



### Link between pregnancy hypertension and long-term risk of chronic hypertension

A study published in the journal *Hypertension* has revealed that hypertensive disorders during pregnancy (HDP) can lead to an elevated risk of chronic hypertension in both mothers and their children.

Offspring of mothers affected by HDP, which accounted for 7.5% of the children, exhibited a notably higher occurrence of chronic hypertension by the ages of 30 (8.9% compared to 5.5%) and 40 (22.5% compared to 15.7%) in comparison to offspring of unaffected mothers. Through a comprehensive analysis, exposure to HDP during foetal development was found to be linked to a 50% rise in the risk of chronic hypertension.

The study also considered maternal chronic hypertension, defined as hypertension diagnosed in the mother before, during, or after pregnancy. The research indicated that maternal chronic hypertension was associated with a 73% increased risk of chronic hypertension in the offspring.

Notably, the presence of both HDP exposure and maternal chronic hypertension amplified the risk of future hypertension in the offspring by 2.4 times as compared to those with neither exposure. These findings emphasise the importance of monitoring and addressing hypertensive disorders during pregnancy, not only for the health of the mother but also for the long-term well-being of the child.

Such insights could have significant implications for healthcare practices and interventions aimed at reducing the risk of chronic hypertension in the future.

# SURJER HASHI

## A homegrown model of sustainable primary healthcare

PARVEZ MOHAMMAD ASHEQUE

The United States Agency for International Development (USAID) established Surjer Hashi (SH), meaning Smiling Sun clinics, the agency's flagship health service delivery project in Bangladesh in 1997. Designed to complement the government of Bangladesh's efforts, USAID's investment signified important healthcare shifts, including: USAID health funding ramped up to 40% in 1997; and service delivery out of static facilities instead of door-to-door.

Smiling Sun (SH) grew into the world's largest non-government primary healthcare network, serving almost 17% of Bangladesh's population at its height in 2014-15. The SH network complemented the government's service delivery, strengthened partner NGOs, trained thousands of health workers, and provided about 50 million annual service contacts during 2012-2017.

Smiling Sun clinics also functioned as a conduit for global research, health-sector innovations, and international best practices. SH's many knowledge products informed national policies, guidelines, protocols, and job aids.

Smiling Sun first invested extensively in NGOs' technical and managerial ability to help them move from donor dependence without compromising service delivery. Eventually, it became evident that USAID financing was the only thing holding the NGO network together.

In hindsight, all-out dependence on donor funds likely puts a damper on NGOs' progress towards financial self-sufficiency. There was little cognisance of the phenomenal expansion of public health infrastructure. For every SH facility, 33 community clinics had been established (in 2023, this ratio was 1:100).

By 2005, the use of private medical care in Bangladesh was the highest

among neighbouring countries and higher than the average of 45 other developing countries. SH clinics refused or failed to recognise themselves as actors in an increasingly competitive market; consequently, the network's revenues covered just 17% of costs.

USAID projects continued to promote network-wide local ownership and leadership. However, NGOs did not appear to continue crucial services without USAID support. SH's healthcare presence decreased in rural satellite clinics and among the rural poor between 2012 and 2017. This was due to the poor's

many clinics provided low-margin basic services with deteriorated infrastructure and equipment.

AUHC developed a new operating model, which included setting up structures, people, and processes to manage the network, which came to be called the Surjer Hashi Network (SHN).

AUHC transferred clinic ownership, assets, and staff to the not-for-profit, limited enterprise. Simultaneously, AUHC's business incubator focused on designing a sustainable business model. As a 'social' enterprise, SHN had to strike a balance between ensuring inclusive healthcare and being financially sustainable.

AUHC upgraded buildings, built human resource capacity, and launched promotional activities after optimising the network to 134 clinics.

New services were added to meet changing A rigorous quality improvement approach developed 'QI collaboratives' in crucial services, including antenatal care and delivery. SHN uses data to improve quality continuously. An e-learning portal hosts AUHC's many knowledge products, including clinical protocols and operations manuals.

Today, service revenue covers 80% of SHN costs, putting it on track for financial sustainability. The clinics serve over three million individuals in 54 districts. Despite developments over the past five years, Surjer Hashi clinics remain family-oriented and sympathetic. With its long-term collaboration with the government to provide important services, the SHN will remain a trusted, affordable healthcare provider for millions of Bangladeshis.

The Surjer Hashi Network, a homegrown sustainable healthcare model, may inspire public and private stakeholders to rethink private actors' role in universal health coverage.



purchasing power and desire for higher-level providers, specialists, new diagnostics, etc.

AUHC began in 2017 and will finish this year, marking USAID's final technical and financial support for the health network. AUHC had to create a business to run clinics without donor money.

Creating a healthcare social enterprise was new. Managing 369 health clinics with a 38% cost recovery was considerably harder. Additionally,

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### HAVE A NICE DAY

## The power of body language Part-III

DR RUBAUL MURSHED

The smile may be the most deceptive of all the facial expressions. After dissecting the smile in "Mona Lisa's painting," scientists found her 83% happy, 9% disgusted, 6% fearful, and 2% angry. She was less than 1% neutral and not surprised expression.

There are around 18 different smiles, but only one, the Duchenne smile, reflects genuine satisfaction. The "Crotch Display" is predominately a male gesture. This is where a person plants both feet firmly on the ground, legs apart. It is used as a male dominance signal because it highlights the genitals and puts masculinity on display.

In addition, customs officials and security professionals understand body language to maintain control and authority in challenging situations. Signs may mean different things in different cultures. Unbroken eye contact is considered hostile and aggressive. Thumbs-ups have become a widely popular gesture in the social media world.

This sign means "good" to Westerners, 'penis' in some Asian regions, and is generally considered an obscene gesture in Russian culture.

In the near future, people will communicate more and rely on emojis and symbols. Research indicates that our bodies experience emotions just before our conscious minds. That is why it is said that the body never lies.

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## Urge to invest in “One Health” actions for better health

STAR HEALTH DESK

The World Health Organisation (WHO) calls on world leaders to increase political commitment and action to invest in the "One Health" approach to prevent and tackle common threats affecting the health and well-being of humans, animals, plants and environment together.

On November 3, 2023, WHO joined community organisations observing the eighth annual "One Health Day" campaign to attract global attention to the importance of the One Health approach. One Health relies on understanding how human actions and policies could affect animal and environment health.

One Health is a proven approach to policy-making and cross-sector collaboration to prevent zoonotic and vector-borne diseases from emerging and re-emerging, ensuring food safety and maintaining sustainable food production; reducing antimicrobial-resistant infections; and addressing environmental issues to collectively improve human, animal and environmental health, among many other areas. It creates opportunities to mobilise the whole of society so that veterinarians, doctors, epidemiologists, public health practitioners, wildlife experts, community leaders, and people from different sectors can work together without silos to tackle major health threats.

In addition to saving lives and promoting well-being, One Health actions offer huge economic benefits. The Food and Agriculture Organisation of the United Nations (FAO) and the World Bank estimate that One Health efforts could bring at least US\$ 37 billion per year back to the global community. And investing in One Health requires less than 10% of this amount. For example, a One Health approach to prevention by reducing deforestation would generate ancillary benefits of US\$ 4.3 billion from reduced carbon dioxide emissions.

Health impacts of climate crisis, water contamination, food safety and increasing disease outbreaks are among some of the greatest challenges humanity and the planet are facing today. For example, air pollution leads to 7 million human deaths with US\$ 3 trillion losses every year. Antimicrobial resistance-related issues lead to 5 million human deaths every year, with an expected economic loss of up to US\$ 100 trillion by 2050. The estimated scale of human deaths from COVID-19, a recent emerging disease, was 6 million by 2022, with more than US\$ 3.5 trillion economic loss.

One Health is a sustainable way of living together on this planet, it can be seen as a lifestyle. Individuals can help contribute in many different ways: by ensuring wildlife remain in their natural habitats and not participating in wildlife trading; following antibiotic treatments prescribed by health professionals and completing your dosage as prescribed; by practicing healthy pet habits and ensuring pets are vaccinated; avoiding carbon intensive transit, trying more walking or biking for short trips – all can help. Everyone has a role to play in One Health.

Source: World Health Organisation

## High-sugar diet and obesity linked to brain insulin resistance and neurodegeneration

Researchers at the Fred Hutchinson Cancer Research Centre in the United States have found a connection between obesity and neurodegenerative diseases like Alzheimer's.

They used fruit flies to show that a high-sugar diet, often associated with obesity, can lead to insulin resistance in the brain. This insulin resistance reduces the brain's ability to clear away waste materials from neurons, increasing the risk of neurodegeneration.

The study focused on this connection by using fruit flies, which share some similarities with humans. Previous research had already shown that a high-sugar diet causes insulin resistance in the body's peripheral organs, and this study looked at how it affects the brain. The researchers specifically examined glial cells, which play a



role in brain health. They found that the high-sugar diet caused reduced levels of a protein called PI3k in these cells, indicating insulin resistance.

They also looked at the equivalent of microglia in flies, called ensheathing glia, which help remove waste from the brain. These glial cells had low levels of another protein called Draper, showing that their function was impaired. Further experiments revealed that artificially reducing PI3K levels led to both insulin resistance and low Draper levels in the ensheathing glia.

This research, published in the journal *PLOS Biology*, provides valuable insights into the relationship between obesity, insulin resistance in the brain, and the increased risk of neurodegenerative diseases. These findings could influence the development of therapies to reduce the risk of these disorders in the future.

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