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Annenin kullandığı ilaçların anne sütüne geçişi*

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Anne sütünün yaşamsal önemi net tanımlanması ile artık ilaçların anne sütüne geçip geçmediği değil, geçen ilacın bebeğe zararı kavramı gelişmiştir. Zararlı olmayan alternatif yaklaşımlar öne çıkmaktadır. Ayrıca mutlaka internet ile sorgulama öne gelmektedir.

Sağlığın oluşturması için, tıbbi açıdan ilaç olmazsa olmaz gibi bir kavram olmaktadır. Hekimler tedavi garantisi vermeseler bile, ilaçlar ile sorunları ve hastalıkları gidermek için kullanmaları bir gerekliliktir. Anne varken bebek değil annenin ilk planda ele alınması ve bebek için mama verilmesi gündeme gelmektedir.

Zamanımızda, ilacın anneye geçmesi değil, zarar boyutu öne çıkmaktadır. Alternatif yaklaşımlar ile mutlaka son bilgiler ile yaklaşım öne çıkmıştır.

Artık bilgiler internet kanalı ile son veriler olup, buna göre bilgilendirme ve rıza alınması etik ve medikal boyutudur.

Özet

Annenin kullandığı ilaçların anne sütüne geçişi

Amaç: Annelerin süt verdiği dönemde, ilaç veya çeşitli gıda maddeleri dahil, birçoklarını, aktif, pasif ve salgı yolu ile süte geçirdikleri ve bu konuda yaklaşımların esasları irdelenmektedir.
Giriş: İlacın geçip geçmemesi değil; 1) Güvenli Kabul edilenler, 2) Güvenli olabileceği düşünülenler, 3) Tehlikeli olabilecekler, 4) Güvensiz olan ilaçlar olarak ayrılmaktadır. Buna göre yaklaşım temel alınmalıdır.

Genel Yaklaşım; İlacın anne sütüne geçip geçmediği kavramından, geçmesi boyutu ile bebekteki etkileşimler öne çıkmaktadır. Anne sütün kesmek yerine alternatif tedaviler ve bebeğin etkileşimine bakılması gereklidir.
Yaklaşım: Her ilaçlar ve maddeler, internet kanalı ile sorgulanması ile gerçek boyutu ortaya konularak buna göre veri analizinin yapılması öne çıkmaktadır.
Sonuç: Zamanımızda ilacın anne sütü ile geçmesi ile sütün kesilme boyutundan, her ne olursa olsun, anne sütünün verilmesi yaklaşımı ve buna göre değişim gerektiği boyutuna gelinmiştir.
Anahtar Kelimeler: Anne sütü, annenin kullandığı ilaçlar

Outline

Transferring of Drugs to the Mother's Milk

AIM: When the mother be on breast-feeding, the drugs that she is taken is considered. Active, passive and secretion is the aspect for evidence the drug. This Chapter the basis of mother's milk and drug is considered.
Introduction: The importance not the passing to the milk, the principles are; 1) safe, 2) unsafe, 3) dangerous, 4) may be safe. The grounding depends on the mother and infant.
General Considerations; The effects on the infant is primary important. To be out of mother's milk, alternative solutions must be considered
Proceeding: Internet interrogations, new evidences on the drugs, and informative pharmacy knowledge is essential.
Conclusion: Not stopping the mother's milk, find alternative and essential evidences for the reasoning. The aim is to be continue breast-feeding.
Key Words: Mother's milk, medicine used by mother

Anne Sütüne Geçen İlaçlar

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Günümüzde birçok eşsiz özellikleri keşfedilen anne sütü, bebek beslenmesinde vazgeçilemez ve gerçekte alternatifi olmayan bir besindir. Emziren annelerde doğum sonrası komplikasyonlar ve olası diğer hastalıklar nedeniyle ilaç kullanımı, anne sütü verilmesi açısından kaygı ve sorunlara yol açmaktadır. Emzirme döneminde ilaç kullanımı bebeğin olası yan etkilerden korunması yanında, annenin etkili bir şekilde tedavi edilmesi esaslarına dayanır. Emziren annelerde yapılabilecek çalışmalarda etik sorunlar ve uygulama problemleri olması nedenleriyle veriler genelde hayvan deneylerine dayanmaktadır.

Emzirme döneminde ilaç kullanımı anneleri tedirgin etmekte, bu durum anne sütü ile beslenmenin kesilmesi yanında annenin ilaçları düzensiz ve yetersiz kullanmasına yol açmaktadır. Bu yüzden bu annelere ilaç tedavisinin risklerinin doğru bir şekilde anlatılması ve emzirmenin devamlılığı konusunda desteklenmesi gerekmektedir. Kural olarak anne tarafından alınan ilaçların çoğu anne sütüne geçer. Ancak anne sütüne geçen miktar bebek için güvenli aralıklarda olup çoğunlukla risk oluşturmaz. (1,2)

Anne sütüne ilaçların geçişini etkileyen faktörler

a) İlacın alım yolu: Oral alınan ilaçların biyoyararlanımı parenteral ilaçlardan farklıdır. Parenteral ilaç kullanan annelerde; enteral yoldan emilimi düşük olan bu ilaçlar anne sütüne geçmesine rağmen, oral emilimi iyi olmadığından bebek tarafından absorbe edilen miktar çok düşük kalır. Bu grup ilaçlara örnek olarak insülin, morfin, aminoglikozidler gösterilebilir. (3)

b) İlacın farmakokinetik Özellikleri: İlacın serum konsantrasyonu dağılım, metabolizması ve ekskresyonuna bağlıdır. Yarı ömrü uzun olan ilaçlar alındığında bebekte ilaç maruziyeti giderek artabilir. (4)
c) Bebekle ilgili özellikler: Gestasyonel ve postnatal yaş ilaç metabolizmasını etkiler. Pretermlerde karaciğer ve böbrek fonksiyonları term bebeklere göre düşük olduğundan ilaç etkileşimi farklı olabilir. Term infantlarda ilaç yarılanma ömrü daha uzun olacağından, tekrarlayan dozlarla ilaç birikiminin daha fazla olabileceği akılda tutulmalıdır. (5)

İlaçların bebekte etkisini belirleyen faktörler

a) Süt-plazma oranı: Bu oran anne sütüne geçen ilacın miktarını belirler. Plazmadaki ilaç konsantrasyonunun sütteki ilaç konsantrasyonuna oranı hesaplanır. (6)
b) Bebek dozu: sütteki ilaç konsantrasyonunun bebeğin aldığı toplam süt miktarı ile çarpılması ile elde edilir.

Doz (infant) = Sütteki _ilaç Konsantrasyonu X Alınan sütün volümü

Bu formülde ortalama süt alımı 150cc/kg/gün olarak hesaplanabilir. (3)

c) Rölatif bebek dozu: İlaç maruziyetini belirlemede en yararlı yöntemlerden biridir. Anne sütünden geçen ilaç dozu ile annenin aldığı ilaç dozu arasındaki orantı ile hesaplanır

Rölatif infant Dozu= infant doz(mg/kg/gün) / maternal doz (mg/kg/gün) X 100

Rölatif infant dozu % ile ifade edilir.

Önerilen rölatif infant doz değerinin %10'nu geçmemesidir. (1,3,6)

İlaçların Bebeği Etkilemesini Azaltan Yöntemler

1. İlaçlar oral alındıktan sonra 1-2 saat sonra zirve ilaç düzeyi ortaya çıkar. Emzirmenin doz aralığının sonunda yapılması, ilaç alındıktan 1-2 saat sonra sağılarak boşaltılması ve bu sütün atılması yöntemi uygulanabilir. Yarı ömrü kısa ve sık aralıklarla emzirme yapılmayan durumlarda bu yöntem etkili olabilir.
2. Farmakokinetik özelliklerine toksik özellikleri bilinen, anne sütüne geçişi daha az ve relatif infant dozu düşük ilaçların seçilmesi. (Tablo 1) Örneğin sertalin anne sütüne geçişi daha az olduğundan fluoksetine göre tercih edilebilir. (5,7)
3. İlaçların sistemik yerine mümkünse lokal veya aerosol formlarının kullanılması.
4. Yarı ömrü uzun ilaç alımında bebeğin uyku döneminin başında ilacın alınması
5. Çocuklarda kullanımı yaygın ve etkileri iyi bilinene etken maddeli ilaçların annenin tedavisinde tercih edilmesi
6. Warfarin gibi proteine bağlanma oranı yüksek ilaçların süte geçişi az olacağından tercih edilmelidir.
7. İlaçların risk gruplarını gösteren tablolara göre seçilmesi.
8. Kesin zararlı olduğu bilinen ilaç kullanımında emzirmeye ara vermek (Tablo 2,3)

Tablo 6/23-1: Emziren annenin kullanmaması gereken ilaçlar (5)

Sülfonamidler	Fluoksetin
Ergotamin	Lityum
Bromokriptin	ACE inhibitörleri
Psödoefedrin	Alkol
Östrojen	Amfetamin
Progesteron	Marijuana
Asetobutolol	Kokain
Meperidin	İodin
Antikanser ilaçlar	Kafein

Tablo 6/23-2: Sık kullanılan ilaçlarda tercih sırası (7)

	Önerilen ajan	Alternatif ajan	Tercih edilmemesi gereken
Allerjik Rinit	Beklometazon	Setirizin	
	Flutikazon	Loratidin	
	Kromolin	Sedasyon yapan antihistaminikler	
		Dekonjestanlar	
Kardiyovasküler sorun	Hidroklorothiazid	Nifedipin	Atenolol
	Metoprolol tartrat	Verapamil	Nadolol
	Propranolol	Hidralazin	Sotalol
	Labetolol	Kaptopril	Diltiazem
		Enalapril	
Depresyon	Sertralin	Nortriplin	
	Paroksetin	Desipramin	
Diabet	İnsülin	Akarboz	Metformin
	Glibürid		Thiazolinedion
	Glipizid		
	Tolbutamid		
Epilepsi	Fenitoin	Ethosüksimid	Fenobarbital
	Karbamazepin	Valproik sodyum	
Ağrı	İbuprofen		Naproksen
	Morfin		Meperidin
	Asetaminofen		
Astım	Kromolin	Flutikazon	
	Nedokromil	Beklometazon	
Kontrasepsiyon	Bariyer yöntemleri	Sadece progesteron içeren ajanlar	Östrojen içeren kontraseptifler

Tablo 6/23-3: Emzirmenin geçici olarak kesilmesi gereken radyoaktif bileşikler (8)

Bileşim	Anne sütünün kesilmesi gereken süre
Bakır 64 (^{64}Cu)	Radyoaktivite sütte 50 saat kadar bulunur.
Gallium 67 (^{67}Ga)	Radyoaktivite sütte 2 hafta devam eder.
Indium 111 (^{111}In)	20.saate kadar çok az miktarda radyoaktivite bulunur
Iodine 123 (^{123} I)	Sütte radyoaktivite 36 saat kadar bulunur
Iodine 125 (^{125} I)	Sütte radyoaktivite varlığı 12.güne kadar sürer
Iodine 131 (^{131} I)	Sütte radyoaktivite varlığı çalışmaya bağlı olarak 2-14 gün arasında değişir.
Radyoactive sodium	Radyoaktivitenin sütte varlığı 96 saat sürer.
Technetium99m(^{99m}Tc), ^{99m}Tc makroagregatları, $^{99m}TcO_4$	Sütte radyoaktivite varlığı 15 saat ile 3 gün arasında değişir.

Sık kullanılan İlaçların anne sütüne geçişi ve bebek üzerine etkileri

Opioid analjezikler

- **Kodein:** %7 oranında proteine bağlanma; sütten plazmaya geçiş oranı: 1.3/2.5; rölatif dozu maternal dozun %7 kadarı, bebek üzerine olumsuz etki rapor edilmemiş
- **Fentanil:** Anne sütüne geçiş düşük. Rölatif infant dozu %3'ten daha az. Sütteki düzeyi belirlenemeyecek kadar düşük olduğundan güvenli.
- **Hidromorfon:** Anne plazmasından sistemik dağılımı ve süte geçişi hızlı, fakat yağ dokuda tutulur. Süt ve plazmada proteine bağlanma oranı az. Bebekler yaklaşık maternal dozun %0,67 kadarını alır. Bu doz yenidoğanın tedavi dozunun çok altında ve olası istenmeyen etki yok.
- **Morfin:** Anne sütü/plazma oranı her zaman morfin için 1'den küçük. Morfinle analjezi uygulanan olgularda kolostrumda morfin ve metabolitlerinin (morfin 6 glukuronid) konsantrasyonu çok düşük. Oral biyoyararlanımı düşük. İlacın anne sütüne geçen olası miktarı önemsenmeyecek kadar düşük.
- **Meperidin:** Meperidin ve morfinin karşılaştırıldığı klinik çalışmalarda yasamın 3 ve 4. gününde daha alert olduğu saptanmış. Meperidin grubunda da nörogelişimsel gecikme ve sedasyon dikkati çekmiş

Nonsteroit Antiinflamatuarlar

- **Aspirin:** Proteine bağlanma %49-%70. Metabolik asidoz gelişen bir olgu rapor edilmiş. Dikkatli kullanılmalı.
- **Asetaminofen**: Proteine bağlanma %0-25 arasında. Emzirme döneminde güvenli.
- **İbuprofen:** Relatif infant dozu 0,6; infantta istenmeyen etki saptanmamış, oral biyoyararlanımı %80'den daha fazla; proteine bağlanma oranı
- %99; S/P oranı 0.01; infantta istenmeyen etki saptanmamış, emzirme süresince güvenli.
- **İndometazin**: 16 anne ve 7 infant üzerinde Kohort çalışma yapılmış. Relatif infant dozu maternal dozun %0.07'si ile %0,98'i arasında değişmekte istenmeyen etki rapor edilmemiş
- **Ketorolak**: İnfant dozu günlük total maternal dozun %0.16-0.40'ı arasında ve infantta etkileyemeyecek kadar düşük.
- **Naproksen:** Rölatif infant dozu %3; infant üzerine potansiyel Toksisite düşük, yarılanma ömrü uzun ve infantta birikime neden olabilir. Bir infantta kanama ve diyare rapor edilmiş; kısa süreli kullanılabilir ancak uzun süreli kullanımdan kaçınılmalı.

Antibiyotik ve antifungal ilaçlar

Enfeksiyon hastalıklarında kullanılan ilaçlar uzun süre kullanılmadığından birçoğu güvenle kullanılabilir, bebekte birikime yol açmazlar. (Tablo4)

Antikonvülzanlar

- **Karbamazepin**: Emzirilen infantlarda yan etki gözlenmemiş.
- **Lamotrijin**: 10 epileptik anne bebeği üzerinde yapılan çalışmada istenmeyen etki gözlenmemiş.
- **Fenobarbital**: Rölatif infant dozu maternal dozun %24'ü, anne sütündeki konsantrasyonu yüksek. İlaç kullanımı sırasında bebekte sedasyon gözlenir, ilacın kesilmesinden sonra infantil spazm gözlenebilir.
- **Fenitoin**: Rölatif infant dozu %7,7, sütteki dozu infant dozunun %5"inden daha az. Bir olguda methemoglobinemi rapor edilmiş.
- **Topiramat**: Beş epileptik anne bebeği üzerinde yapılan çalışmada yan etki gözlenmemiş.

- **Valproik asit:** Rölatif infant dozu maternal dozun %1,6"sı, sütteki ilaç düzeyi düşük, istenmeyen etki gözlenmemiş.

Tablo 6/23-4: Emziren annenin güvenli, dikkatli v önerilmeyen anti-infektifler

Güvenle Kullanılabilen	Etkileri İyi Bilinmeyen/ Dikkatli kullanımı gereken	Önerilmeyen
Aminoglikozidler	Klindamisin	Metronidazol (yüksek doz)
Amoksisilin	Dapson	Kinolonlar
Amoksisilin-klavulonat	Mandelik asit	
Antitüberküloz ilaçlar	Metronidazol(düşük doz)	
Sefalosporinler	Nalidiksik asit	
Makrolidler*	Nitrofurantoin	
Ketokanozol	Penisilin	
	Tetrasiklin	
	Kloramfenikol	
	Amfoterisin	
	Flukonazol	
	Flusitozin	
	Itrakonazol	

* Makrolidler meme dokusuna penetrasyonu iyi olduğundan mastit tedavisinde uygun bir tercih olabilir.

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Emziren anne ve İlaçlar

Mehmet Arif Akşit

Giriş

Tanımı

İlaç olarak anneye verilenler, annenin emzikli olduğu ve bebeğini emzirdiği dikkate alınarak verilmektedir. Bu açıdan sorgu anneye özgü olamaz, anne sadece bilgilendirme açısından öne çıkmaktadır. Hekim son bilgileri internetten, özel sitelerden elde ederek olguya göre yorumlaması önemlidir.

Hekimin yorumlama yaklaşımları

- Eski yaklaşımda, ilaç süte geçiyorsa emzirme kesilirdi. Bugün ise süte geçmesi değil, zararı olup olmadığına bakılmaktadır. Zararlı olması engel, sıklıkla şüpheli ise tıbbi yaklaşıma göre karar vermek gerekir.
- İlaç sütte daha fazla bile salgılanabilir ama etkisi dikkate alınmalıdır. Dijital sütten fazla salınır ama sağlıklı kalbe etkisi olamaz. Bebeğe etkisi olsa bile sorun teşkil edemez.
- Zamanımızda sütün kesilmesi için kanıta dayalı gerekçeniz olmalıdır.
- Bilgilendirme ve annenin rızası önemlidir ama sıklıkla korkutma ile zaten doğum sonu psikoz ve nöroz sık görülmesi ile bu boyuta getirilmemelidir.

Bazı noktalar dikkate alınmalıdır. Bunlar;

- Anne sütüne geçen ilaçların boyutu
- İlaç güncel medikal bilgi olarak sorgulanmalıdır
- İlaçların farklı etkileşimleri olabilir
- İlaçların zarar boyutuna göre gruplandırılması
- İlacın verilme gerekçesi
- İlacın kullanma boyutu

Anne sütünden geçen ilaçlar

- İlaçların yağda erime kapasitesine göredir
- Transport mekanizması önemlidir
- İonizasyonu önemli geçiş faktörüdür
- Plasma pH değişikli etkilemektedir.

Geçiş

- Büyük çoğunluk pasif difüzyon ile geçer
- Geri kalanlar ters pinositoz ile geçer
- Epitel hücresinden süte olabilir
- Aktif transport, pasif difüzyon, apokrin sekresyon
- Aktif geçiş, Plasma pH ve diğer faktörler ile geçer
- Kolostrumda suda eriyenler geçişi fazladır

Önemli olan

- Sütten salınım oranı
- Total bebeğin aldığı süt miktarı

İlacın kendisi

- A) ilacın fizyolojik olarak etkisi önemli değildir (Dijital geçer, önemsiz)
- B) Toksik etki olmalıdır, geçmesi değil
- C) İlacın anneye veriliş nedeni önemlidir

İlacı kontrol etmeli

- İlacın süte geçmesi önemli değildir
- İlacın zararlı olması önemlidir
- Bu nedenle LactMed online database ve diğer internet ile son bilgiler kontrol edilmelidir

İlaç farklı etkileşim

- İlaç bebekte; ishal, kusma, uyku ve irritabilite yapabilir veya süt yapımı azalabilir,
- Bu etkiler anneden bağımsızdır
- Kilo kaybı olmamalıdır

İlaçların gruplandırılması

- Güvenli Kabul edilenler
- Güvenli olabileceği düşünülenler
- Tehlikeli olabilecekler
- Güvensiz olan ilaçlar

İlaç verilme yaklaşımı

- İlaç ve emzirme ilişkisi kurulmalıdır
- Sosyal ilaçlar ve emzirme yaklaşımı
- İlaca bağımlı anne (diyabet, hipertansiyonlu gibi) ve emzirme
- İlaç ve kimyasalların geçişi, vitamin, kalsiyum ve demir dahil
- Reçeteli ilaçlar
- Alkol ve emzirme
- Uyuşturucu bağımlısı ve emzirme
- Esrar ve emzirme
- Opium kullanılması ve emzirme

İlaç kullanma yaklaşımı

- Gerçekten gerekli ise kullan
- Bebeğin büyümesi için süre var ise, daha sonra kullan
- En düşük doz tercih edilmeli
- Uzun süre etkili olanlar tercih edilmemelidir
- Süte geçiş ile emzirme zamanları uyarlanmalıdır
- Reaksiyonları kontrol ediniz
- Sütü çekin, daha sonra bebeğe verin

Yorum:

Zamanımızda süte geçen ilaç kavramından çok, hemen her ilacın geçebileceği kavramı ile, süte geçmesinin bebeğe etkisi ve zarar kavramı gündeme gelmektedir. Bu açıdan internet sitelerinden son bilgi sorgulanarak, ona göre anneye bilgi verilmeli ve rızası alınmalıdır. Alternatif ilaçların seçilmesi gündeme getirilmelidir.

Konu ile ilgili Kaynaklar/Literatür Verileri

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Perinat Care. **1978 Sep;2(8):19-25, https://www.ncbi.nlm.nih.gov/pubmed/12311408**
Hervada AR, Feit E, Sagraves R

Abstract
PIP:
The amount of drug excreted into breast milk is dependent upon the lipid solubility of the medication, the mechanism of transport, the degree of ionization, and change in plasma pH. The higher the lipid solubility, the greater the concentration in human milk. The majority of drugs are transported into mammary blood capillaries by passive diffusion. The rest are transported by reverse pinocytosis. Once the drug has entered the epithelial cells of breast tissue, the drug molecules are excreted into the human milk by active transport, passive diffusion, or apocrine secretion. The amount of free (active) drug available for transport depends on the degree of protein binding the plasma pH. Another factor affecting excretion of drugs is the time when breast feeding occurs. In the 1st few days of life, when colostrum is present, water-soluble drugs pass through the breast more easily than afterwards when milk is produced. Then lipid-soluble drugs cross in higher concentrations. The effect on nursing infants is dependent on the amount excreted into the milk, the total amount absorbed by the infant, and the toxicity of the drug. The use of the following drugs in breast feeding mothers is reviewed: anticoagulants, antihypertensives and diuretics, antimicrobials, drugs affecting the central nervous system (alcohol, chloral hydrate, meprobamate, lithium, and aspirin), marijuana, other drugs (antihistamines, atropine, ergot alkaloids, laxatives,

nicotine, iodides, propylthiouracil, theophylline), hormones (insulin, thyroxine, and oral contraceptives), and radiopharmaceuticals.

Comment/Yorum

Eng

The passing of the drugs to the mother's milk is as; a) active transport, b) passive diffusion, c) apocrine secretion. They must be check for the latest information.

TR

Anne sütüne ilaçlar; aktif transport, pasif difüzyon, apokrin sekresyon yolu ile geçebilirler. Kolostruma suda eriyenler daha sık geçerken, proteine bağlanma ve pH düzeyi etkili olanlardandır. Antikoagulanlar, antihipertansifler, diüretikler, antibiyotikler, santral sinir sistemi etkileyen (alkol, kloral-hidrat, meprobamat, lityum, aspirin), esrar, bazı ilaçlar (antihistaminler, atropin, ergo-alkoloitleri, laksatifler, nikotin, iyot, tio-urasil, teofiline) ve hormonlar (insülin, tiroksin, konseptiler) ve radyolojik ilaçlar geçebilmektedir.

2) Drug safety while breastfeeding

http://www.babycenter.com/0_drug-safety-while-breastfeeding_8790.bc

Last updated: December 2015

Drug safety while breastfeeding

Drugs and breast milk safety

Although many medications are safe to take when you're breastfeeding, most drugs will get into your milk to some degree and may even affect your milk supply. To be safe, check with your doctor before taking either prescription drugs or over-the-counter medicines.

Our information was compiled and reviewed by Philip Anderson, a pharmacist and the editor of LactMed, the U.S. National Library of Medicine's drugs and lactation database. If you have questions about how a specific drug might affect your breast milk or your baby, check the LactMed online database and talk with your doctor.

How drugs affect a breastfeeding baby

The amount of medication that gets into breast milk and how it affects a baby depends on such factors as the type of medicine, the dose, and the way it's taken.

Diarrhea, vomiting, and unusual sleepiness or irritability are just some of the possible side effects a baby may have from exposure to medication. And some medications can lower your milk production, possibly leading to poor weight gain.

Drugs that are considered safe to take when breastfeeding

These medications are considered safe to take in standard doses when you're nursing.

Name of Drug (Brand Name)	Use
Acetaminophen (Tylenol)	Pain reliever
Acyclovir and valacyclovir (Zovirax, Valtrex)	Antiviral for herpes infections
Antacids (Maalox, Mylanta)	Used to treat upset stomachs
Bupivacaine (Marcaine)	Local anesthetic
Caffeine (up to 3 drinks/day) - (coffee, soft drinks)	A stimulant
Cephalosporins (Keflex, Ceclor, Ceftin, Omnicef, Suprax)	Antibiotics for lung, ear, skin, urinary tract, throat, and bone infections
Clotrimazole (Lotrimin, Mycelex)	Used to treat yeast and fungal infections
Contraceptives (progestin-only) - (Micronor, Norplant, Depo-Provera)	Used for birth control
Corticosteroids (Prednisone)	Used to treat inflammation of joints and other conditions
Decongestant nasal sprays (Afrin)	Used to treat stuffy noses
Digoxin (Lanoxin)	Used to treat heart problems
Erythromycin (E-Mycin, Erythrocin)	Used for skin and respiratory infections
Fexofenadine (Allegra)	Antihistamine for allergies and hay fever
Fluconazole (Diflucan)	Used to treat yeast infections
Heparin	Used to keep blood from clotting
Ibuprofen (Motrin, Advil)	Used for pain relief
Inhalers, bronchodilators, and corticosteroids (Albuterol, Vanceril)	Used for asthma
Insulin	For diabetes; dosage required may drop up to 25 percent during lactation
Laxatives, bulk-forming and stool softening (Metamucil, Colace)	Used to treat constipation
Lidocaine (Xylocaine)	A local anesthetic

Loratadine (Claritin)	Antihistamine for allergies and hay fever
Low molecular weight heparins (enoxaparin, dalteparin, tinzaparin) (Lovenox, Fragmin, Innohep)	Anticoagulants
Magnesium sulfate	Used to treat preeclampsia and eclampsia
Methyldopa (Aldomet)	Used to treat high blood pressure
Methylergonovine (short courses) (Methergine)	Used to prevent or control bleeding after childbirth
Metoprolol (Lopressor)	A beta-blocker used to treat high blood pressure
Miconazole (Monistat 3)	Used to treat yeast infections
Nifedipine (Adalat, Procardia)	Used for high blood pressure and Raynaud's syndrome of the nipple
Penicillins (Amoxicillin, Dynapen)	Used to treat bacterial infections
Propranolol (Inderal)	A beta blocker used to treat heart problems, and high blood pressure
Theophylline (Theo-Dur)	Used to treat asthma and bronchitis
Tretinoin (Retin A)	Cream used for acne. Avoid contact of cream with infant.
Thyroid replacement (Synthroid)	Used to treat thyroid problems
Vaccines (except smallpox and yellow fever)	
Vancomycin (Vancocin)	An antibiotic
Verapamil (Calan, Isoptin, Verelan)	Used for high blood pressure
Warfarin (Coumadin)	Used to treat or prevent blood clots

Drugs that are most likely safe to take when breastfeeding

Little is known about how these medications affect a breastfeeding infant, but these drugs are most likely safe in typical doses. Any side effects will probably be mild. In rare cases, a baby might have an allergic reaction. **Name of Drug (Brand Name)**	**Use**
ACE inhibitors - Enalapril (Vasotec), Benazepril (Lotensin)	Used to treat high blood pressure
Anticholinergic agents (Pro-Banthine)	Used to treat intestinal and gall bladder spasms; may reduce milk supply
Anticonvulsants - Depakote, Dilantin, Tegretol (avoid ethosuximide, phenobarbital, and primidone)	Used for seizures and mood disorders
Antihistamines, First-generation - (Benadryl, Chlor-Trimeton)	Used to reduce or prevent inflammation caused by an allergy
Antituberculars (INH)	Used to treat tuberculosis
Azathioprine (low doses) - (Imuran)	Used to suppress the immune system following organ transplants
Barbiturates (except phenobarbital) - Fiorinal, Fioricet	For sedation and tension headaches
Bupropion (Wellbutrin)	For depression
Clindamycin (Cleocin)	Used to treat abdominal and vaginal infections
Oral decongestants (Sudafed, Entex PSE)	Used to treat congestion associated with colds or allergies; often reduces milk supply
Ergonovine (short course)	Used to treat uterine bleeding. May reduce milk supply.
Fluconazole (Diflucan)	Antifungal
Gadolinium (Magnevist, Omniscan)	Contrast agent for MRI studies
Histamine H2 blockers - Cimetidine (Tagamet), ranitidine (Zantac), nizatadine (Axid), and famotidine (Pepcid – preferred)	Used to treat stomach problems
Labetalol (Normodyne, Trandate)	Used for high blood pressure; caution with preterm babies
Hydrochlorothiazide (low doses) - (HydroDiuril)	Diuretic for high blood pressure
Lorazepam (Ativan)	Used to treat anxiety
Methimazole (apazole)	Used for hyperthyroidism; less than 20 mg/day is probably safe
Metoclopramide (Reglan)	Used for gastrointestinal problems and to increase milk supply. Limit to 10 mg 3 times a day for 2 weeks.

Midazolam	Sedative used in anesthesia
Naproxen (Naprosyn, Anaprox, Aleve)	Used for pain relief; okay if baby is at least 1 month old
Omeprazole (Prilosec)	Used to treat stomach problems
Oxazepam (Serax)	Used to treat anxiety
Paroxetine (Paxil)	Used to treat depression
Propofol (Diprivan)	Sedative used in anesthesia
Quinidine	Used to treat heartbeat irregularities
Quinolone antibacterials (Cipro and Levaquin; Noroxin is preferred)	Treatment of urinary tract infections
Salicylates (occasional use) - (aspirin)	Used for pain relief
Sertraline (Zoloft)	Used to treat depression
Spironolactone (Aldactone, Aldactazide)	Used to treat high blood pressure
Sumatriptan (Imitrex)	Used to treat migraines
Tetracyclines < 14 days - (tetracycline, doxycycline)	Used to treat acne and urinary tract infections
Trazodone	Used for depression and sleep
Tricyclic antidepressants (avoid doxepin) - (Elavil, Tofranil, Pamelor)	Used to treat depression; nortriptyline preferred
Verapamil (Calan, Isoptin, Verelan)	Used for high blood pressure

Drugs that may be dangerous to take when breastfeeding

Use caution when taking these drugs, especially if you're breastfeeding a newborn or premature infant.

Name of Drug (Brand Name)	**Use**
Acebutolol (Sectral)	A beta blocker used to treat high blood pressure and abnormal heart rhythms.
Atenolol (Tenormin)	A beta blocker used to treat high blood pressure and abnormal heart rhythms.
Antihistamine/decongestant combinations (Contac, Dimetapp)	Used to treat colds and allergies; may reduce your milk supply
Benzodiazepines, Long-Acting (Librium, Valium, Dalmane)	Used to treat anxiety and for sleep (lorazepam, oxazepam preferred)
Chlorthalidone	Diuretic used to treat high blood pressure; may reduce milk supply
Citalopram (Celexa)	Antidepressant; can cause infant drowsiness
Clonidine (Catapres)	Used to treat high blood pressure, may reduce milk supply
Contraceptives (estrogen-containing) - (Ortho-Novum, Lo-Ovral, Loestrin)	Used for birth control; may reduce milk supply
Doxepin (Sinequan)	Used to treat depression
Egotamine (Cafergot)	Used to treat migraines
Escitalopram (Lexapro)	Used to treat depression
Ethosuximide (Zarontin)	Used to treat epilepsy
Fluorescein IV	Used to diagnose retinal problems
Fluoxetine (Prozac, Serafem)	Used to treat depression
Iodinated contrast media	Used to examine kidneys; withhold breastfeeding temporarily
Lamotrigine (Lamictal)	Used for seizures and mood disorders
Lithium (monitor infant serum levels) - (Lithobid)	Used to treat bipolar disorder
Metronidazole (Flagyl)	An antibiotic used to treat some intestinal and genital infections
Nadolol (Corgard)	A beta blocker used to treat high blood pressure and heart problems
Narcotics, especially meperidine in addicts and high doses with newborns (Tylenol #3, Vicodin)	Used for pain (one tablet every six hours maximum; watch for drowsiness)
Nefazodone (Serzone)	Used for depression
Nicotine	Smoking can reduce milk supply
Nitrofurantoin (Macrobid)	Used to treat urinary tract infections (safe if the baby is at least 1 month old)
Phenobarbital, anticonvulsant doses	Sedative and anticonvulsant

Piroxicam (Feldene)	Used to treat arthritis and pain
Primidone (Mysoline)	Used to treat seizures
Reserpine	Used to treat hypertension
Sotalol (Betapace)	Used to treat heart problems
Thiazide diuretics, long-acting or high doses (Aquatensin, Enduron, Lozol, Renese)	For high blood pressure or edema; high dose may reduce milk supply
Venlafaxine (Effexor)	Used to treat depression

Drugs that are unsafe to take when breastfeeding

These drugs are not safe for breastfeeding moms to take. Ask your physician if there is a safer alternative.
If you must take a certain medication, you may not be able to breastfeed, or you may have to stop temporarily. (Ask your doctor or midwife how you can keep up your milk supply until you're ready to breastfeed again.)

Name of Drug (Brand Name)	**Use**
Amantadine (Symmetrel)	Used to treat the flu or Parkinson's disease; may reduce milk supply
Amiodarone (Cordarone	Used to treat heart problems
Antilipemics (excluding resins) - Lescol, Lipitor, Lopid, Mevacor, Pravacor, Zocor)	Used to lower the level of cholesterol in the blood
Antineoplastic agents	Used to treat cancer
Aspirin (large doses)	Used to treat arthritis
Cocaine	
Chlorampenicol	Used to treat serious infections
Clozapine (Clozaril)	Used to treat schizophrenia
Dipyrone (dipirona in Mexican drugs)	Used for pain and inflammation
Gold Salts (Myochrysine	Used to treat arthritis
Iodide products (Betadine, potassium iodide)	Used for douching or as an expectorant
Iodine, radioactive	Used to diagnose and treat hyperthyroidism
Lipid-lowering drugs (Lescol, Lipitor, Lopid, Mevacor, Pravacor, Zocor)	Used to lower the level of fats in the blood
Metamizole (Dipyrone)	Analgesic/anti-inflammatory. Banned in U.S. but available in Mexico
Salicyclates, large doses(Aspirin)	Used to treat arthritis

Comment/Yorum

Eng

The drugs, that are found at the breast-milk, can be classified as; 1) safe, 2) likely be safe, 3) unsafe and dangerous.

TR

Birçok ilaç anne sütüne geçebilmektedir. Bu açıdan listeye (LactMed online database) bakmak gerekir. Başlıca gruplandırma;

- Alındığında güvenli olan ilaçlar listesi
- Güvenli olduğu düşünülen ilaçlar
- Tehlikeli olabilecek ilaçlar
- Emzirme durumunda güvensiz olan ilaçlar

3) Medicine use while Breastfeeding

https://www.drugs.com/breastfeeding/

Latest Update: Safe Medications During Breastfeeding

Medicine use while Breastfeeding

Search the Breastfeeding Database

Breastfeeding Resources

Navigate quickly to additional resources for pregnancy and breastfeeding:

- **Safe Medications when Breastfeeding**
- **Breastfeeding Support Group**
- **Breast Fullness vs Breast Engorgement**
- **Breast Care - Breastfeeding Mother**

- Breast Care - Non-Breastfeeding Woman
- Pregnancy Warnings
- FDA Pregnancy Categories
- Pregnancy Support Group
  - Drugs.com Mobile Apps
  - The easiest way to lookup drug information, identify pills, check interactions and set up your own personal medication records. Available for Android and iOS devices.

Comment/Yorum

Eng

The continuous searching of the drugs must be required, thus drug.com mobile apps is advised.

TR

İlaçların düzenli olarak kullanımları konusundaki değişimlerin olması ve bilgi sorgulaması açısından belirli internet verileri sunulmaktadır. Özellikle drug.com sitesine başvurulması önerilmelidir.

4) How Drugs Affect Breastfeeding

http://www.newbeginningsdrugrehab.org/drugs-and-breastfeeding

Anne Smith, IBCLC, Edited September 2015

How Drugs Affect Breastfeeding

Breastfeeding is advocated for new mothers for a number of reasons. While breast milk has been proven to have benefits, new mothers have to take caution as the things that they consume can be passed to the baby through their breast milk. It is generally recommended that women completely avoid the use of any types of drugs while breastfeeding for the health of their babies. It is important that nursing mothers know the facts about drugs and breastfeeding.

It is known that most drugs can pass into human milk, and that the drugs must pass through your bloodstream before appearing in breast milk. Some medications can be taken and will not harm the baby however the issue of drug safety and lactation can be very complicated. There are many things that nursing mothers must take into consideration. Drugs are administered in different manners and some medications such as topical medications generally reach breast milk in lesser amounts than IV drugs, for instance. The amount of a drug taken will also effect how much of the drug will pass to the breast milk. Other factors include the duration of ingestion of the drug, a baby's health and age, how often the drug is taken, and the frequency of feedings.

Over the years, as the rates of breastfeeding have increased, so to have the accuracy of different methods that are used to measure drugs in breast milk. This is helping doctors learn what medications will appear in breast milk, even in tiny amounts. Many doctors are hesitant to prescribe any medications to nursing mothers that are known to enter the breast milk.

While prescription and over the counter medications can be taken if deemed safe by a doctor, nursing mothers should not use recreational drugs such as cocaine, alcohol, marijuana, methamphetamines, and other substances. Even small doses of some recreational drugs can potentially cause serious health problems for babies. While breastfeeding is recommended by many for its many benefits, anyone abusing illegal drugs should refrain from breastfeeding and should seek the help of a qualified medical professional.

Anyone seeking information on the dangers of drug use while breastfeeding or during pregnancy should consult their doctor. The following resources also provide additional information that may be helpful.

- Drugs and Breastfeeding – An in-depth article that explains the possible risks of taking legal medications, and also touches on illegal drug use while breastfeeding.
- Social Drugs and Breastfeeding – A look at the issue of mothers using social drugs while breastfeeding; covers nicotine, alcohol, methadone, and other drugs.
- Breastfeeding and Drug Dependent Women – A copy of the guidelines for breastfeeding and drug dependent women from The Academy of Breastfeeding Medicine Protocol Committee.
- The Transfer of Drugs and Other Chemicals Into Human Milk – Information from the American Academy of Pediatrics on how drugs and other chemicals can be passed to breast milk.
- Drugs in Pregnancy and Breastfeeding – Some informative resources regarding the topic of drug use in pregnancy and while breastfeeding.
- Prescription Drug Use – The Centers for Disease Control and Prevention answers the question of whether mothers who use prescription drugs should breastfeed.
- Breastfeeding and Alcohol – The Mayo Clinic explains of the dangers of consuming alcohol while breastfeeding, and how it can pass to breast milk.
- What About Drinking Alcohol and Breastfeeding? – Information from the La Leche League on the effects of alcohol on breastfeeding.

- Medications and Breastfeeding – An article explaining the dangers of recreational drug use when breastfeeding, and how drugs can be passed to the baby.
- Dealing with Addiction While Pregnant – Information on how pregnant women should deal with their addiction and seek treatment as well as prenatal care.
- Using Illegal Drugs During Pregnancy – An article from the American Pregnancy Association discussing the dangers of abusing drugs during pregnancy.
- Opioid Abuse, Dependence, and Addiction in Pregnancy – Information on the abuse of opioids during pregnancy from the American Congress of Obstetricians and Gynecologists.

Comment/Yorum

Eng

The decision-making concept, must be by information taken, thus, by internet to the mentioned above sites.

TR

Anne sütüne geçen ilaçlar konusunda mutlaka belirli güncellenen sitelere internetten girip ona göre karar vermelidir.

5) Drugs and Breastfeeding

https://www.breastfeedingbasics.com/articles/drugs-and-breastfeeding

http://aappolicy.aappublications.org/cgi/content/full/pediatrics;108/3/776

Drugs and Breastfeeding

As the number of nursing mothers continues to increase, so does the use of drugs, both legal and recreational. As a nursing mother, you should be aware that there are four things we know for sure about drugs and breast milk, in order of importance:

- Most drugs pass into human milk.
- Drugs must pass into your bloodstream before they can appear in your milk.
- Almost all medication appears in very small amounts, usually less than 1% of the maternal dose.
- **Very few drugs are contraindicated for nursing mothers.**

The list of drugs which are unsafe for breastfeeding moms is very small. The vast majority of medications can be taken without harm to the baby. The issue of which drugs are safe to take during lactation is quite complicated. Many factors must be taken into consideration, such as:

- **The route of administration:** Your baby is always exposed through the GI tract, but drugs can enter your system several different ways: orally, intravenously, intramuscularly, topically, or through inhalation. Topical medications (skin creams) and medications inhaled or applied to the eyes or nose reach the milk in lesser amounts and more slowly than other routes and are almost always safe for nursing mothers; oral medications take longer to get into the milk than IV and IM routes (the drug must first go through the mother's GI tract before it enters the bloodstream, and the milk supply)-with IV drugs, the medications bypasses the barriers in the GI tract to enter the milk quickly and at higher levels, and with IM injections, drugs transfer quickly into the milk because the muscles have so many blood vessels, so the drug enters the bloodstream quickly.
- **The amount taken:** The higher the dosage, the more the drug transfers into milk.
- **How often you take the drug:** Medications taken 30 to 60 minutes before you feed are likely to be a peak blood levels when your baby nurses.
- ***Your baby's age and health:*** Premature infants have immature kidney and liver functions and may have trouble processing and eliminating even small quantities of drugs that might not cause problems for larger, full-term infants; however, even full-term baby's protective metabolic systems are not fully developed for the first week of life, so they may not be able to handle chemicals in the milk as well as a baby who is several months old. Babies who are seriously ill, especially those with immune system disorders, may have less ability to metabolize the same amount of medication than a healthy baby.
- ***The frequency and volume of feedings***: The baby who is nursing once or twice a day, and is supplemented the rest of the time, will receive less of a drug than the baby who is exclusively breastfed and may nurse 10-12 times a day.
- ***Duration of drug therapy:*** A medication taken for weeks or months may have a greater impact on nursing than one taken for just a few days.
- ***The type of medication***: Characteristics such as the molecular weight, how fat soluble the drug is, and how long it takes for it to be eliminated from your system, or it's half-life, all affect how much of the drug is transferred into your milk.

In the last decade or two, as breastfeeding rates have increased, so have the accuracy of the methods we use to measure drugs in human milk. This is good because in certain situations, such as nursing a very sick premature baby, knowing what medications appear in even very tiny amounts can be significant. On the other hand, some doctors are hesitant to prescribe any medication for a nursing mother once they know that even a tiny amount enters the mother's milk. Many doctors are afraid to prescribe a drug because of the conservative approach taken toward giving drugs to a pregnant woman. They feel

that if a drug might possibly cause birth defects in a pregnant woman, then they shouldn't give it to a lactating woman. The difference is that while the placenta lets drugs enter to cross into the developing fetus's bloodstream, the breast serves as a very effective barrier for a fully developed infant.

We also live in a society, which, in general, doesn't place a high value on breastfeeding, but does believe in suing anyone and everybody, especially doctors. Doctors tend to err on the side of caution and recommend that a mother wean rather that do research and reassure the mother that the medication is safe for her baby (as the majority of drugs are), or explore alternative, safer medications. Both of these options involve the doctor's willingness to spend time on research, and obtaining access to good lactation information.

Many doctors don't have the training or the resources to access this kind of information. Most don't have specific reference books dealing with drugs and breastfeeding in their office, especially if they are not pediatricians or obstetricians. Most of the time, their primary source of drug information is the famous PDR – (Physician's Desk Reference-also known as the doctor's bible…).

You should be aware that the PDR contains very little information about breastfeeding, and bases its recommendations on the idea that no drug should be taken by a nursing mother unless it has been proven absolutely safe in all circumstances. The problem with that is that there is virtually no drug in the world, including Tylenol, that can be said to be absolutely safe all the time. The PDR is not the best source of breastfeeding information, because it is an unfortunate fact that pharmaceutical manufacturers often discourage breastfeeding solely for fear of litigation, rather than for well-founded pharmacological reasons.

In deciding which drug to take, you should always look at the situation from a risk/benefit perspective: The benefits of breastfeeding are well known and undisputed, so doctors should recommend a mother wean only when there is scientific documentation that a drug will be harmful to her infant. In the rare cases where that is proven, a doctor who believes in the value of breastfeeding should take the time to explore alternative therapies, or if nursing must be interrupted, encourage the mother to continue pumping her milk to maintain her supply and return to breastfeeding as soon as possible. If your doctor prescribes a drug which he says in incompatible with breastfeeding, it is reasonable to ask for documentation and/or alternative medications. If your doctor isn't flexible about this, and doesn't understand how important continuing to breastfeed is to you, it makes sense to seek another opinion.

Here are some general guidelines for taking drugs while nursing:

- ***Only take a medication if you really need it***. Consider alternative, non-drug therapies if possible.
- If you have a choice, delay starting the drug until the baby is older. A drug which might cause problems for a newborn may be fine for an older, larger, more mature infant.
- Take the **lowest possible dose for the shortest possible time.**
- **Avoid drugs with long-half lives, sustained-release preparations,** or high M/P (milk to blood) ratio. If the M/P ratio is one or higher, that means that more of it is transferred into the milk.
- **Schedule the doses so that the lowest amount gets into the breast milk** (take it soon after a feeding, preferably a night feeding, rather than right before nursing).
- **Watch for reactions** such as sleepiness, rashes, diarrhea, colic, etc. Although reactions are rare, it is important to keep your doctor informed of any changes.
- If you must take a drug that is contraindicated, and no alternatives are available, get a good electric pump to **maintain your milk supply** if you need to wean for more than a day or two. Your supply will build up when the baby starts nursing again.

Some very general information about drugs that are usually considered safe to take during breastfeeding follows:

- If the drug is commonly prescribed for infants, it is most often safe to take while nursing, because the baby generally gets a much lower dose from the milk than he would from taking it directly. Examples are most antibiotics, such as amoxycillin.
- Drugs considered safe during pregnancy are usually, but with a few exceptions, safe to take while nursing. When you're pregnant, medication that gets into your bloodstream has a direct line from mom to baby through the placenta; when you're breastfeeding, drugs that enter your bloodstream are filtered through the breast, and less gets into your milk.
- Drugs that are not absorbed from the GI tract (stomach or intestines) are usually safe. Many of these drugs are injected, such as heparin, insulin, lidocaine, or other local anesthetics. Immunizations such as German measles, flu shots, TB tests, or Hepatitis A and B, are not harmful to the baby – even the ones with live viruses. Topical medications (those applied to the skin) are nearly always safe because they don't enter the bloodstream.

Many nursing mothers experience some degree of *postpartum depression*. It's estimated that as many as 80% of new mothers experience 'postpartum blues', and 10-15% report clinical depression. Antidepressant medications and their use by nursing mothers have been studied extensively, and more and more women are currently being treated for depression, which often occurs during the postpartum period. Some studies suggest that the one year old infants of mothers who are depressed may not exhibit normal neurobehaviorial development. It is therefore important to treat depression and also to continue nursing during treatment, because one of the many benefits of breastfeeding is its positive effect on neurodevelopment. Mothers who are seriously depressed or suffer from other mental disorders have a difficult time adjusting to their new roles as mothers, and medication can help keep things on a more even keel. Becoming a mother and assuming the new responsibilities of parenting are stressful events for all new mothers, but much more so for mothers who are also dealing with managing illness such as depression, anxiety, and bipolar disorder.

On the basis of the evidence of many research studies, it's been determined that as a group, psychotropic drugs are generally regarded as safe for use by breastfeeding moms, so their health care providers don't need be overly concerned if a woman needs to be treated while she is breastfeeding.

In most of these medications, such a small amount gets in the milk that blood levels are usually too low to be measured. This is true for the majority of SSRIs (Seretonin Specific Receptor Inhibitors) like Paxil or Zoloft; TCAs (Tricyclic Antidepressents) like Elavil; and Mood Stabilizers like Valproic Acid (Depakote). Wellbutrin (Zyban) is an older antidepressant that has a different structure from SSRI and tricyclic medications. It may appear in milk, but the amount is so low that it is unlikely to cause problems in the breastfed baby. It is often used to help with smoking cessation.

Nursing moms should work with their health care providers to develop a treatment program that works for them, but should not avoid treating disorders like severe depression just because they are breastfeeding. As with any medications, mothers should be aware of the possibility of side effects that might develop during treatment, like sedation or withdrawal symptoms, and monitor their babies closely. It's important for nursing moms to work closely with their doctors when receiving psychotropic medications, as some have a better safety profile than others, but in nearly all cases, an effective medication can be taken safely while continuing to breastfeed.

The herbal preparation St. John's Wort is currently being studied extensively, but there is not as much information about its effect on breastfeeding as there is about the prescription medications to treat depression. Because there is more information available about these other medications, it is suggested that they be used during lactation rather than St. John's Wort. Use of this herb is not recommended during pregnancy.

For information about OTC (over the counter) medications, see *When a Nursing Mother Gets Sick*.

There are some **prescription drugs** which should **seldom or never** be taken during breastfeeding. These include Bromocriptine (also called Parlodel – this used to be given to formula feeding mothers soon after birth to dry up their milk, but was discontinued due to side-effects); Ergotamine (used to treat migraines), Retanoids. Tetracyline antibotics (long term use may lead to discoloration of baby's teeth) and Cyclosporine, Cyclophosphamide, Methotrexate, and Doxorubicin, used to treat cancer or organ transplant rejection.

There are also a number of **radioactive compounds** that require temporary cessation of breastfeeding. A nuclear medicine physician can work with you before the test is done to use a compound that has the shortest excretion time in breastmilk. Try to pump enough milk to freeze before the test to feed the baby during the time the milk is unsafe. Pump to maintain your milk production but discard your milk until it is screened by the radiology department to make sure it is safe to resume nursing.

There are some ***"recreational drugs"*** that should not be used at all, or used only in moderation while you are nursing. These include alcohol, caffeine, nicotine, marijuana, cocaine, heroin, hallucinogens, and methamphetamines. With cocaine, heroin, PCP (angel dust), and LSD, the data is clear: they should never, EVER be used by nursing mothers, even in small doses. They can and do cause serious medical problems in you and your baby. If you must abuse these drugs, don't nurse your baby – and get some help.

Although ideally, all nursing mothers would be drug-free all the time, the reality is that many mothers will smoke cigarettes, drink alcohol or coffee, toke on a joint, or take uppers occasionally. These drugs are so prevalent that it is worth addressing their use.

We get back to that risk/benefit thing we discussed earlier. We already know the benefits of breastfeeding versus the risks of artificial feeding. Although none of the drugs mentioned above are good for you or your baby, there is little or no evidence of serious harm, used in moderation.

When it comes to smoking, avoid having the baby breathe second-hand smoke of any kind. Many moms are motivated to quit smoking during pregnancy, but many start back after their baby is born. Nicotine is one of the most addictive drugs, possibly even more addictive than heroin. ***Babies absorb more nicotine from passive smoke than from the nicotine in breast milk***. Babies exposed to smoke have a higher incidence of respiratory illnesses, ear infections, and colic. Most importantly, they have a much higher risk of SIDs.

Breastfeeding has a protective effective effect against all of the above, so it's much safer to continue to breastfeed while smoking cigarettes than it is to formula feed and deprive the baby of all the proven benefits of breast milk. Maureen Minchin states: "Clearly, it is not ideal to smoke and breastfeed. But it is worse to smoke and not to breastfeed."

In large doses, nicotine can cause low milk supply, poor let-down reflex, and intestinal upsets in the baby. If you can't quit, smoke after you nurse, don't smoke around the baby, and cut down as much as you can.

Marijuana is the most commonly used illegal drug among nursing mothers. The active ingredient, THC, is concentrated in human milk and may make your baby sleepy. Inhaling passive smoke increases the amount he absorbs. As with nicotine, exposing your baby to second-hand smoke increases the amount of the drug he receives. Because there is little evidence of harm, it is probably better to continue nursing if you smoke pot occasionally than to wean and deprive the baby of the proven protective benefits of breastfeeding.

Even though there is no evidence that occasionally consuming alcohol in moderation poses a risk for your baby, the safety of drinking alcohol during lactation is a subject of much heated debate. Here's how some experts weigh in on the topic:

- The AAP (American Academy of Pediatrics) considers alcohol compatible with breastfeeding. It lists some possible side effects of alcohol consumed in large amounts as drowsiness and weakness in the baby, and decreased milk production and inhibited let-down reflex in the mother, which may result in low weight gain.
- Dr. Thomas Hale (Medications and Mother's Milk, 2012) states that "mothers who ingest alcohol in moderate amounts can generally return to breastfeeding as soon as they feel neurologically normal." Rule of thumb: If you're sober enough to drive, you're sober enough to nurse your baby.

- Dr. Jack Newman (The Utimate Book of Breastfeeding Answers) says "Reasonable alcohol intake should not be discouraged at all. As is the case with most drugs, very little alcohol comes out in the milk. The mother can take some alcohol and continue breastfeeding as she normally does. Prohibiting alcohol is another way we make life unnecessarily restrictive for breastfeeding mothers."

When a nursing mom drinks, the alcohol enters her bloodstream quickly, but only a small amount (less than 2%) transfers into her breast milk. Because alcohol doesn't accumulate in breast milk, it leaves the milk as it leaves the bloodstream. As the blood alcohol levels go back down, so does the amount of alcohol in the milk. That's why drinking lots of water or coffee, or 'pumping and dumping', won't eliminate the alcohol from the breast milk any faster.

Here are some recommendations on reducing the amount of alcohol intake:

- Use expressed milk to feed if needed after drinking.
- Eat before and while drinking to minimize the alcohol absorption
- Drink slowly. Sip your drinks and space them 2-3 hours apart.
- Choose drinks low in alcohol, or diluted with water or juice.
- Factor in your baby's age. Infants under four weeks of age detoxify alcohol at a lower rate than babies over three months, due to liver maturation, and preemie's livers are less mature than full-term babies. As with any drug, you need to be more conservative if you are nursing or pumping milk for a tiny preemie or new born than if you are breastfeeding an older, more mature baby.

There is no reason to feel guilty about drinking an occasional beer or a glass of wine with dinner. If you want to be conservative, wait at least two hours for every drink you consume before you nurse your baby. This means that if you want to go out and celebrate your anniversary and really blow it out, you nurse the baby before you leave, feed him expressed milk or formula during the night, have several drinks (I found that the combination of sleep deprivation and not drinking for nine months of pregnancy made me a very cheap date – one or two drinks and I was ready to nod off…) and then start nursing again in the morning.

The caffeine in five or less cups of coffee each day will not cause a problem for most nursing mothers and babies, because less than 1% of the maternal dose is transferred to the infant. Peak levels of caffeine are found in breast milk about an hour after the moms ingests it. If you consume more than that, some babies will be fussy and over-stimulated. Some babies and mothers are more sensitive to caffeine than others. If you think it's causing a problem, try substituting decaf products for a couple of weeks and see if it makes a difference.

When you use amphetamines in the usual prescription doses, usually prescribed for ADHD or narcolepsy, they are compatible with nursing. If you abuse them, they can accumulate in your milk, but even then normally don't cause problems for the baby. Symptoms in the baby with amphetamine abuse may include irritability and sleeplessness – so don't take more than the doctor recommends. Duh.

Most drugs, including chocolate (yes, it's kind of a drug) and herbal preparations are safe when taken in moderation. Keep this in mind while you are nursing. No, you don't have to be Mother Teresa and give up all your vices. Yes, you do have to exercise common sense and self-control and make some sacrifices for this new little person in your life – but not as many as you had to make while you were pregnant.

For more detailed information about the safety of specific drugs during lactation, here are some resources:

Comment/Yorum

Eng

For the exact knowledge, best use internet to the specific sites, as indicated at this Chapter, at above.

TR

Anne sütüne birçok ilaç geçer, bunun bazıları kontra-endikedir. Veriliş yolu, dozajı, ne kadar sık aldığı, bebeğin yaşı ve sağlığı, beslenme sıklığı ve miktarı, ilaç tedavisinin süresi, tedavi türü önemlidir.

Dikkat edilecekler: sadece gereksinim varsa alınmalıdır, en ufak doz kullanılmalıdır, yarılanma zamanı en kısa olan tercih edilmelidir, anne sütüne en az geçen tercih edilmelidir, reaksiyonlar kontrol edilmelidir, ancak anne sütü vermeyi sürdürmelidir.

Bazı konular dikkate alınmalıdır; bebeğe yazılan ilaç ile aynısı olması, sütten az salınımlı olması önemlidir. Bazı ilaçlar geçer ama zarar oluşturmazlar.

Doğum sonu depresyon nedeni ile alınan ilaçlar: genellikle güvenli denilmektedir.

Bazı ilaçlar gebelerde ve/veya emziklilerde kullanılmamalıdır.

Alkol gibi maddeler için bazı uyarılar bulunmaktadır. Kafeinin %1'i emzirdikten sonra bir saat içinde geçmektedir. Çikolata ve bitkisel ürünler, sınırlı oranda alınmalıdır.

Sunum/Slide: Anne Sütüne Geçen İlaçlar

Emzir-me/Anne Sütü Kursu
19 Mart 2017, 1000 Gün
Ankara

Annenin kullandığı ilaçların anne sütüne geçişi

Anne sütünden geçen ilaçlar

- İlaçların yağda erime kapasitesine göredir
- Transport mekanizması önemlidir
- İonizasyonu önemli geçiş faktörüdür
- Plasma pH değişikli etkilemektedir.

Geçiş

- Büyük çoğunluk pasif difüzyon ile geçer
- Geri kalanlar ters pinositoz ile geçer
- Epitel hücresinden süte olabilir
- Aktif transport, pasif difüzyon, apokrin sekresyon
- Aktif geçiş, Plasma pH ve diğer faktörler ile geçer
- Kolostrumda suda eriyenler geçişi fazladır

Önemli olan

- Sütten salınım oranı
- Total bebeğin aldığı süt miktarı

İlacın kendisi

- A) ilacın fizyolojik olarak etkisi önemli değildir (Dijital geçer, önemsiz)
- B) Toksik etki olmalıdır, geçmesi değil
- C) İlacın anneye veriliş nedeni önemlidir

İlacı kontrol etmeli

- İlacın süte geçmesi önemli değildir
- İlacın zararlı olması önemlidir
- Bu nedenle LactMed online database ve diğer internet ile son bilgiler kontrol edilmelidir

İlaç farklı etkileşim

- İlaç bebekte; ishal, kusma, uyku ve irritabilite yapabilir veya süt yapımı azalabilir,
- Bu etkiler anneden bağımsızdır
- Kilo kaybı olmamalıdır.

İlaçların gruplandırılması

- Güvenli Kabul edilenler
- Güvenli olabileceği düşünülenler
- Tehlikeli olabilecekler
- Güvensiz olan ilaçlar

İlaç verilme yaklaşımı

- İlaç ve emzirme ilişkisi kurulmalıdır
- Sosyal ilaçlar ve emzirme yaklaşımı
- İlaca bağımlı anne (diyabet, hipertansiyonlu gibi) ve emzirme
- İlaç ve kimyasalların geçişi, vitamin, kalsiyum ve demir dahil
- Reçeteli ilaçlar

- Alkol ve emzirme
- Uyuşturucu bağımlısı ve emzirme
- Esrar ve emzirme
- Opium kullanılması ve emzirme

İlaç kullanma yaklaşımı

- Gerçekten gerekli ise kullan
- Bebeğin büyümesi için süre var ise, daha sonra kullan
- En düşük doz tercih edilmeli
- Uzun süre etkili olanlar tercih edilmemelidir
- Süte geçiş ile emzirme zamanları uyarlanmalıdır
- Reaksiyonları kontrol ediniz
- Sütü çekin, daha sonra bebeğe verin

Prof. Dr. Aksit/From Prof. MD. M. A. Aksit's collection