30 days in medicine

An hour or two of exercise a week lowers the risk of depression

An 11-year study of 33 908 well adults in the Norwegian Health Study of Nord-Trøndelag County suggests that as little as an hour or two of exercise a week can lower the risk of depression. The risk of developing depression was 44% lower in people who exercised for one or two hours a week than in people who took no regular physical activity. None of the participants had depression or anxiety at baseline, but between 9 and 13 years later 7% of the participants had developed clinically significant symptoms of depression and 8.7% had developed anxiety. Researchers calculated that 12% of the depression cases could have been prevented by low levels of exercise.

Harvey SB, Øverland S, Hatch SL, Wessely S, Mykletun A, Hotopf M. Exercise and the prevention of depression: Results of the HUNT Cohort Study. Am J Psychiatry 2017 (epub 3 October 2017). https://doi.org/10.1176/appi.ajp.2017.16111223

Ebola RNA persists in semen of survivors

In a final report published in the *New England Journal of Medicine*, Deen *et al.* have shown that Ebola RNA persists in the semen of Ebola virus disease (EVD) survivors. However, this declines over time. Results were from 220 adult male survivors of EVD, 210 of whom had provided an initial semen sample for analysis. Of these men, 27% had positive results and Ebola virus RNA was detected in the semen of all 7 men with a specimen obtained within 3 months of discharge, decreasing to 4% in samples obtained at 16 - 18 months and to zero in men whose sample was obtained at 19 months or later. This study did not look at the risk of sexual transmission of the disease.

Deen GF, Broutet N, Xu W, et al. Ebola RNA persistence in semen of Ebola virus disease survivors – final report. N Engl J Med 2017;377:1428-1437. https://doi.org/10.1056/NEJMoa1511410

Childhood obesity rates plateau in the West, but are rising in Asia

The recent NDC Risk Factor Collaboration (NDC-RisC) paper in *The Lancet* showed that between 1975 and 2016 the proportion of girls worldwide who are obese increased from 0.7% (5 million) to 5.6% (50 million). During the same period, the proportion of boys who are obese rose from 0.9% (6 million) to 7.8% (74 million). The analysis was carried out in 200 countries and pooled 2 416 population-based studies with height and weight measurements on 128.9 million participants aged ≥5 years, including 31.5 million aged 5 - 19 years. Rates were highest – above 30% – in some islands in Polynesia, and were around 20% or higher in the USA and in some countries in the Middle East and North Africa (e.g. Egypt, Kuwait, Qatar and Saudi Arabia) and the Caribbean (e.g. Bermuda and Puerto Rica). However, while rising trends in body mass index may have plateaued in many high-income countries (at high levels), trends have accelerated in many Asian countries.

NCD Risk Factor Collaboration. Worldwide trends in body-mass index, underweight, overweight, and obesity from 1975 to 2016: A pooled analysis of 2416 population-based measurement studies in 128·9 million children, adolescents, and adults. Lancet 2017 (epub 10 October 2017). https://doi.org/10.1016/S0140-6736(17)32129-3

Improved health with modified house design: A study in rural Tanzania

Malaria continues to be a major problem across much of rural Africa. The same population potentially adversely affected by malaria needs affordable housing. Could houses designed in southeast Asia help to prevent malaria in rural Africa? A study by Von Seidlein and colleagues in rural Tanzania suggests that they can. Six prototype houses of southeast Asian design were built in a rural Tanzanian village and compared with modified and unmodified traditional sub-Saharan African houses. The prototypes were built with walls of lightweight permeable materials (bamboo, shade net or timber) with bedrooms raised off the ground with screened windows. Controls were the normal poorly ventilated, wattle-daub or mud-block constructions. In the modified houses, major structural problems such as leaking roofs were repaired, windows were screened, open eaves were blocked with bricks and mortar, cement floors were repaired or constructed and rain gutters and a rain water storage tank were added.

The new-design houses had fewer mosquitoes and were cooler than modified and unmodified traditional homes – a novel approach to malaria prevention.

Von Seidlein L, Ikonomidis K. Mshamu S, et al. Affordable house designs to improve health in rural Africa: A field study from northeastern Tanzania. Lancet Planetary Health 2017;1(5):e188-e199. https://doi.org/10.1016/S2542-5196(17)30078-5

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