

**W** Sleepiness, stress and inflammation within the body, it cannot make up for the lack of sleep in the long run. Sleep deprivation is a ticking time bomb and a harsh reality that working professions have to battle with on a daily basis. Most delude themselves thinking they can make up for it by sleeping for extra time on weekends. However, it's unknown whether this 'recovery' sleep can adequately reverse the adverse effects. Research has shown that even a few days of lost sleep can result in increased daytime sleepiness, worsened daytime performance, an increase in molecules that are a sign of inflammation in the body, and impaired blood sugar regulation. To help answer this question, researchers led by Alexandros Vgontzas of the Penn State University College of Medicine, in the US, placed 30 volunteers on a sleep schedule that mimicked a sleep-restricted week, followed by a weekend with extra 'recovery' sleep.

At various points during this schedule, researchers assessed the volunteers' health and performance using a variety of different tests.

#### What the study revealed?

The researchers found that the volunteers' sleepiness increased significantly after sleep restriction, but returned to baseline after recovery sleep. Levels of a molecule in blood that's a marker for the amount of inflammation present in the body increased significantly during sleep restriction, but returned to normal after recovery. Levels of a hormone that's a marker of stress didn't change during sleep restriction, but were significantly lower after recovery.

However, the volunteers' measures on a performance test that assessed their ability to pay attention deteriorated significantly after sleep restriction and did not improve after recovery.

This last result suggests that 'recovery' sleep over just a single weekend may not reverse all the effects of sleep lost during the week.

#### Expert speak

Dr Vikas Agrawal, Sleep Apnea and Transoral Robotic Surgeon, Asian



## DO YOU SLEEP BINGE ON WEEKENDS?

Heart Institute, Mumbai, says, "I fully agree with the study. Sleep is a state in which the body cells repair themselves after whole day's trauma. In sleep deprived state, this does not happen. Result is insulin resistance, hypertension, etc. Some of the changes in the body like sleepiness, lethargy, etc, can be reversed after a weekend sleep binge, but changes like hypertension, diabetes are chronic affair and do not reverse. In starvation for a long time the body metabolism changes drastically, there are ketone body formations causing irreversible changes, which

do not reverse even after food intake.

In case of snoring and sleep apnea, even when the patient tries to sleep for a long time on weekends, his sleep quality still remains bad, as he is unable to go to deep sleep; therefore his sleep deprivation is not compensated.

In today's life we all are under stress of performance on weekdays, late night sleep and early morning waking up worsens our sleep. But we need to understand the value of good sleep and accordingly modify our work, travel, and duties to get enough time for a seven-hour sleep. Bedroom condition should be made suitable for sleep hygiene. Decibel levels, air conditioning, allergy control, use of proper pillows and mattresses, lighting, and above all mental peace are requirements for good sleep hygiene.

Dr Deepak Chaturvedi, Physician Endocrinologist, Diabetologist, Antiaging Specialist and Bariatrician, Amaaya Antiaging Wellness Clinic, adds, "A normal sleep is essential for

Research has shown that even a few days of lost sleep can result in increased daytime sleepiness

the facilitation of motor functions, consolidation of learning and memory, and restoration of strength and physical and mental energy.

The newborn baby sleeps for 16 to 20 hours a day and a child, 10 to 12 hours. Total sleep time drops to 9 to 10 hours at age 10 and about 7 to 7.5 hours during adolescence. An adult needs at least 6.5 to 7 hours of sound sleep daily. In the current fast paced world people are not getting enough sleep. Working against circadian rhythm has completely distorted the sleep-wake cycle leading to various neuro-hormonal changes happening in the body. People are living in complete "Social Jet Lag".

**CC** After six to seven hours of sleep, your brain needs some fuel to power and prepare it for the day ahead

Rina Baliga, Nutritionist

### WHY YOU SHOULD GET A GOOD NIGHT'S SLEEP?

- Lack of energy work efficiency
- Lack of libido marital discord
- Heart disease and heart attacks
- Stroke
- Diabetes
- Hypertension
- Increased levels of stress
- hormones (Cortisol)
- Decreased secretion of Growth hormone
- Decreased secretion of Luteinizing hormone in females
- Decreased secretion of testosterone in men

The above hormonal changes, if remain long standing may lead to infertility, Obesity and other metabolic and reproductive disorders. Long standing sleep deprivation brings aging prematurely. The sleep deprivation (whether total or partial) has deleterious effects on emotions and cognition. It also causes the daytime sleepiness, Fatigue, Irritability, and difficulty in concentration. Skilled performance goes down. The self care is neglected, judgement is impaired and the communication skill suffers. With increased deprivation the neuropsychiatric symptoms like Illusions and hallucinations may occur. Chronic Sleep deprivation is a pro-inflammatory state and may lead to generalised systemic inflammation leading to chronic diseases (Ischemic Heart Disease, Diabetes etc.)

#### What you can do?

- People try to catch up with their sleep deprivation on weekends by sleeping extra hours. But the sleep obtained in these extra hours is never equal to the sleep lost in the week. This way the damage caused is never recovered completely and the cumulative effect occurs leading to long term complications. Secondly, sleeping in the odd hours of the weekends again disturbs the circadian rhythm and brings more damage
- The best way to deal with sleep deprivation complications is to avoid sleep deprivation and maintain good sleep hygiene throughout the week. A restorative 6.5 to 7 hrs of uninterrupted night sleep is mandatory for good health and happiness
- Following life style changes may help:
  - Avoid caffeine at least 6 hours before bedtime
  - Avoid alcohol or smoking 2 hours before bedtime
  - Get regular exercise, but at least 3 hours before bedtime
  - Establish regular bedtime hours, waking up each morning at the same time
  - Do not use the bedroom to work.
  - Meditation and light music may help