

# Sleep problem in children

DR AHAD ADNAN

When you face any sort of sleep difficulty regularly, life becomes troublesome. But if your baby faces same problem you become apprehensive. Sleep problems in children often have an impact on the whole family.

The common sleep problems are inadequate duration of sleep, disruption and fragmentation of sleep, inappropriate sleep timing and primary disorders of excessive daytime sleepiness etc. Insufficient sleep is usually the result of difficulty initiating and/or maintaining sleep but, especially in older children it may also represent a conscious lifestyle decision to sacrifice sleep for competing priorities, such as homework and social activities.

A newborn up to first two months of age may sleep about 13-15 hours per day on an average. It may be higher in premature babies. Sleep periods are separated by 1-2 hours awake. A toddler (1-3 years) usually sleeps 11-13 hours on an average per day. Night time sleep average is 9.5-10.5 hours and naps for 2-3 hours. During pre-school (3-5 years) period night time sleep average is 9-10 hours and naps decrease from one nap to no nap. Average sleep period in middle childhood (6-12 years) is 9-11 hours and in adolescence (>12 years) is 7-8 hours.

The underlying causes of



sleep disorder are extremely individualised. Some baby may have anatomical problem (like obstructive sleep apnoea, diseases in any part of respiratory tract etc.) while others may have developmental issues. Some drugs and food habits (caffeine, beverages, junk food etc.) have negative impact on sleep. Social disharmony, chaos and sound pollution are among the increasing problems. Media and electronics are emerging as social quandary now. Sometimes physician do not even find any obvious cause of sleep disturbances.

Now let us discuss how can we solve these problems. The

following recommendations come from the American Academy of Paediatrics for the infants:

- Not to share bed in the 1st year of life, instead encourage proximate but separate sleeping surfaces for mother and infant
- Place the baby on his/her back to sleep at night and during nap times
- Place the baby on a firm mattress with a well-fitting sheet in a safety-approved crib
- Do not use pillows or comforters
- Make sure the baby's face and head stay uncovered and clear of blankets and other coverings during sleep

Parents should know some basic principles of healthy sleep for children. For example, you may have a set bedtime and bedtime routine for your child; bedtime and wake-up time should be about the same time or not more than one hour differed on school nights and non-school nights and make the hour before bed shared quiet time.

Avoid high energy activities, such as rough play and stimulating activities, such as watching television or playing computer games, just before bed; do not send your child to bed hungry. A light snack (such as milk and cookies)

before bed is a good idea. Heavy meals within an hour or 2 of bedtime, however, may interfere with sleep; make sure your child spends time outside every day, whenever possible, and is involved in regular exercise.

Exposure to sunlight helps to keep your body's internal clock on track; keep your child's bedroom quiet and dark. A low-level night light is acceptable for children who find completely dark rooms frightening; Keep your child's bedroom at a comfortable temperature during the night; Do not use your child's bedroom for time-out or punishment and keep the television out of your child's room. Children can easily develop the bad habit of leaving the television to fall asleep.

In various studies it is found that sleep disturbance in childhood is a culprit to developmental delay, academic backwardness, health problem and familial or social disharmony. Parents should sacrifice their habit of using social media, internet or television till midnight in favor of their children. Spend quality time with the children. Resolving sleep problem can ensure your children a healthier, brighter and confident future.

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## GENETICS

*A simpler way to choose the gender of offspring*



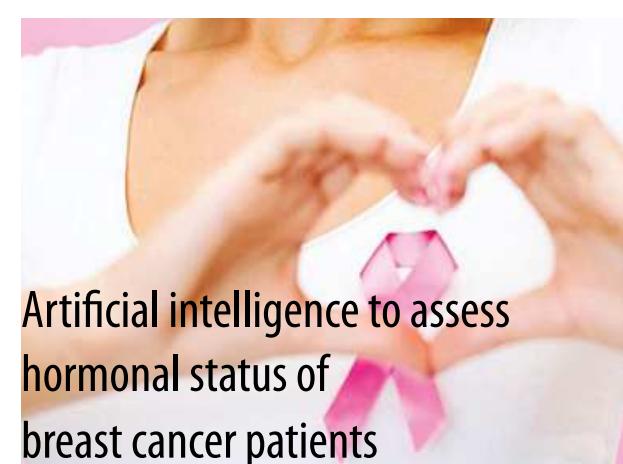
A simple, reversible chemical treatment can segregate X-bearing sperm from Y-bearing sperm, allowing dramatic alteration of the normal 50/50 male/female offspring ratio, according to a new study by Masayuki Shimada and colleagues at Hiroshima University, published in PLOS Biology. The study was performed in mice, but the technique is likely to be widely applicable to other mammals as well.

Most cells from male mammals contain both an X and a Y chromosome, but during sperm development, the X and Y chromosomes are segregated into different cells so that an individual sperm will carry either one or the other, with an X chromosome giving rise to daughters and a Y chromosome to sons.

Unlike the Y chromosome, which carries very few genes, the X chromosome carries many, some of which remain active in the maturing sperm. This difference in gene expression between X- and Y-bearing sperm provides a theoretical basis for distinguishing the two.

There are other procedures that can be used to separate X and Y sperm, but they are cumbersome, expensive, and risk damaging the DNA of the sperm. The procedure developed by these authors has the potential to greatly simplify sex selection for either in vitro fertilisation (in which sperm and egg join in a lab dish) or artificial insemination (in which sperm are implanted into the female reproductive tract).

## HEALTH bulletin



### Artificial intelligence to assess hormonal status of breast cancer patients

A machine learning technique has been found non-inferior to the traditional immunohistochemistry in predicting molecular biomarker expression. The pathological review of tumour samples, even for common molecular biomarkers such as estrogen receptor (ER), progesterone receptor (PR), and human epidermal growth factor receptor 2 (HER2), is time consuming. Moreover, there is not always concordance between pathologists on the interpretation of samples.

Artificial intelligence (AI) and machine learning technologies are being applied to address this variation as well as to improve reliability and add efficiency. Currently, such technology can differentiate between cancerous and non-cancerous tissue as well as determine presence of metastases in lymph nodes and perform tumour grading.

Now, investigators have conducted a retrospective, single-institution study to test the ability of a machine learning technique – referred to as morphological-based molecular profiling – to assess hormonal status of more than 20,000 digitised hematoxylin-eosin (H&E) pathology specimens from a microarray library of more than 5000 breast cancer patients.

AI and machine learning are emerging technologies that are finding a role in many aspects of modern life, including medicine. These data represent a first effort to utilise a training set to gauge utility for pathological review of samples.

## Corporate nutrition for better productivity

FAHMIDA HASHEM

A healthy workplace complements by supporting the health and wellbeing of employees. Public health strategies place increasing emphasis on opportunities to promote healthy behaviours within the workplace setting. Productivity at work can get greatly affected by your physical and mental health. Many people suffer symptoms of anxiety, depression, stress, and confused thinking, which influence them in all areas of life including work.

Wellness programmes are linked to greater productivity, less absenteeism, and a reduction of long-term health care costs. Offer your employees healthy meal and snack options that help fuel their performance while also meeting their nutritional needs. Review the cafeteria menu in organisations to replace unhealthy food with healthier choices. Consider replacing tea with milk, juice, and stocking snack machines with nuts, dried fruit, and other healthy options and



be sure the office cafeteria has plenty of healthy meal options.

Regular or continuous stress weakens the immune system, increases and slows the healing process. Foods that are fresh, whole, naturally colourful and rich in nutrients support your vitality, energy levels and improve physical, mental and emotional health. But far less energy has been spent on the relationship between diet and productivity or performance in the workplace. The business community needs the medical community to integrate wellness into the workplace. Business-medical partnership opens a new path to achieving a greater balance between health and workplace productivity.

Workplace health promotion programmes are an efficient approach to improving the health of a relatively large group of individuals because worksite interventions are more convenient and accessible to workers and often less expensive than off-site programmes. The World Health

Organisation (WHO) established the workplace as a priority setting for health promotion, highlighting benefits to the organisation as well as to the employee.

Employees eat nearly half of their daily meals and snacks at the workplace, which means that what is consumed during working hours can have a great impact on overall diet and health.

Everyone can benefit from a nutrition tune-up. The foods we choose to eat are linked to the energy we have to be productive in our careers. Provide your employees with healthy office snacks - healthy snacks aid in weight control, improve mood, and boost energy, making it a no brainer to provide for your office. Show your employees how they can improve their health, bring in a specialist who offers biometric screenings and health assessments, and more importantly, can give people a roadmap to improved health. Organisations should provide gym facilities, healthy snacks, and biometric screening system, arrange health related seminar, free nutrition consultancy in workplaces.

Personal well-being and a stress-free work atmosphere are important aspects for achieving success and productivity at the workplace. Healthier employees mean more productive employees which mean a more profitable business!

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### Smartphone app to screen for vision problems

Researchers compared visual acuity assessment with a novel smartphone app (Peek Acuity) and a standard method in 111 children (ages 3-17 years) who were referred to an ophthalmology clinic.

Children underwent monocular vision assessments with both methods, in random order. The app was used as follows: with the examiner holding the phone 2 metres away, the child indicated the direction of the arms of an "E" displayed on the screen, and the examiner swiped the screen in that direction. If the child couldn't see the "E," the app notified the examiner to move to 1 meter away and, if necessary, 30 cm. At the end of the test, the phone displayed visual acuity results. Standard vision assessment was conducted in an examination lane using a computer screen.

Agreement between the two methods was good. The app was 83% sensitive and 70% specific for identifying children with referable eye conditions. Among children aged 3 to 5 years, the app was 100% sensitive and 39% specific for referable eye conditions and for decreased vision.

This smartphone app showed excellent results for detecting eye conditions in children in an ophthalmology setting and holds value as a potential office screening tool for detecting vision problems in the most important early ages.

/StarHealthBD

## HEARTBURN DURING PREGNANCY

Heartburn in pregnancy may occur because of changing hormone levels, which can affect the muscles of the digestive tract and how different foods are tolerated. Pregnancy hormones can cause the lower esophageal sphincter (the muscular valve between the stomach and esophagus) to relax, allowing stomach acids to splash back up into the esophagus. In addition, the enlarged uterus can crowd the abdomen, pushing stomach acids upward. Although it's rare, gallstones can also cause heartburn during pregnancy.

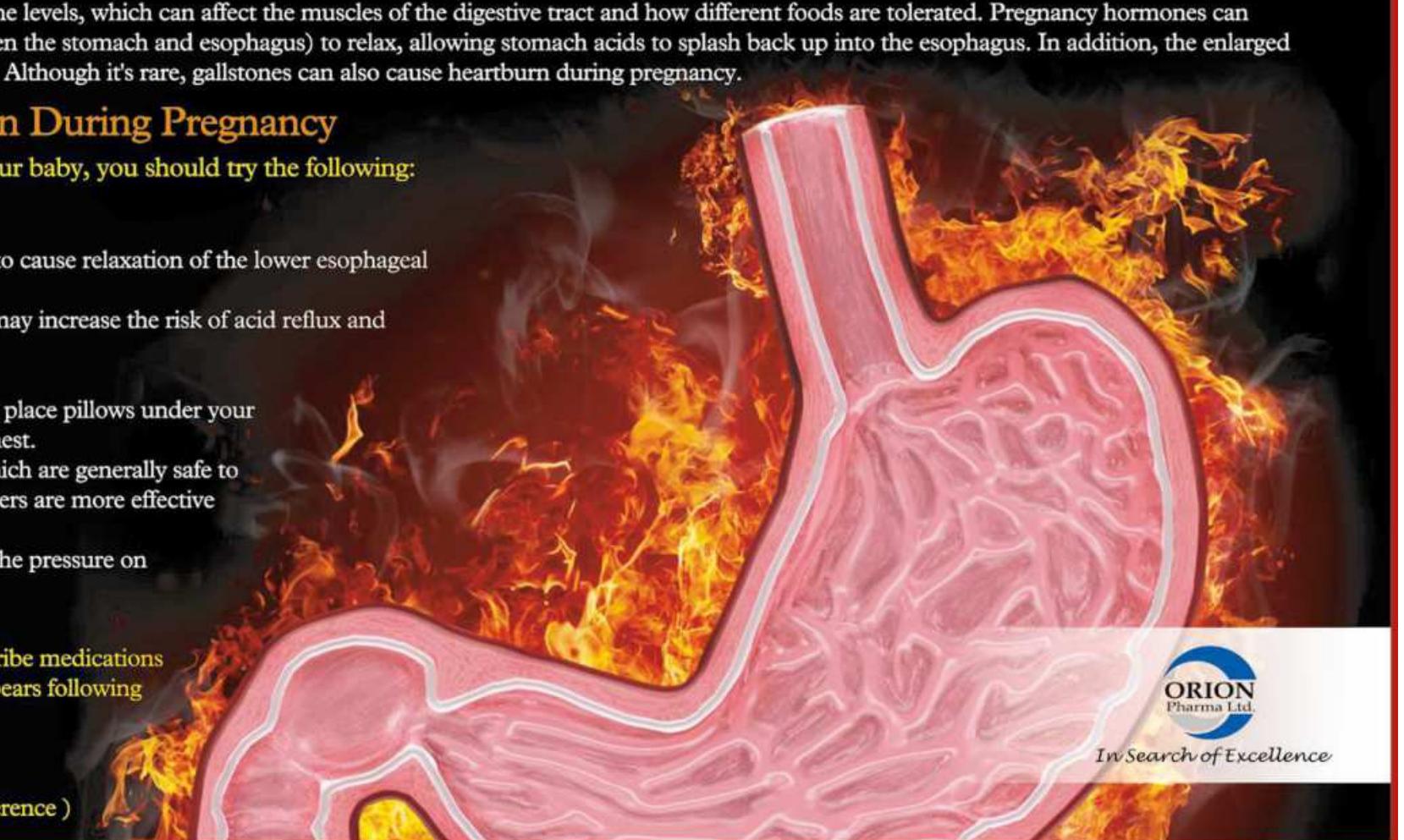
### Prevention and Treatment of Heartburn During Pregnancy

To reduce heartburn during pregnancy without hurting your baby, you should try the following:

- Eat several small meals each day instead of three large ones.
- Eat slowly.
- Avoid fried, spicy or rich (fatty) foods or any foods that seem to cause relaxation of the lower esophageal sphincter and increase the risk of heartburn.
- Drink less while eating. Drinking large amounts while eating may increase the risk of acid reflux and heartburn.
- Don't lie down directly after eating.
- Keep the head of your bed higher than the foot of your bed or place pillows under your shoulders to help prevent stomach acids from rising into your chest.
- Ask your doctor about using over-the-counter medications which are generally safe to use during pregnancy. You may find that liquid heartburn relievers are more effective in treating heartburn, because they coat the esophagus.
- Wear loose-fitting clothing. Tight-fitting clothes can increase the pressure on your stomach and abdomen.
- Avoid constipation.

If your heartburn persists, see your doctor. He or she may prescribe medications that are safe to take during pregnancy. Heartburn usually disappears following childbirth.

( WebMD Medical Reference )



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