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# MATERNAL SLEEP & SLEEP IN INFANTS

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# Maternal Sleep

## Introduction

The National Sleep Foundation's 1998 *Women and Sleep* poll found that 78% of women reported more disturbed sleep during pregnancy than at other times. Several sleep disorders can be caused or made worse by pregnancy. These disorders may include restless legs syndrome (RLS), obstructive sleep apnea (OSA), insomnia, gastroesophageal reflux disorder (GERD), and frequent nighttime urination.

Once her baby is born, a mother's sleep is frequently interrupted, particularly if she is nursing. New mothers often neglect their own needs. While this may seem like normal behavior from concerned new mothers, neglecting themselves puts their health at risk. In the long run, it may have an adverse effect on both partners but is especially taxing on a mother and may affect her ability to take proper care of her child. **Sleep deprivation** is one of the most common post-birth side effects as well as one of the most damaging.

Studies have shown that on an average, a new mother gets at least two hours less sleep than she needs. Most of the time, a new mother will not get continuous sleep. This is because a newborn has no set sleep/wake cycles. Newborns usually sleep in short spurts, with a maximum of three to four hours at a time.

One of the most serious effects of sleep deprivation in new mothers includes **severe depression**. Women who have a prior history of anxiety and/or depression are more likely to develop postpartum depression, anxiety, and other postpartum mood disorders. According to the American Psychiatric Association, postpartum depression can begin in the weeks after pregnancy or even before. About half of women with postpartum depression have symptoms during pregnancy.

It is important that as community health workers (CHW) or home visitors (HV), you ask pregnant and post-partum mothers about their sleep. In pregnancy, the focus should be more on healthy sleep habits during pregnancy, but also asking about symptoms of obstructive sleep apnea (OSA). These symptoms may include loud snoring, witnessed abnormalities in a woman's breathing during sleep by her bed partner, waking up gasping for air during the night, waking up with headaches, or daytime sleepiness and fatigue.

If you are visiting a client who is post-partum, it is *particularly* important to talk about sleep. Talk to the client regarding the importance of prioritizing her sleep and not just the baby's sleep, making time to care for herself, and to communicate her needs and/or feelings to her partner or friends/family members who are part of her support network. If the client is having persistent trouble sleeping, or experiencing feelings of intense sadness, anxiety, anger, self-hurt, or emotional detachment from the baby, it is very important that you encourage the client to seek help from her health care provider, as these can be symptoms of post-partum depression.

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## Sleeping for Two – Pregnancy and Sleep

Several sleep disorders can be caused or made worse by pregnancy. These disorders may include the following:

**RESTLESS LEGS SYNDROME (RLS)** - In a study of over 600 pregnant women, 26% reported symptoms of restless legs syndrome (RLS), a condition characterized by unpleasant feelings in the legs that worsen at night and that are relieved by movement.

**OBSTRUCTIVE SLEEP APNEA (OSA)** - Pregnant women are also at risk for developing **sleep apnea**, a disorder in which breathing is repeatedly interrupted during sleep. This is particularly true of women who are overweight when they become pregnant. Sleep apnea may also be associated with complications during pregnancy such as gestational hypertension, preeclampsia, or low birth weight. It is also associated with more daytime sleepiness compared to women who do not have sleep apnea during pregnancy. If your client is pregnant and describes symptoms of loud snoring, frequent awakenings during the night, witnessed abnormalities in her breathing during sleep or waking up gasping for air, waking up with headaches or poorly rested, and feeling excessively sleepy or fatigued during the day, she may suffer from sleep apnea. It is very important that you encourage a client with these symptoms to discuss her symptoms with her health care provider.

**INSOMNIA** - symptoms of insomnia include difficulty falling asleep, staying asleep, or waking up too early or feeling unrefreshed. Insomnia related to stress or anxiety about labor, delivery and/or balancing work and motherhood may result in significant sleep loss. The discomforts of pregnancy such as nausea, back pain and fetal movements may also disturb sleep.

**NOCTURNAL GASTROESOPHAGEAL REFLUX (NIGHTTIME GERD)** - GERD, also known as heartburn, is considered a normal part of pregnancy. However, nighttime symptoms of GERD can damage the esophagus and disrupt sleep during pregnancy.

**FREQUENT NIGHTTIME URINATION** – the frequent need to urinate at night is a common feature of pregnancy and can result in loss of sleep.

### Here are some sleep tips you may find helpful to offer to your pregnant clients:

1. Advise your client to plan, schedule, and prioritize sleep. She should aim for ~8 hours of sleep per night. Researchers from the University of California at San Francisco recently found that women who slept fewer than 6 hours per night had longer labors and were 4.5 times more likely to have cesarean deliveries.
2. Particularly in the third trimester, advise your client to sleep on her left side to allow for the best blood flow to the fetus and to the uterus and kidneys. Instruct her to avoid lying flat on her back for a long period of time. Instead, advise her to lie on her left side with her knees and hips bent. Place pillows between her knees, under her abdomen and/or behind her back. This helps take pressure off the lower back.
3. Encourage pregnant clients to drink lots of fluids (primarily water) during the day, but cut down in the hours before bedtime.
4. To prevent heartburn, advise pregnant clients to avoid eating large amounts of spicy, acidic (such as tomato products), or fried foods. If heartburn is a problem, she may find that sleeping with her head elevated on pillows or using a wedge pillow helps. Also, eating frequent small meals throughout the day rather than fewer larger meals can help. One recent study found that 30-50% of pregnant women experience gastroesophageal reflux disease, or GERD, almost constantly during pregnancy.
5. Encourage your pregnant clients to exercise regularly (unless her health care provider has advised against it) to help her stay healthy, improve her circulation, and reduce leg cramps. Advise her to aim for at least 30 minutes of low-impact exercise per day.

6. If your client is suffering from nausea associated with her pregnancy, encourage her to try eating frequent bland snacks (like crackers) throughout the day. This helps avoid nausea by keeping her stomach full. It's a good idea to have her keep some crackers near her bed, to help with nausea during the night.
7. Special "pregnancy" pillows and mattresses may help pregnant clients sleep better or more comfortably.
8. The good news about most of the sleep problems experienced by pregnant women is that they tend to go away once the baby is born, but let your client know that she should still pay close attention to her sleep after she gives birth, as new sleep problems may arise.
9. Encourage your client to talk with her health care provider if she develop medical problems and/or persistent insomnia.

Here are some sleep tips you may find helpful to offer to your post-partum clients:

1. **Encourage new mothers to make sleep a priority.** Getting enough sleep is essential for her body to cope with all the stress it has been exposed to. A mother is also often a baby's only source of nutrition which makes her sleeping schedule a top priority. *If your client is nursing, you may want to let your client know that a lack of sleep can affect the quantity of milk that is being produced.*
2. **Emphasize the importance of taking care of herself.** During the first couple of months, it's completely acceptable for the client to take time off for herself. Encourage your client not to feel guilty about putting her needs first. *If there is work to do around the house, tell her not to feel the need to pitch in.* Let her know that it's okay to depend on friends or family to get the work done.
3. **Encourage your client to communicate your needs.** One of the biggest reasons a new mother struggles to get adequate sleep is she doesn't communicate her needs to her partner and family. It's always a good idea to encourage your client to work out a schedule and try and ensure one partner is resting while the other is with the baby.
4. **Tell your client to sleep when her baby sleeps.** The moment her baby falls asleep is when she should be sleeping, too. Emphasize to your client the importance of making sleep a priority. *Sharing baby care to the extent possible, especially during the night, is important for the mother's health, safety, performance and vitality.*
5. **Reassure your client that patience is the key.** While it may seem like an eternity, let your client know that with time, she will start having a more relaxed, enjoyable experience with more sleep as her baby's sleeping patterns develop. *It will happen.*
6. **Emphasize the importance of asking for help.** Let your client know that she should not feel guilty or hesitant to seek help from family and/or friends. Whether it is to help with the baby or even the daily chores, let your client know that seeking help will ensure that she is not over-stretched.
7. **Help your client recognize when she may be having signs of a postpartum mood and anxiety disorder.**
  - a. Anywhere from 40 to 80 percent of new mothers experience the baby blues – an emotional state of tearfulness, unhappiness, worry, self-doubt, and fatigue. The baby blues typically begin a few days after delivery and go away on their own within a week or two.
  - b. If your client experiences these feelings and her feelings seem unusually intense and have lasted longer than two weeks straight, she could have **postpartum depression (PPD)**. She can get help! Postpartum mood and anxiety disorders are temporary and treatable. Reassure her that she can, and will, sleep again and feel whole again.
  - c. While all parents experience some form of sleeplessness, **prolonged insomnia** despite exhaustion is one of the many symptoms of postpartum depression, anxiety, OCD, and the other postpartum mood and anxiety disorders. Other **symptoms of PPD** may include feelings of **anger, brain fog, scary and intrusive thoughts ("What if..."), and/or emotional numbness (feeling detached, or disconnected, emotionally)**.
  - d. Some women may experience physical symptoms such as headaches, back aches, upset stomach, nausea, panic attacks. ***If your client is suddenly plagued by aches and pains that don't appear to be caused by the flu or any other illness, they may be symptoms of postpartum depression.***

- e. **ENCOURAGE YOUR CLIENT TO ASK FOR HELP.** As always, the best thing to do is encourage your client to reach out to her health care provider (OB/GYN, primary care provider, child's pediatrician) if she is having these or other symptoms of postpartum depression or anxiety. *While PPD is very common, it is not normal. Let your client know that she does not have to feel this way as a new mother, and there are effective treatments that can put her on the road to recovery.*

# Sleep in Infants

## Get Them Started Right!

### Introduction

Community Health Workers and Home Visitors are often on the front lines of health care for women that are of childbearing age. The importance of sleep for children is something that has recently become a “hot topic” in the media. Sleep is so crucial for many different functions of our bodies, and for the ability to perform on a daily basis. Additionally, safe sleep and prevention of death from unsafe sleeping conditions is an essential topic of anticipatory guidance for all parents of newborn infants.

As CHWs and HV’s, you typically have the most consistent contact with high risk populations. Having the opportunity to address the topic of sleep in infants, children, and adults can make a crucial impact for the future of the families that are served. It is imperative to provide this education and tools to advise pregnant women, new mothers, and any woman of child-bearing age, the IMPORTANCE of having regular sleep routines, sleep habits, and the proper number of hours of sleep for all ages in the household.

The topic of newborn/infant and child sleep ideally would be discussed and introduced to all women and families that are expecting a baby, have just delivered a baby, or have just brought a newborn home. The establishment of a consistent sleep routine early on will assist in developing overall good sleep for the entire family. All members sleeping well will result in positive family interactions; help with the ability to perform in school, perform at work, as well as emotional regulation.

Despite the Community Health Workers and Home Visitors being on the front lines and interacting in the home environment, the newborn/child’s physician should also be providing education surrounding safe sleep and instillation of good sleep habits in the household. The family should be encouraged to discuss these topics with their health care provider.

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## Safe Sleep Practices to Prevent Infant Death Due to Unsafe Sleep Conditions is of Utmost Importance.

- Baby placed on his/her **BACK** on a firm mattress, with a well-fitting sheet in a safety approved crib or other approved infant sleep apparatus; crib slats no more than 2 and 3/8 inches apart. Crib corner posts should be no higher than 1 and 1/16 inches, and preferably no decorative cut outs.
- Most safe is when the newborn/infant is alone for sleep, and not next to another sleeping person or in another person's arms.
- **NO** pillows or comforters. A sleep sack/sleeper is preferred, but if not possible, a blanket should be no higher than the chest of the infant and should be tucked firmly under the mattress. Baby's face should stay uncovered and clear of blankets.
- **NO** crib bumpers, toys or positioners. Mobiles and hanging crib toys removed around 5 months when baby may be pulling self to stand in crib.
- Avoid overheating and maintain the room at a comfortable temperature for an average adult.
- Create a "**smoke free zone**" around the infant.
- American Academy of Pediatrics recommends pacifier use as a preventative measure for death due to unsafe sleeping conditions (formerly known as SIDS)

## Infant Sleep Needs

Average 24 hour sleep duration in infants taken from Galland et al (2012)

Age	Average (hours)/24 h	Range (hours)
0-2 months	14.6	9.3-20.0
~3 months	13.6	9.4-17.8
~6 months	12.9	8.8-17.0
~12 months	12.9	10.1-15.8

- Sleep is **THE** primary activity of the brain during early development.
- By age 2 yrs. it is estimated that the average child has spent about 9,500 hours (or 13 months) sleeping.
- In contrast to 8,000 hours for all waking activities combined.
- Studies indicate that sleep patterns at the age of 3 months is an important predictor of future sleep habits, as the ability to fall asleep independently at 3 months of age is associated with few night wakings at 6 and 12 months of age.
- **Maintain a napping/sleeping and wake schedule that is consistent and constant most days. This is very important!!!!**

## Why Do We Need Sleep? (Both infants, children, and adults)

- Growing and developing.
- Neurodevelopmental maturation.
- Emotional regulation.
- Fighting illness.
- Memory consolidation (short term to long term processing).
- To be creative and think abstractly.
- Organize our thoughts, predict outcomes, avoid consequences, and to be goal directed (Executive functions).

## How To Help Develop Great Sleep Habits/ Routines

### **THE KEY IS CONSISTENCY AND REPETITIVE ROUTINES AND SCHEDULES BOTH DURING THE DAY AND NIGHT TO SET THE SLEEP/WAKE CYCLE**

- Advise that there be lots of light exposure during daylight hours. (Open shades and curtains, turn on lights, do not make the home a cave during the day).
- In the evening, reduce the level of stimulation and make things boring.
- Reduce light and make it dim and dark (more cave-like) to promote the release of our natural **Melatonin**. This is a hormone that promotes tiredness/sleepiness.
- Create a bedtime/evening routine no more than 30 minutes that is repeated every night so that it becomes a pattern and habitual. (Ex: feeding, bath, reading books, singing songs, prayers, snuggling, kissing and cuddling). Do these things in dim light if possible not creating too much stimulation.
- The steps of the routine should lead toward the room where the child will sleep. Do not go back and forth from bedroom to other places in the home.
- The room for sleeping should be cool (comfortable temp to average adult), boring, and not a place to play or have lots of toys or stimulation in it. Crib should not be used for play time either.
- Put infant/baby/child down in sleep location when **DROWSY** but not yet asleep.
- This allows them to recognize the sleep environment and realize that this is where he/she should sleep. They are then in the same place when they naturally wake up, and then should be able to go back to sleep on his/her own.
- Consider the use of white noise (fan) if there tends to be environmental noises that could wake the infant/toddler or child.
- If needs diaper change, do so without lots of light, eye contact or stimulation.

## Infant/ Baby Sleep Facts

- Could take 3-6 months to get the circadian rhythm set for an infant but consistency and routine are of utmost importance to develop this.
- Infants typically are unable to sleep “through” the night until about age **10-12 weeks**. This is defined as sleeping 5-6 hours straight without waking.
- When a baby is brought home after birth, he/she may have day/night reversal so therefore give/expose to lots of light in the day and dimness in the evening to set the circadian rhythm.
- Breastfed babies wake more due to quicker digestion. Mother should avoid caffeine when breastfeeding if possible.
- It is **NORMAL TO WAKE** at the end of some of our sleep cycles.
- The ability to **self sooth** and go back to sleep is learned and is key to developing good sleep habits. However, parent should be aware when baby is wet or hungry, they should respond. **The parent should be advised to speak with the pediatrician about when their baby is ready to self soothe.**

- During some sleep stages, babies may have frequent muscle twitches and or grimaces that parents may interpret as abnormal when they enter sleep; however these are normal for sleep.
- Certain things **OFTEN** cause a temporary disruption in sleep patterns and result in regression. However, keeping a consistent routine throughout it all and instilling good habits can help this to be temporary. Examples are learning new motor skills, normal development, as well as illness or tooth eruption.
- **Signalers versus nonsignalers:** infants may alert the parent of waking by crying out (signaling) or may return to sleep without disrupting parents (nonsignalers). Signalers are often labeled as problematic sleepers by their parents.
- Parental intervention versus nonintervention: parents can choose whether or not to respond, how quickly to respond, and the type of response (verbal soothing, rocking, or feeding) to a signaled or nonsignaled nighttime arousal or awakening. The practice of parents responding immediately to signaled night wakings, particularly if the social or feeding interaction becomes reinforcing for the infant, results in a “trained night crier.”
- If there is an association with sleep made (always feeding, holding rocking, or lying with the child) this may develop into a habit and will be very difficult to achieve independent sleeping. The “need or association” is made and that infant/child feels they cannot sleep without it. This should be **DISCOURAGED EARLY ON.**
- Develop appropriate sleep onset associations by 3-6 months that are available to infant without parental intervention (alone in crib, always same place, transitional object or thumb sucking)
- Night feedings do **NOT** improve the quality or quantity of sleep and in most healthy infants are **NOT** physiologically necessary after 6 months of age.

#### Take Home Messages for Good Sleep Tips

- There is a wide variation in the number of hours per day a newborn or infant will sleep.
- Practice safe sleep for newborn and infants.
- Lots of factors go into how a baby will sleep.
- Learn the baby’s rhythms and develop a schedule early on.
- Be consistent and develop a routine.
- PUT DOWN DROWSY BUT AWAKE.
- MOM AND DAD NEED SLEEP TO BE THEIR BEST TOO.

## **THE OVERALL GOALS ARE**

- ***Happy, healthy, baby and family with great sleep habits!***
- ***Both safe sleep and good routine are essential.***
- ***The SOONER it STARTS the BETTER HABITS will be formed!!!!!!***



## References

### A Clinical Guide to Pediatric Sleep: Diagnosis and Management of Sleep Problems

- Authors: Jodi A Mindell and Judith A Owens

National Sleep Foundation Website, [www.sleepfoundation.org](http://www.sleepfoundation.org)



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