## **NEWS IN BRIEF**

## **Reducing adolescent stress**

A 30 minute online intervention in school and college students in the United States was found to be effective in reducing adolescent stress when tested on many fronts. Adolescent stress is at an all-time high, so this study is especially valuable today. A blinded randomized controlled trial was conducted on 5000 students. The study participants underwent either an online 'synergistic mindset intervention' or a control intervention.

The synergistic mindset intervention includes training students to relook at stress. Instead of identifying stress as unhelpful and uncontrollable, they were taught to look at it as helpful for their growth and amenable to control. It teaches them that this shift in perspective results in a change in the body's physiological response from the threat response with increase in cortisol and peripheral vasoconstriction; to a challenge response which mobilizes energy to the body and blood to the brain. Further it trains them in the growth mindset. It emphasizes that ability is not fixed or innate. Ability can be developed with effort, strategy and support.

The effect of this online training was tested using various stressors such as timed quizzes, mental mathematics, impromptu speeches etc. The effect of the training in study and control groups was compared across a range of outcomes. Outcomes included both immediate responses such as threat or stress perception, physiological responses in the form of blood pressure, total peripheral resistance, cardiac output; anxiety level questionnaires and long term effects like final school performance. Across a range of outcomes and timescales, significant positive results were noted after a single session of online training in the synergistic mindset intervention.

Scaling it up to a national level is likely change the way young adults handle stress. (*Nature, July 2022*)

## Submicroscopic malaria infections

India has seen a 71.8% fall in malarial infections between 2000 and 2019 and a 73.9% drop in mortality in the same period.

However, one major reason for continued malarial transmission in various regions is submicroscopic malarial infections. What does this mean? Microscopy which is the main tool for diagnosis of malaria in all the national programs has a limit of detection of upto 10-100 parasites/µL.

A recent study from ICMR found that submicroscopic infection burden ranges from 0.4-38.4% in various districts of India. They also found that the sensitivity for detection for *Plasmodium falciparum* was lower than for *P. vivax* whereas the prevalence of *P. falciparum* is 63.8% compared to the 36.2% for vivax. They have suggested the use of molecular tests like PCR to monitor hotspots identified in their study. Point of care tests like the Truenat Malaria, which has been developed as a chipbased microPCR test with a level of detection of 5 parasites/uL, may also prove to be valuable.

(The Lancet Regional Health, July 2022)

## Sleep duration predicts kindergarten adjustment

Regular 10 plus hours of sleep has been demonstrated to be vital in good emotional and cognitive outcomes in very young children. This study analyzed sleep durations in 221 kindergarten children using a smart watch. Mean duration of sleep over 24 hours were measured for several days in a year. Outcomes measured included tests for social competence, learning behaviors, digit span test for working memory and academic outcomes in school. Children with more nights of 10plus hours of sleep were rated more favorably by teachers on aggression, classroom learning behaviors, school readiness, and ADHD behavior.

Sleeping for 10 hours daily was especially useful if the habit was inculcated in the pre-kindergarten years. Since parental and child sleep patterns are closely aligned, parents need to reflect on their sleep routines as well. Good sleep hygiene includes limiting screen time and regular sleep time rituals. Benefits are likely to accrue for both children and adults. (*Pediatrics* 2022; e2021054362)

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