GS Paper II – Social Issue **Date: 31.05.26**

NFHS-6 records rise in obesity and C-section births in southern States

Andhra Pradesh, Kerala, and Tamil Nadu record high rates of overweight and obese adults, alongside a rising prevalence of diabetes; the latest survey also notes a high rate of Caesarean births, accounting for 27.2% of deliveries nationwide

Bindu Shajan Perappadan
NEW DELHI

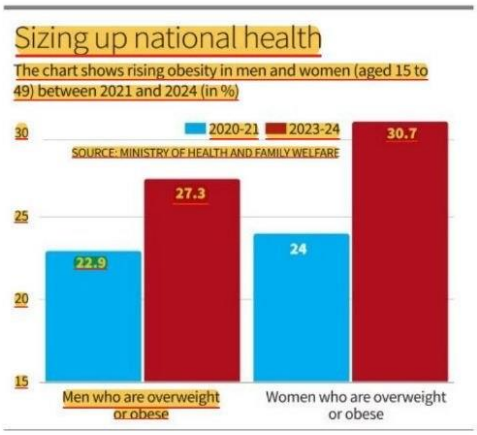
The latest National Family Health Survey (NFHS-6) has highlighted the rapid rise in obesity and diabetes across India. Obesity in women (15-49 years) has gone up from 24% in the NFHS-5 to 30.7% in the latest NFHS-6, and similarly obesity in men of the same age group from 22.9% to 27.3%.

Diabetes among persons taking medicines to control insulin resistance has risen from 13.5% to 17.8% in women, and 15.6% to 20.9% in men.

Obesity prevalence

The survey has indicated that obesity/overweight prevalence has increased by about 6.7% among women and 4.4% among men in just five years.

This is particularly so in the southern States of Andhra Pradesh, Kerala, and Tamil Nadu, which have emerged as a hotspot for overweight and obese adults, alongside rising diabetes prevalence.



The survey also records an exceptionally high rate of Caesarean (C)-section births, with Telangana at 62.2%, Andhra Pradesh at 52.2%, and Tamil Nadu at 46.9%.

Rise in C-section births

The national share of births by C-section stood at 27.2%, up from 21.5% recorded in the previous survey. Private hospitals registered 54.1% Caesarean births whereas public hospitals registered 16.9%.

Urban areas reported particularly high rates of C-section deliveries, with around 40.5% of births by C-section when compared with the 22.8% births by C-section in rural areas.

C-sections, obesity, and diabetes are a two-way street, experts say.

Maternal obesity and diabetes increase risk during pregnancy, resulting in a C-section, and being born via C-section increases a child's long-term risk of developing these metabolic conditions.

The Ministry of Health and Family Welfare released the NFHS-6 earlier this week. It was conducted in 2023-24 by the Ministry along with the International Institute for Population Sciences, Mumbai as the nodal agency.

6.79 lakh households

Covering nearly 6.79 lakh households across 715 districts, the survey provides vital evidence on population, health, nutrition, and family welfare indicators, and supports evidence-based planning and programme implementation up to the district-level.

Obesity and diabetes are among the most important global public health challenges because they substantially increase the risk of illness, disability, and premature death, according to the World Health Organization (WHO).

The global health body defines overweight and obesity as abnormal or excessive fat accumulation that may impair health.

Risk of Type 2 diabetes

The WHO emphasises that excess body weight is one of the strongest risk factors for developing Type 2 diabetes.

"When people accumulate excess body fat – especially around the abdomen – the body's cells can become resistant to insulin. This condition, called insulin resistance, makes it harder to regulate blood sugar and can eventually lead to Type 2 diabetes," the WHO has said.

The condition results in reduced life expectancy, more years lived with disability, higher risk of multiple chronic diseases, and increased healthcare costs.

GS Paper II – Social Issue

Only 15.3% of children aged 6-23 months get adequate diet: NFHS-6

The Hindu Bureau
NEW DELHI

The latest National Family Health Survey (NFHS-6) data has revealed a worrying trend in child nutrition, with a substantial proportion of children aged six-23 months still not getting an adequate diet despite some improvement witnessed over the previous years.

According to the data, the proportion of children in the six-23-month age group receiving an adequate diet stood at 15.3% in NFHS-6, up from 11% in NFHS-5. This means that Indian toddlers are still missing out on the diverse and frequent meals required for healthy growth and brain development, despite improvements in food availability and government nutrition programmes. Experts warned that children may be receiving enough calories but not enough proteins, micronutrients, and nutrient-rich foods essential for development.

The data also showed a decline in exclusive breastfeeding among children aged under six months, from 63.7% in NFHS-5 to 55.8% in NFHS-6.

Exclusive breastfeeding during the first six months is universally recommended by global health organisations as breast milk provides the exact balance of nutrients, antibodies, and hydration a baby needs to thrive, while protecting their developing digestive and immune systems.

Breastfeeding Promotion Network of India (BPNI) founder Dr. Arun Gupta said the decline in exclusive breastfeeding is deeply concerning.

However, NFHS-6 has some encouraging numbers too. The proportion of children aged 6-8 months receiving solid or semi-solid food alongside breast milk rose from 45.9% to 59.5%.

A comparison of NFHS-5 (2019-21) and NFHS-6 (2023-24) showed that India has made progress in reducing child undernutrition, although challenges remain significant.

GS Paper II – International Relations

The strait where America stalled

Hormuz

The waterway connecting the Persian Gulf to the Arabian Sea has emerged as the most consequential battleground of the U.S.-Israeli war on Iran, with Tehran effectively taking control of the route and rattling energy markets and the global economy

Stanly Johny

Tehran's Milad Tower, the tallest structure in Iran, stands as a symbol of the revolutionary state's engineering ambitions. Rising 435 metres, including its 120-metre antenna, the tower's octagonal concrete shaft joins a pod with 12 floors housing observation decks, a cafe and a museum. Above it, the antenna pierces Tehran's smoggy skyline. From the deck of the 12th floor, the highest point accessible to visitors, one can take in the vast sprawl of the city, made the capital of the Persian Empire in the late 18th century by Agha Muhammad Khan, founder of the Qajar dynasty. To the north rise the Alborz mountains, the natural barrier separating the Iranian plateau from the Caspian Sea.

Inside the museum, a large 18th-century map of the Gulf drawn by a French cartographer is on display. "You may have heard some countries call the Persian Gulf the Arabian Gulf today," a local travel assistant told this writer during a visit in February 2022. "Look at this map and reach your own conclusions." A young woman, who described herself as "a huge fan" of Amitabh Bachchan and Aishwarya Rai, the assistant pointed to the mouth of the Gulf on the map. "This is the Strait of Hormuz," she said. "This is the gate of the Persian Gulf. And the Iranians hold its key." It is this geographical key that Iran used to effectively shut the strait after coming under attack by the U.S. and Israel on February 28.

The strait is a narrow corridor, 50 km wide at its entrance and exit, connecting the Persian Gulf waters to the Gulf of Oman, which joins the Arabian Sea. At its narrowest point, between Iran in the north and Oman's Musandam Peninsula in the south – an exclave separated from mainland Oman by UAE territory – the waterway is just 33 km wide, which means it falls within the overlapping territorial waters of Iran and Oman.

As the only gateway to the high seas from the Persian Gulf, the Hormuz Strait has remained one of the world's most important waterways for centuries. In modern times, separate shipping lanes, as wide as 2 nautical miles, have been marked for inbound and outbound vessels. There is a buffer zone of around 2 nautical miles between the shipping lanes. So the tankers carrying fuel and gas typically navigated highly constrained waters even before the war.

In the 1980s, during the eight-year Iran-Iraq war, both sides targeted fuel tankers in the Persian Gulf, effectively weaponising the waters. In recent years, Iran had repeatedly warned that it would close the waterway if it came under attack. There are eight major islands in the strait, seven of which are controlled by Iran. Islands such as Qeshm, Hormuz, Larak, and Abu Musa sit closer to the shipping lanes, giving Iran a commanding physical advantage over the route. The ownership of Abu Musa, Greater Tunb and Lesser Tunb islands is contested between Iran and the UAE, but they are de facto controlled and administered by Tehran.

Strategic significance

The strait's strategic significance grew after the oil discoveries in the Persian Gulf region in the early 20th century. The post-War oil boom transformed the entire region. All Gulf countries – Iran, Iraq, Saudi Arabia, Oman, Qatar, the UAE, Bahrain and Kuwait – have been more or less dependent on the strait to get access to the Arabian Sea.

During 2023-25, 20% of the world's liquefied natural gas (LNG) and 25% of seaborne oil passed through the strait. In 2025 alone, 20 million barrels of oil and oil products passed through this route every day, according to the U.S. Energy Information Administration. About 3,000 ships sailed through the strait each month before the war. Hormuz is also a key route for exports of fertilizer from the region, and Gulf countries import food, medicines and tech products through this route.

In June 2025, when Israel bombed Iran, Tehran's response was largely limited to striking back at Israel. After the U.S. joined the war and attacked Iran's nuclear facilities, Tehran carried out a token attack on the American base in Qatar and agreed to a ceasefire. The 12-Day War, as it's known, did not pose any direct threat to traffic through the Strait of Hormuz. But in early 2026, when the U.S. was mobilising forces in the region amid threats of another war, Iran had warned that it would retaliate by striking American bases and shutting down the strait. The U.S. and Israel started the war on February 28 by assassinating Iran's Supreme Leader Ayatollah Ali Khamenei, and Iran responded by doing what it had vowed to do. It retaliated by attacking Israel and Arab countries in the Gulf. And it took control of the strait. The number of ships passing through the strait daily, which was more than 100 before the war, fell by over 90%.

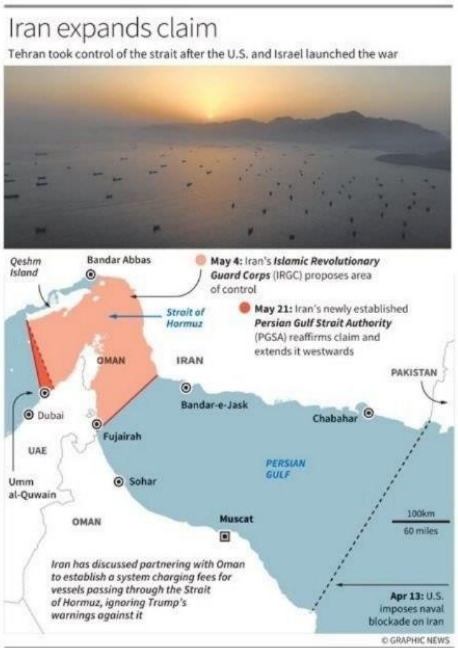
During the 40 days of bombing, the U.S. and Israel caused immense material damage to Iran. Its aerial and naval infrastructure has been repeatedly hit. But such attacks weren't enough to force Iran, which used asymmetric warfare to weaponise the waters, to reopen the strait. Iran used cheap, disruptive weapons to impose disproportionate costs on the vessels that ignored its restrictions. Several ships that sought to pass the strait without the IRGC's permission came under attack. Fuel prices started rising. Insurance and shipping costs soared. Energy-import-dependent economies, particularly India, were hit hard.

Contested terms

When U.S. President Donald Trump announced a ceasefire with Iran on April 8, he said Iran would reopen the Strait of Hormuz. The truce came into effect, but both sides differed on its terms. Iran demanded a ceasefire in Lebanon as well, but Israel actually stepped up bombing of Lebanon. Mr. Trump later announced a ceasefire in Lebanon and "prevented" Israel from bombing the country – but the bombing campaign continued. When Iran refused to reopen the strait, Mr. Trump, on April 12, announced a blockade of Iranian ports. In response, Iran cancelled direct negotiations with the U.S., and pushed the nuclear file down its priority list.

Mr. Trump has repeatedly said he was close to reaching a deal with Iran. He wants Iran to reopen the strait in return for the lifting of the U.S. blockade. And Iran should abandon its nuclear programme. Iran, on its side, has established a new body, the Persian Gulf Strait Authority, to manage traffic through and maintain the Hormuz Strait, defying Mr. Trump's demands. The PGSA has introduced a new email-based permit system for vessels and says all ships passing through the strait should coordinate with the agency. Result: a diplomatic logjam.

One of Mr. Trump's key demands for a deal today is that Iran should reopen the Strait of Hormuz, which was fully open before Mr. Trump and his ally Benjamin Netanyahu launched this war on February 28.



THE GIST

- The strait is a narrow corridor, 50 km wide at its entrance and exit, connecting the Persian Gulf waters to the Gulf of Oman, which joins the Arabian Sea
- At its narrowest point, between Iran in the north and Oman's Musandam Peninsula in the south, the waterway is just 33 km wide
- As the only gateway to the high seas from the Persian Gulf, the Hormuz Strait has remained one of the world's most important waterways for centuries

GS Paper III – Environment

New cascade frog species recorded in Nagaland's hill-stream habitats

The Hindu Bureau
GUWAHATI

Nagaland has yielded a new-to-science cascade-dwelling frog.

A team of six scientists from the Zoological Survey of India (ZSI) recorded this species in August 2024 from the hill-stream habitats near Singrep village during a field survey in Kiphire district, bordering Myanmar.

The species has been named *Amolops kamal* after Kamal Choudhury, a former teacher of the lead author of the research paper at Guwahati's B. Barooah College.

The common name of this species is Nagaland cascade frog.

The authors of the study are Bhaskar Saikia, Bikramjit Sinha, A. Shabnam, Prabir Narayan Konwar, Mridul Kumar Borthakur, and K.P. Dinesh. Their study was published in the latest issue of the journal *Records of the Zoological Survey of India*.

The researchers said integrative taxonomic analyses, including molecular phylogenetic studies, confirmed that the specimens represent a distinct evolutionary lineage within the *Amolops indoburmanensis* species complex.

The species was recorded in Nagaland's Kiphire district by a team of six Zoological Survey of India scientists. SPECIAL ARRANGEMENT

Unmapped diversity

ZSI Director Dhriti Banerjee said the documentation of *Amolops kamal* highlights the rich yet understudied faunal diversity of India's northeastern region and underscores the importance of long-term field surveys in biodiversity hotspots.

Dr. Sinha of the ZSI, Kolkata, who led the field expedition, said the rugged landscapes and isolated stream ecosystems of the northeast continue to harbour poorly known amphibian lineages.

Dr. Dinesh of the ZSI, Pune, underscored the importance of molecular approaches in amphibian taxonomy, particularly in Northeast India, where many frog species are morphologically similar. He said molecular data were increasingly essential for delineating species boundaries, understanding true species distributions, and identifying cryptic species complexes that may otherwise remain hidden under a single species name. The study further demonstrated that *Amolops indoburmanensis*, previously considered a widespread species, may represent multiple distinct evolutionary lineages distributed across Northeast India and neighbouring regions.

The Asian cascade-dwelling frog genus *Amolops* currently comprises 90 recognised species, with 20 reported from India. These species are generally classified into 10 species groups based on morphological similarities.

In India, the *Amolops* species are mainly categorised across three groups: *Amolops marmoratus*, *Amolops monticola*, and *Amolops viridimaculatus*. The first group is the most diverse, represented by eight species.

Amolops indoburmanensis was suspected to be a hidden species complex within the *Amolops marmoratus* group.

GS Paper III – Environment

Why is India pushing for coal gasification?

What is coal gasification and how does it have the potential to substitute imports? What technical challenges does high-ash Indian coal pose for gasification? Where does India stand with respect to coal gasification and related technology?

Saptaparno Ghosh

The story so far:

In a roadshow promoting surface coal gasification, Union Coal and Mines Minister G. Kishan Reddy said the technology, which can also yield a range of downstream products, has the potential to substitute imports worth up to ₹3 lakh crore. To encourage coal gasification, the Union Cabinet approved a ₹37,500-crore incentive package.

What is coal gasification?

Coal gasification entails the conversion of coal into synthetic gas, or syngas, which can be further used to produce downstream products such as urea, methanol, ammonium nitrate, synthetic natural gas (SNG), hydrogen, ether, and dimethyl, among others.

According to government data, India possesses approximately 401 billion tonnes of coal and about 47 billion tonnes of lignite. The rationale behind coal gasification is greater utilisation of these resources besides putting in place a sustainable mining method to produce the downstream products. This, the government believes, will reduce import dependence.

File photo shows coal being loaded onto trucks in Piparwar, about 70 km from Ranchi in Jharkhand. PTI

The high-ash content of Indian coal also differentiates the gasification technology that could be employed in India from that in other countries such as China, Australia, or the U.S.

According to the Union Coal Ministry, India imports one-fifth of its urea requirement, almost its entire ammonia requirement, and approximately 80-90% of its methanol requirement.

The Ministry has set itself a target of gasifying 100 million tonnes of coal by 2030. With the recently announced scheme in place, the government aims to support the gasification of about 75 million tonnes of coal and/or lignite to reach its 2030 target.

Where does India stand with coal gasification at present?

Before the ₹37,500-crore package was announced this year, the government had approved an ₹8,500 crore package in January 2024. Of this, ₹6,233 crore has been disbursed to eight projects owned by private sector and public-sector undertakings. These include projects being executed through separate joint ventures of Coal India with Bharat Heavy Electricals and Gas Authority of India Ltd, and as well as Coal India's own project in Western Coalfields. Private-sector participants include companies such as Jindal Steel and Greta Energy and Metal.

The Talcher Coal-based Ammonia-urea complex is expected to be commissioned in FY2027-28. The others that include conversion of coal to syngas, ammonium nitrate, direct reduced iron, ethanol, and hydrogen are expected to be commissioned in FY2029-30. In April this year, in response to a query from *The Hindu*, the Ministry had stated that "in the coming months, more projects are expected to be sanctioned".

Where does India stand with respect to the technology for coal gasification?

Large-scale commercial deployment of gasification in India hinges on navigating issues such as the high ash content of coal, variability in its gross calorific value, and the presence of complex mineral matter, all of which can impede the gasification process. This is why fluidised-bed gasification is considered particularly suitable for Indian coal. The technology utilises a gas stream that lifts the coal out of ash, thereafter gasifying it with heat.

The high-ash content of Indian coal also differentiates the gasification technology that could be employed in India from that in other countries such as China, which is the world leader in gasification, Australia, or the U.S.

Another aspect relates to the adequate presence of indigenous technology. By their very nature, coal gasification projects are highly capital-intensive and involve long gestation periods. According to independent research by the Chintan Research Foundation (published March 2026), "Recent techno-economic assessments of circulating fluidised bed gasifiers in the Indian context indicate that capital costs constitute the largest share of syngas production costs, accounting for nearly 30% of the total production costs." Thus, financial viability becomes particularly imperative. It is for this reason that the latest package, which provides financial incentives amounting to one-fifth of plant and machinery costs, is essential.

For perspective, state-owned Bharat Heavy Electricals Ltd has developed their pressured fluidised bed gasifier technology tailored specifically to handle the high ash content and variability of Indian coal. Additionally, according to Niti Aayog, its 16 facilities are capable of producing all the critical components required for gasification. In the private sector, Jindal Steel Ltd and Greta Energy and Metal have been able to indigenise about 80-90% of their production. Naveen Ahlawat, Head of Sustainability and Decarbonisation at Jindal Steel, said: "It (indigenising technology) will save costs; your project cost will come down by 30-40%."

At its maturing stages, coal gasification may still require technological imports. It for this reason that industry has also sought the government's consideration of exemptions from provisions of the Department for Promotion of Industry and Internal Trade for acquiring necessary technologies, especially from China. Officials said that the Ministry would support participants in securing clearances for technology imports, though the regulatory requirement will continue.

GS Paper III – Science & Technology

'BrahMos deal with Vietnam inked, Indonesia next in line'

Defence Secretary Rajesh Kumar Singh said on Saturday that a BrahMos missile deal with Vietnam had already been signed, while a similar pact involving Indonesia was in the final stages. Mr. Singh is in Singapore to attend the Shangri-La Dialogue, and his comments were in response to a question on potential buyers of the missile system. "My understanding is that with both Indonesia and Vietnam, the deal is in the final stages, in fact, for Vietnam, I understand that it has already been signed, probably not publicly announced, but it's already been signed," he said. The Philippines was the first foreign buyer of the BrahMos missile system from India. PTI