- Eating customs

Seemingly harmless eating habits can wreak havoc on health

Studies link skipping breakfast, late-night snacking to higher risk of gallstone formation.

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PETALING JAYA: That skipped breakfast or late-night snack might seem harmless but over time such habits can quietly raise the risk of developing gallstones, medical experts warn.

Universiti Malaysia Terengganu food biochemistry and biophysics lecturer Assoc Prof Dr Mohamad Khairi Zainol referred to a study published in Frontiers in Nutrition, which found that individuals who frequently skip breakfast face a 20% to 30% higher risk of gallstone formation.

"One study revealed that 4.5% of participants had cholesterolsaturated bile after fasting for nine hours, a figure that soared to 54.5% after 16 hours," he said.

He also warned against regular late-night snacking on high-fat foods as bile secretion naturally slows in line with the body's circadian rhythm.

"When fat-rich foods are consumed during this period bile doesn't flow effectively, resulting in higher concentration and an increased risk of crystallisation," he explained.

Irregular meal timings disrupt the gallbladder's normal contractions, leading to bile stasis. Such eating patterns are also linked to higher calorie intake, poor dietary quality and greater metabolic stress.

A study featured in EatingWell found that eating after 8pm could double the risk of digestive discomfort, while meals between 5pm and 7pm were better aligned with the body's natural rhythm and supported healthier bile flow.

Khairi noted that bile plays a vital role in breaking down fats and absorbing fat-soluble vitamins such as A, D, E and K.

"Disrupted eating patterns impair these functions and can negatively affect overall digestive health," he said.

To support healthy bile flow and gallbladder function, he recommended a diet rich in fibre, healthy fats, bitter herbs and hydrating foods.

"Leafy greens, whole grains, olive oil, avocados and probiotic-rich foods are excellent options," he added.

"At the same time, refined carbohydrates, fried foods and excessive alcohol should be avoided."

Cengild GI Medical Centre senior consultant gastroenterologist and hepatologist Datuk Dr Tan Huck Joo explained that gallstones form when there is a chemical imbalance in bile, most often due to excessive cholesterol.

"When the liver produces more cholesterol than bile can dissolve, soft cholesterol stones may develop," he said. "In other cases, excess bilirubin results in pigment stones, which are harder and black in colour."

Poor gallbladder emptying – often caused by skipping meals – leads to bile stagnation, creating ideal conditions for stone formation.

While some people experience symptoms such as upper abdominal pain, bloating or back pain, many remain symptom-free.

“These silent gallstones often go undetected and may not require treatment.

“However, if complications such as inflammation, infection or a blocked bile duct arise, symptoms such as fever or jaundice can occur,” he said.

In more serious cases, conditions such as empyema (pus in the gallbladder), acute pancreatitis or severe infection may develop.

“After meals, the gallbladder contracts to release bile into the small intestine. Skipping meals reduces this contraction, leading to bile stasis,” he said.

He also highlighted that women are particularly susceptible due to higher oestrogen levels, which increase cholesterol in bile and reduce gallbladder motility.

“Those over 40 are also more at risk as metabolic processes slow with age, affecting bile composition and gallbladder function.”

Obesity is another significant risk factor as an overweight individual’s liver produces more cholesterol than bile can process.

“Rapid weight loss contributes too, it causes the liver to release more cholesterol, upsetting the bile’s delicate balance,” he said.

Beyond gallstones, skipping meals can destabilise blood sugar levels, increase insulin resistance and elevate the risk of chronic conditions such as diabetes.

Irregular eating habits may also lead to overeating, digestive problems, anxiety, poor memory and hormonal imbalances.

“For young women, these behaviours can even lead to irregular or missed periods.”

He added that although gallbladder cancer is rare, long-term inflammation caused by untreated gallstones could increase the risk over time.