

## VAPING, SMOKING AND TEENAGE WELLBEING: Understanding a growing mental health concern



Tobacco use and mental health are closely linked, and this relationship is particularly significant during adolescence – a formative stage when habits are established and emotional wellbeing can be especially vulnerable. In recent years, many young people in the UK and the US have experienced rising levels of anxiety, low mood and emotional distress. One contributing factor is the changing pattern of tobacco use, with increasing uptake of e-cigarettes and other nicotine products that are often perceived as less harmful.

Recent research published in PLOS Mental Health highlights a clear association between tobacco use in teenagers and poorer mental health. Adolescents who use e-cigarettes or other tobacco products are more likely to report symptoms linked to depression and anxiety than those who do not use tobacco at all. The risk appears to be highest among young people who use both vaping products and other forms of tobacco, suggesting that multiple types of use may intensify mental health challenges.

Although the findings do not show that tobacco use directly causes mental health problems, they point to an important pattern that parents, teachers, healthcare professionals and young people themselves should not ignore. Tobacco use may both signal existing emotional difficulties and contribute to worsening mental wellbeing, creating a cycle that can be difficult to break without appropriate support.

Overall, this research reinforces the need for early mental health awareness and prevention. Promoting emotional wellbeing, encouraging healthy coping strategies, and tackling all forms of tobacco use together – rather than separately – could help reduce long-term harm. Open conversations, tailored support and accessible mental health resources remain vital in protecting adolescent health in an increasingly complex environment.

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As winter arrives, many people notice a familiar discomfort: bloating after meals, constipation, reduced appetite, or a lingering heaviness in the stomach. While these symptoms are often brushed off as seasonal inconveniences, science offers clear explanations for why digestion tends to slow down during colder months.

At its core, digestion is an energy-intensive process that relies on adequate blood flow, muscle contractions, enzymes, hormones, hydration, and physical activity. Winter alters several of these factors simultaneously, creating a perfect storm for sluggish digestion.

**Reduced blood flow to the gut:** One of the body's primary responses to cold is vasoconstriction, the narrowing of blood vessels. This helps conserve heat by prioritizing blood flow to vital organs such as the heart and brain. As a result, peripheral areas, including the gastrointestinal tract, may receive comparatively less blood. Reduced blood flow can slow gastric emptying and intestinal movement, leading to feelings of fullness, indigestion, and constipation.

**Lower physical activity levels:** Physical activity plays a crucial role in stimulating gut motility, the rhythmic contraction of intestinal muscles that move food along the digestive tract. In winter, people tend to move less due to shorter daylight hours, colder temperatures, and lifestyle changes. Even a modest reduction in daily walking can affect digestive efficiency.

**Changes in hydration status:** Cold weather often suppresses thirst signals. People drink less water in winter compared to summer, even though the body continues to lose fluids through breathing and urine. Inadequate hydration leads to harder stools and slower intestinal transit. The colon absorbs more water from stool when fluid intake is low, making bowel movements infrequent and uncomfortable.

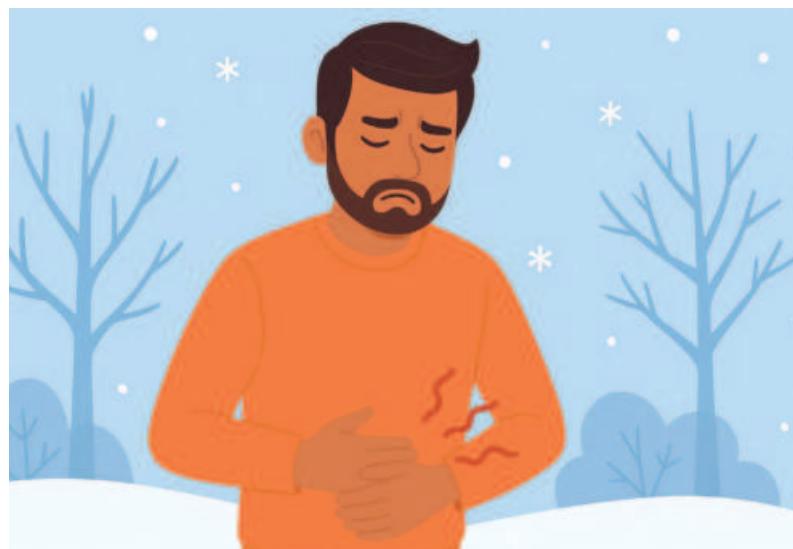
**Dietary shifts and fibre intake:** Seasonal eating patterns also influence digestion. Winter diets often include more refined carbohydrates, fried foods, meat-heavy dishes, and fewer raw fruits and vegetables. While warm, energy-dense foods provide comfort, they are often low in dietary fibre.

**Hormonal and circadian influences:** Winter affects circadian rhythms due to reduced sunlight exposure. Disruption of the body's internal clock can influence digestive hormones such as melatonin, cortisol, and serotonin. The gut-brain axis, an intricate communication system between the digestive system and the nervous

integrity, supporting beneficial gut bacteria, and regulating inflammation. Although research is ongoing, inadequate vitamin D may contribute to digestive discomfort and altered gut motility.

**Psychological stress and winter blues:** Mental health and digestion are deeply interconnected. Seasonal affective symptoms, increased stress, and low mood during winter can activate the body's stress response. Elevated stress hormones such as cortisol can slow digestion by shifting the body into a "fight or flight" mode, where digestion becomes a lower priority.

**What can be done?** While winter-related digestive slowdown



system, plays a role in regulating appetite, motility, and enzyme secretion. Altered sleep patterns and seasonal mood changes can indirectly impair digestive function.

**Reduced exposure to sunlight and vitamin D:** Lower sunlight exposure during winter months can contribute to vitamin D deficiency, which is increasingly being linked to gut health. Emerging research suggests that vitamin D plays a role in maintaining intestinal barrier

is common, it is not inevitable. Maintaining regular physical activity, ensuring adequate water intake, prioritising fiber-rich foods such as vegetables, legumes, and whole grains, and establishing consistent sleep routines can significantly support gut health. Warm meals, herbal teas, and mindful eating may also improve digestive comfort.

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SOURCE: PLOS ONE

### DID YOU KNOW?

We might inhale lung-penetrating microplastics daily!

Microplastics are now so widespread that they have been found almost everywhere we look – including the air inside our homes and cars. New research suggests that everyday indoor environments may expose people to far more tiny, lung-penetrating plastic particles than previously realised, raising fresh concerns about long-term health effects.

Scientists examining indoor air have discovered that most airborne microplastics are extremely small, fine enough to be breathed deep into the lungs without us noticing. Unlike larger particles, these microscopic fragments are invisible to the naked eye and can linger in enclosed spaces such as living rooms and vehicle cabins, where people spend a large proportion of their time.

This matters because inhaled microplastics may not simply stay in the lungs. Researchers are increasingly concerned that these particles could trigger inflammation, interfere with the immune system and carry harmful chemical additives into the bloodstream. While the full health impact is still being investigated, the findings suggest that indoor air could be a major and previously underestimated source of microplastic exposure.

Simple steps such as regular ventilation, reducing synthetic materials where possible, and keeping interiors clean may help limit exposure. More broadly, the study adds to growing evidence that plastic pollution is not just an environmental issue but a potential everyday health concern.

## Which therapy really helps knee arthritis?

Knee osteoarthritis is one of the most common causes of long-term pain and stiffness in older adults, often making everyday activities such as walking, climbing stairs or standing for long periods difficult. Many people rely on anti-inflammatory painkillers to manage symptoms, but these medicines can carry risks to the stomach and heart when used long-term. As a result, there is growing interest in safer, non-drug approaches to managing knee arthritis.

A large new analysis of existing clinical trials suggests that some of the most effective treatments are also among the simplest. Overall, knee braces, water-based therapy and exercise emerged as the most beneficial non-drug options for reducing pain and improving movement in people with knee osteoarthritis.

Knee braces consistently performed well across multiple outcomes. By providing external support and improving joint alignment, braces can reduce strain on the knee, helping to ease pain, stiffness and functional limitations. For many people, they offer a practical, relatively low-cost way to stay mobile while protecting the joint during daily activities.

Water-based therapy, often carried out in warm pools, was

particularly effective for pain relief. Exercising in water reduces the impact on joints while allowing muscles to strengthen and joints to move more freely. This makes hydrotherapy especially appealing for people who find land-based exercise painful or difficult or who are at an earlier stage of rebuilding strength and confidence.

Regular exercise on land also showed clear and consistent benefits. Structured exercise programmes helped reduce pain

and improve physical function, reinforcing long-standing advice that movement, rather than rest, is key to managing knee arthritis. Strengthening the muscles around the knee, improving flexibility and maintaining overall fitness can all help slow functional decline and support independence.

Other non-drug therapies, such as high-intensity laser therapy and shockwave therapy, showed some positive effects, but their benefits were less consistent. Ultrasound therapy, despite being widely

used in some settings, performed poorly overall compared with other options, suggesting it may offer limited value for knee osteoarthritis.

While these findings are encouraging, it is important to recognise that no single approach will work equally well for everyone. Nonetheless, the overall pattern points clearly towards physical and movement-based therapies as the most reliable options.

Managing knee osteoarthritis does not necessarily require high-tech equipment or long-term medication use. Accessible interventions such as wearing a knee brace, exercising regularly and using water-based programmes can make a meaningful difference to pain and mobility, while avoiding the side effects linked to common painkillers. Looking ahead, combining these approaches may offer even greater benefits. Future initiative is expected to explore how different therapies can work together and whether they provide good value for money in everyday healthcare settings. In the meantime, these findings support a shift towards safer, evidence-based treatments that empower people to stay active and protect their joint health over the long term.

SOURCE: PLOS ONE

not taxed in a number of countries despite known health risks.

WHO also noted that the global profits generated by these products far exceeded the share captured by governments through health taxes, leaving societies to bear the long-term health and economic costs. Public support for higher taxes was already evident, yet implementation lagged behind.

The organisation called on governments to raise and redesign taxes under its "3 by 35" initiative, aiming to make tobacco, alcohol and sugary drinks less affordable by 2035 to better protect public health.

Source: World Health Organisation



## Therapy that brings lasting relief for chronic back pain

Chronic low back pain is a common and often frustrating condition, marked by flare-ups that can disrupt daily life for years. Many existing treatments offer only limited or short-term relief, leaving people struggling to stay active and independent. New evidence, however, suggests that a psychological approach known as cognitive functional therapy (CFT) could offer more durable benefits.

CFT is a type of psychotherapy that helps people better understand their pain, challenge unhelpful beliefs about movement, and gradually rebuild confidence in physical activity. Recent findings show that this approach can reduce disability linked to chronic low back pain for several years, making it the first treatment with strong evidence of long-term effectiveness in this area.

People who received CFT were better able to stay physically active over time compared with those receiving standard care. Adding biofeedback – a technique that uses sensors to help individuals become more aware of bodily responses – did not appear to provide meaningful extra benefit, suggesting that CFT on its own may be sufficient for many patients.

Long-term back pain is not just a physical problem but one that can be addressed by changing how pain is understood and managed. With wider access and better training for clinicians, this approach could significantly reduce the long-term impact of chronic back pain and help more people return to an active, fulfilling life.

Source: The Lancet Rheumatology

## Act before birth: The urgent need for early thalassaemia screening in Bangladesh

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Thalassaemia is the most common inherited blood disorder in Bangladesh and poses a growing public health challenge. Studies estimate that 7–13% of the population carries a thalassaemia gene, with an average carrier rate of around 10%. Each year, nearly 14,000 affected children are born in the Bengali population, along with more than 1,500 in tribal communities. These numbers represent not only human suffering but also an enormous economic and healthcare burden.

Children with thalassaemia major require lifelong blood transfusions, often every two to four weeks, while nearly half of those with Hb E-beta thalassaemia also become transfusion-dependent. Treatment costs are very expensive, leaving many families unable to provide adequate care.

Treatment is not limited to regular blood transfusions and iron chelation therapy alone. Patients also require continuous monitoring through regular laboratory investigations, including complete blood counts. In addition, periodic assessment of vital organs – such as the liver, heart, and endocrine system – is essential. Over time, iron overload and disease-related complications can affect these organs, leading to serious conditions such as cardiac failure, diabetes mellitus, and growth retardation.

Approximately 60% of blood donations are spent on these patients. Moreover, the treatment cost of a thalassaemia patient ranges from 23 to 65 times more expensive than the cost of preventing the birth of a thalassaemic child.

Globally, many countries initially attempted to reduce thalassaemia by promoting carrier screening and discouraging marriages between carriers. However, these approaches proved insufficient, particularly in societies where marriage is deeply rooted in social, cultural, and family structures. Bangladesh faces similar challenges. Fear of social stigma often discourages young people from undergoing carrier testing before marriage. As a result, screening is more commonly accepted only after marriage or during pregnancy.

The real success in thalassaemia prevention has come from prenatal diagnosis, supported by national policies. Cyprus reduced thalassaemia births by nearly 96%. Iran achieved an 82.9% prevention rate after permitting abortion for severe genetic disorders before 16 weeks. Turkey, China, and

Pakistan's Punjab province have all reported dramatic declines following the introduction of government-supported prenatal diagnostic programmes. These examples clearly show that premarital screening alone is not enough.

Bangladesh urgently needs a national thalassaemia prevention programme. This should include public awareness campaigns, accessible carrier screening at government hospitals, and the establishment of regional DNA laboratories for prenatal diagnosis. Gynaecologists must be trained to recommend screening in early pregnancy and to collect samples for chorionic villus sampling or amniocentesis. Couples found to be carriers should receive proper counselling and diagnostic support.

From an Islamic perspective, most scholars permit abortion for severe genetic disorders like thalassaemia before 120 days of gestation. A fatwa issued by the Islamic Jurisprudence Council of the Muslim World League supports this position, provided there is medical confirmation and parental consent. Ultimately, the decision must rest with informed parents.

Currently, prenatal DNA testing in Bangladesh is mostly sought by families who already have a thalassaemic child. This reflects awareness born of hardship and underscores the need to reach couples earlier – before tragedy repeats itself.

Prevention is the only sustainable solution. By investing in awareness, screening, prenatal diagnosis, and professional training, Bangladesh can prevent thousands of avoidable births affected by thalassaemia. The time for decisive government action is now.

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## Cheaper drinks will see a rise in noncommunicable diseases and injuries!



consumption while also generating revenue for essential health services.

The reports showed that although many countries taxed sugary drinks and alcohol, the taxes were often too low, narrowly applied or failed to keep pace with inflation and income growth. As a result, alcohol and sugary drinks had become more affordable over time. Many high-sugar products, such as fruit juices and sweetened milk drinks, remained untaxed, and wine was still

not taxed in a number of countries despite known health risks.

WHO also noted that the global profits generated by these products far exceeded the share captured by governments through health taxes, leaving societies to bear the long-term health and economic costs. Public support for higher taxes was already evident, yet implementation lagged behind.

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