	Not recommended	Not recommended	Not recommended
DRV/c <sup>e</sup>	Not recommended	Continue with frequent viral load monitoring or consider switching	Not recommended	Not recommended	Not recommended
<b>Non-nucleoside Reverse Transcriptase Inhibitor (NNRTI) Drugs</b>					
Used in combination with a dual-NRTI backbone <sup>c</sup>					
EFV	Alternative	Continue	Alternative	Alternative	Alternative
RPV Oral <sup>f</sup>	Alternative	Continue	Alternative	Alternative	Alternative
RPV Long-acting (IM) <sup>g</sup>	Not recommended	Insufficient data	Not recommended	Not recommended	Insufficient data
DOR	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data
ETR <sup>h</sup>	Not recommended	Continue	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
NVP <sup>h</sup>	Not recommended	Continue	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
<b>NRTI Drugs<sup>c,h</sup></b>					
ABC <sup>i</sup>	Preferred	Continue	Preferred	Preferred	Preferred
FTC	Preferred	Continue	Preferred	Preferred	Preferred
3TC	Preferred	Continue	Preferred	Preferred	Preferred
TDF	Preferred	Continue	Preferred	Preferred	Preferred
ZDV	Alternative	Continue	Alternative	Alternative	Alternative
TAF	Preferred	Continue	Preferred	Preferred	Preferred

# Gebelikte akut HIV enfeksiyonu

- Mmkn olan en kısa zamanda tedavi bařlanmalı
- Genotipik diren testi yapılmalı
- Gebelerde ve emzirelerde trimesterden bağımsız olarak;
- **TDF veya TAF /FTC veya 3TC + DTG tercih edilen ilaç kombinasyonu (AII)**
- Alternatif tedavi DRV/r + TDF veya TAF / FTC veya 3TC (AIII)

# HIV İLE ENFEKTE GEBENİN İZLEMİ

## **Gebe kadında HIV RNA düzeyi ;**

- Başlangıçta ART başlanmasından veya deęişiminden 2-4 hafta sonra
- HIV RNA saptanamaz düzeye gelene kadar ayda bir
- Gebelik sırasında her 3 ayda bir bakılmalı
- HIV RNA seviyesi 34 ila 36. gebelik haftalarında da deęerlendirilmeli



# HIV İLE ENFEKTE GEBENİN İZLEMİ

## Gebelik sırasında CD4 sayısının izlemi;

- CD4 T lenfosit sayısı, doğum öncesi ilk vizitte ölçülmeli
- <2 yıl ART alan, CD4 sayısı <300 hücre/mm<sup>3</sup> olan,
- İlaça uyumsuz ve/ veya viral yük saptanabilen düzeyde olanlarda üç ayda bir CD4 izlenmeli

**Table 6. HIV-Related Laboratory Monitoring Schedule for Pregnant People with HIV<sup>a</sup>**

Laboratory Test	Timepoint or Frequency of Testing						
	Entry Into Antenatal Care	ART Initiation or Modification	2 to 4 Weeks After ART Initiation or Modification	Monthly	Every 3 Months During Pregnancy	At 24 to 28 Weeks Gestation	At 34 to 36 Weeks Gestation to Inform Mode of Delivery and Infant ARV Regimen
HIV RNA Levels <sup>b</sup>	✓	✓ If a result is not available within 2 weeks of ART initiation or modification	✓	✓ Until HIV RNA levels are undetectable	✓ At least every 3 months <sup>c</sup>		✓
CD4 Count <sup>d</sup>	✓				✓ For patients who have been on ART for <2 years, patients with CD4 counts <300 cells/mm <sup>3</sup> , and patients with inconsistent adherence and/or detectable viral loads		
Resistance Testing <sup>e</sup>		✓					
Standard Glucose Screening <sup>f</sup>						✓ For patients on ART <sup>g</sup>	
LFTs for Patients on ART	✓	✓			✓ With additional testing as clinically indicated		

# HIV İLE ENFEKTE GEBENİN İZLEMİ

## OGTT;

- 24-28. haftalarda
- PI temelli rejimlerde daha erken
- **İlaç yan etkilerinin izlemi;**
- RAL..... transaminaz artışı
- TDF..... renal fonksiyon takibi
- PI..... hepatik disfonksiyon
- NRTI....hepatosteatoz ve laktik asidoz

# Amniyosentez

?

- Amniyosentez endikasyonu varsa, amniyosentez etkin ART başlandıktan sonra
- İdeal olarak HIV-RNA saptanamaz düzeye geldiğinde yapılmalı



# DOĞUM

- **34-36. haftada VY>50 kopya/ml ;**
  - 38. hf elektif sezeryan
  - Doğum sırasında iv zidovudin
    - 2mg/kg yükleme, 1mg /kg /saat doğuma kadar
    - Yükleme planlı sezeryandan 3 saat önce, değilse yükleme dozu ardından sezeryan
- **Doğum anında HIV pozitif saptandı ise;**
  - Sezeryan planlanmalı
  - IV Zidovudin
  - PEP yenidoğana verilmeli

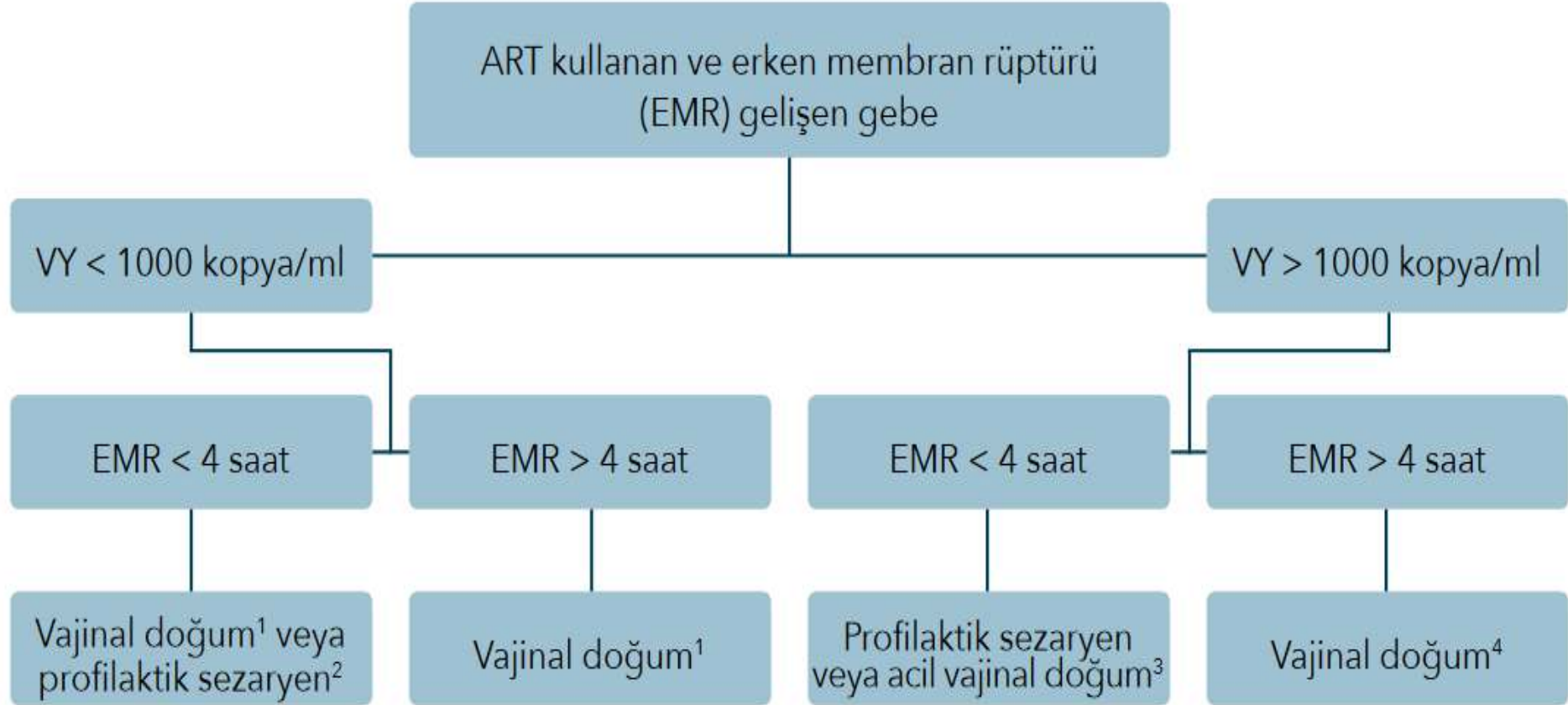
## HIV RNA at Time of Delivery

**Assessed at 36 Weeks Gestation or Within 4 Weeks of Delivery with  
No Concerns Regarding ART Adherence<sup>a</sup>**

	<50 copies/mL and on ART with No Concerns About Adherence	≥50 to ≤1,000 copies/mL	>1,000 copies/mL	Unknown HIV RNA ART Adherence Concerns Not Receiving ART HIV Diagnosis in Labor
<b>Intrapartum ART</b>	Pregnant people should take their prescribed ART on schedule as much as possible during labor and before scheduled cesarean delivery (CIII). In general, ARV regimens are initiated postpartum for people diagnosed with HIV during labor.			
<b>Intrapartum IV ZDV</b>	Not required (BII).	Not required but may be considered (CII); many experts recommend.	Yes, recommended (AI). <sup>b</sup> IV ZDV: 1-hour loading dose at 2 mg/kg followed by a continuous ZDV infusion of 1 mg/kg for 2 hours (at least 3 hours total) (All).	
<b>Mode of delivery</b>	Normal vaginal delivery <sup>c</sup> (All).	Normal vaginal delivery <sup>c</sup> (All).	Scheduled cesarean delivery at 38 weeks <sup>d</sup> (All).	Individualized care, see footnote. <sup>d</sup>
<b>Artificial rupture of membranes<sup>e</sup></b>	Per standard obstetric indications (BII).	Avoid if possible (BIII).	Not applicable, cesarean delivery recommended.	Avoid if possible in people with detectable or unknown viral load who are not receiving a cesarean delivery (BIII).
<b>Induction of labor</b>	Per standard obstetric indications, including use of pitocin. Pregnant people with HIV RNA ≤1,000 copies/mL should NOT be routinely induced at 38 weeks.		Not applicable, scheduled cesarean delivery recommended.	Avoid if possible (BIII).
<b>IUPC</b>	Data not available for pregnant people with HIV; use IUPC with caution and only if clear obstetric indications exist.			
<b>Fetal scalp electrodes for fetal monitoring</b>	Avoid, particularly when maternal viral load is not suppressed (≥50 copies/mL) or is unknown, because of the potential risk of HIV transmission (BIII). See <a href="#">Antiretroviral Management of Newborns with Perinatal HIV Exposure or HIV Infection</a> .			
<b>Operative delivery with forceps or a vacuum extractor</b>	Per standard obstetric indications (BIII).	Avoid for pregnant people in the setting of viremia if possible (BIII).		



# EMR



Her geçen saatte bulaş % 2 artıyor

# Perinatal HIV maruziyeti ve bebekte tedavi

- Perinatal HIV maruziyeti olan tüm yenidoğana HIV geçişini azaltmak için antiretroviral tedavi başlanmalı
- Tercihen doğumdan sonraki ilk **6 saat içerisinde** infant değerlendirilmeli ve uygun tedavi verilmeli



**Table 8. Neonatal Antiretroviral Management According to Risk of HIV Infection in the Newborn**

Drug selection and dosing considerations are related to the age and gestational age of the newborn. Consultation is available through the [National Perinatal HIV Hotline](https://www.hivhotline.org/) (1-888-448-8765).

Level of Perinatal HIV Transmission Risk	Description	Neonatal ARV Management
Low Risk of Perinatal HIV Transmission	Mothers who received ART during pregnancy with viral suppression (defined as a confirmed HIV RNA level <50 copies/mL) <b>within 4 weeks prior to delivery</b> and no concerns related to adherence	ZDV for 4 weeks <sup>a</sup>
High Risk of Perinatal HIV Transmission <sup>a,b</sup>	Mothers who did not receive antepartum ARV drugs Mothers who received only intrapartum ARV drugs Mothers who received antepartum ARV drugs but did not have viral suppression (defined as a confirmed HIV RNA level <50 copies/mL) <b>within 4 weeks prior to delivery</b> Mothers with acute or primary HIV infection during pregnancy or breastfeeding (in which case, the mother <b>should immediately discontinue breastfeeding</b> ) <sup>c</sup>	Presumptive HIV therapy using either ZDV, 3TC, and NVP (treatment dose) or ZDV, 3TC, and RAL administered from birth up to 6 weeks <sup>d</sup>
Presumed Newborn HIV Exposure	Mothers with unconfirmed HIV status who have at least one positive HIV test at delivery or postpartum <i>or</i> Mothers whose newborns have a positive HIV antibody test	ARV management as described above for newborns with a high risk of perinatal HIV transmission  Infant ARV drugs should be discontinued immediately if supplemental testing confirms that the mother does not have HIV.
Newborn with HIV <sup>e</sup>	Positive newborn HIV virologic test/NAT	Three-drug ARV regimen using treatment doses. Refer to the <a href="#">What to Start</a> in the <a href="#">Pediatric Antiretroviral Guidelines</a> for specific treatment recommendations.

HIV durumu bilinmeyen doğum eylemindeki kadınlara  
hızlandırılmış Anti HIV

Sonuç pozitif ise, doğrulama testi ve HIV- 1 RNA testi  
en kısa sürede yapılmalıdır

Doğrulama sonucu beklenmeden, travayda anneye IV  
zidovudin

Doğumdan sonra bebekte kombine ARV ile  
profilaksi

# EMZİRME



- Anneye bebeğin beslenmesi ile ilgili eğitim ve destek verilmeli
- HIV enfekte annenin viral yükü ve ART kullanım durumu ne olursa olsun bebeğin emzirilmesi önerilmemekte
- Doğum sonrası emzirmeyi baskılamak için kabergolin verilebilir

# EMZİRME

- Emzirmeyi seçtiği durumlarda;
  - Yetişkin HIV uzmanı, pediatrist ve kadın doğum uzmanı; multidisipliner bir ekipten görüş alınmalı
  - Anne ve bebeğe emzirme dönemi boyunca aylık virolojik takip
  - Şu anda emzirilen bebekler için PrEP önerisini destekleyen hiçbir kanıt yok;
- DSÖ, Afrika'nın bazı bölgelerinde güvenli su ve mama temini sorunları olması nedeniyle bebeğin anne sütü alabileceğini, ancak geçişi azaltmak için annenin ART almasını önerir

# SONUÇ OLARAK

- Erken tanı
- Uygun ART kullanımı
- Hızlı tedavi başlanması
- Uygun doğum şekli
- Emzirmeme







TEŞEKKÜR  
LER