

All you need is a piece of paper

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Mohidus Samad Khan, the lead researcher and assistant professor of the chemical engineering department of the Bangladesh University of Engineering and Technology, said the growing number of kidney patients in Bangladesh was the driving force to conduct such a study.

Urinary or serum uric acid concentration is an indicator of chronic kidney conditions. Thus, detecting its presence can go a long way towards treating the conditions.

Uric acid is a waste product of human metabolism, and is normally excreted out through urine. But if too much uric acid is produced and insufficiently excreted, it accumulates in the body by forming crystals and settles in the joints, soft tissues or organs, eventually leading to the disease known as gout.

The inventors said this paper-based method was faster and cheaper than traditional detection techniques.

"It would cost less than Tk 5," Mohidus said. In any lab, the cost for the test is at least Tk 250.

Although the method doesn't give an exact figure, it does give an indication.

Kaoser Alam, a physician at Bangabandhu Sheikh Mujib Medical University, said, "Usually we do blood tests to see the uric acid level. It is possible to know the [level of] uric acid from a urine test but it does not give exact information. To know the uric acid level and gravity of the problem, blood test is a must."

HOW IT WORKS

To form the paper based diagnostic device, first a piece of paper was pasted with potassium ferricyanide reagent and then the urine sample was applied



The team that invented the special paper.

PHOTO: COLLECTED

on the paper surface, Mohidus said.

"Then that paper would be dipped into a capsule like device where ferric chloride reagent was kept. Uric acid in the urine sample reacted with ferricyanide solution to produce ferrocyanide which then reacted with ferric chloride and produced Prussian blue colour signals on the paper surface. The higher the uric acid concentration in the urine sample, the stronger the colour signals it produced on paper.

"...with proper calibration, the paper-based technique can be compatible and economical [compared] to the sophisticated detection techniques used to detect urinary uric acid."

The lead researcher said to get the representative value, the urine should be preserved for 24 hours.

The colour signal produced on the paper can be analysed with the help of camera enabled mobile devices, computers or electronic gadgets. The test can also be integrated with a smart phone camera, or those of computers or laptop, and an image processing application (using windows/android/iOS

platform) as a part of digital diagnostics.

The results can be stored in the device to monitor urinary uric acid level trend over time and can be sent to an established medical facility for further analysis.

Using the proposed technique, patients can regularly (daily or weekly) monitor their urinary uric acid level at home.

If the level is frequently found close to or higher than the acceptable limit, the patients can take necessary steps to reduce it by changing their diets and lifestyles, or by consulting a doctor for further analysis and advice.

"This technique will also facilitate physicians and dieticians to monitor and medicate kidney conditions of their patients," Mohidus added.

He said they would go for commercial production soon after consulting with some pharmaceuticals company, adding that commercial design of the product would allow users to add reagents manually or automatically.

Couple killed in fire from gas

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worker at a poultry feed factory, died after they were taken to Dhaka Medical College Hospital (DMCH).

Six others on the floor were also critically injured. They were being treated at the burn unit of the hospital.

"All the injured suffered burns to their respiratory tracts," Partha Shankar Paul, a resident surgeon at the burn unit, told The Daily Star.

The injured were rickshaw puller Dablu Mondal, 33, his wife Anju Ara Begum, 25, their son Abdullah Sourav, 6, Afroza Aktar Purnima, 35, her son Mohammad Sagar, 12, and her mother Sufia Begum, 50.

The three families had been living in three adjacent rooms in Beparipara area for the last two months. All the victims, hailing from Pabna's Bhangura, were relatives. Muslima and Azizul got married a year ago.

Muslima, Anju, Sufia -- all workers of a nearby garment factory -- used to go to work together almost every morning.

Quoting Anju, one of her neighbours told The Daily Star that the victim woke up to Muslima's screams.

"As soon as my husband [Dablu] opened the door and tried to reach Muslima, the raging fire entered our room. We quickly went inside the washroom and turned on the shower," Farjana Aktar, a student, quoted Anju



PHOTO: STAR

A boy, who suffered burns in a fire in a building in Uttar Khan early yesterday, receives treatment at DMCH.

as saying.

"The temperature became extremely high. Even the water turned unbearably hot," Farjana said, adding, on information, fire fighters rescued them later.

According to the DMCH sources, Dablu had 65 percent of his body burnt while Abdullah 12 percent, and Anju six percent.

Sufia suffered 99 percent burn injury, Purnima 80 percent, and Sagar 66 percent, added the sources.

Azizul, who had 99 percent of his body burnt, died around 10:30am while Muslima, with 98 percent burn injuries, died around 5:10pm at the DMCH.

The victims had been facing an acute gas crisis and on most occasions, their

building had no gas supply at night. They had to wake up early to cook.

Fire officials suspect that the blast occurred and the fire broke out due to gas leaked from the stove pipeline.

Ataur Rahman, duty officer of Fire Service and Civil Defence, said three fire fighting units doused the flame and took the injured to the DMCH.

He said they found the stove switch off. Shafiqul Islam, senior station officer at Uttara fire station, all the household items on the floor were burnt in the fire.

Explosions from gas leaks occurred on several occasions in the past, claiming lives.

According to Bangladesh Fire Service and Civil Defence, 4,236 fire incidents happened last year involved fire from stoves, which accounts for 23.40 percent of the total fire incidents across the country that year.

On March 25, four students of Khulna University of Engineering and Technology, who were doing their internships in Mymensingh, succumbed to injuries they had received when a newly connected gas line exploded in a six-storey building in the district's Bhaluka upazila.

On August 10, 10 people, including six of a family, were injured in an explosion in a watertank. Five of the family died later.

Children hit hardest

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was 6,232 in 2002.

DGHS officials could not say how many of this year's dengue patients were children.

According to data from Dhaka Shishu Hospital, 450 children with dengue fever were admitted to the hospital between July 1 and October 11 and six of them passed away.

Prof Abdul Aziz, director of the hospital, said this year the number of child dengue patients has been high. Apart from having a weaker immune system, many children also can't kill mosquitoes when they try to bite, he said.

Usually, Aedes mosquitoes bite during the daytime and children are easily bitten when they sleep, he added.

Many of the dengue patients experienced dengue shock syndrome leading to a drop in platelet counts, Aziz said.

Dengue shock syndrome is caused by dengue virus that tends to affect children under 10, causing abdominal pain, haemorrhage (bleeding) and

circulatory collapse (shock).

Six children died at the hospital as they were brought late, Aziz said.

This year, dengue has also struck the nearby districts of Dhaka, including Manikganj, Gazipur, Tangail and Munshiganj, he said, adding they were getting patients from other districts as well.

Dengue patients suffer from high fever (102 degrees to 105 degrees) along with vomiting, abdominal pain or some other symptoms. A child dengue patient also suffers loss of appetite.

DGHS officials stressed on raising awareness to lower the number of dengue cases.

"Every family needs to be extremely careful as Aedes breeds in clean water. Mosquito sprays have to be applied on a regular basis," Aziz said, adding children with dengue fever symptoms must be taken to hospital as early as possible and provided with adequate liquid food.

On Thursday, 41 patients were admitted to the Shishu Hospital while

65 percent of the dengue patients came from Mirpur, said Kinkar Ghosh, an epidemiologist there.

He said a dengue cell had been formed in the hospital comprising 12 professors. A dengue patient gets 24-hour medical facilities here, he added.

Contacted, Dhaka South City Corporation Mayor Sayeed Khokon said they had started their drive against Aedes mosquitoes early this year and destroyed around 50,000 "risky" containers from different households across DSCC areas.

"We gave our best to control the Aedes mosquito and will continue the drive," he said, adding their drive included running awareness campaigns.

The pattern of dengue virus this year has been a little different from the previous years and that they were trying to know more about it from the experts, he said.

Devan Abdul Mannan, a councillor at Dhaka North City Corporation and also the chief of a "standing committee" on mosquito control, said they were continuing similar awareness

ineffective, said the mayor, frustrated after the last meeting.

It is important to bring all utility service providers under one umbrella and reduce bureaucratic tangles, mayor said.

DSCC Chief Executive Officer Khan Mohammad Bilal said the aim of having coordination meetings was to make instant policy decisions.

"For example, if a public toilet is set up by the city corporation, the power and electricity providers charge the corporation at their commercial rate. If we want to reach a solution to this problem in a meeting, the heads of the two organisations need to be present," he said.

He also said to ease traffic congestion, traffic police and the departments concerned with vehicles, transport, city corporations and development authorities should coordinate and reach decisions. But that does not happen.

The city corporations also cannot make a master plan or take any drastic measures to address the waterlogging problem because at least seven other agencies, including Wasa, are tasked

with maintaining the drainage system.

Bilal added that he recently asked all department heads concerned to appear in the next meeting and hoped the chiefs would comply.

The PMO has been informed and they are monitoring it, he said.

Mayor Khokon last week told The Daily Star that the city corporation would call a coordination meeting soon.

"We are hoping that participation of different department heads will increase," he said.

A representative of the PMO is expected to be at the meeting, he said.

The picture in Dhaka North City Corporation is completely different as the corporation is run by a panel mayor who does not have the power to call a coordination meeting.

Three coordination meetings were held before the death of former mayor Annisul Huq on November 30, 2017. No meeting was held since.

The delay in holding the election was also a reason for not holding the meeting, said former DNCC secretary Dulal Krishna Saha.

Alam

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Hasina said that Alam had spread false news as authorities were trying to calm the students.

"He tried to use this situation, to instigate it," she said. "We tried to save the children but he tried to use these children. All the false news he started... how can you accept it?"

She also sharply criticized Alam's deceased great uncle, Abdus Sabur Khan, a former government minister who opposed Bangladesh's independence and allied with Pakistan.

"He opposed our liberation war, he joined Pakistan, he didn't accept Bangladesh. In 1971 he was with the Pakistani occupation army," Hasina said. "Sometimes blood speaks, you understand that."

The war for independence is still a sensitive topic in the country.

Alam was arrested in August, hours after criticising the government's response to widespread student protests.

His detention has been widely seen as a test for freedom of speech in the country and has sparked worldwide demands for his release.

Told of Hasina's comments, Alam's family said the government had already decided on his guilt before a trial can be held. "It shows they have already made their judgment," said Alam's niece, Dilruba Karim. She added that Hasina's comments "are hugely cruel and don't befit the leader of a so-called democracy".

Anisul Huq, a cabinet minister who handles legal affairs in Hasina's government, said the country's judicial system has "full independence and freedom".

Alam, a long-term critic of Hasina's Awami League, is being investigated under a controversial section of the Information and Communication Technology Act, which Human Rights Watch says has been used in a number of arbitrary detentions of government critics and is one of several laws that have been used to stifle free speech.

The New York-based Committee to Protect Journalists has called the case "rife with due process violations", an accusation that Huq denied.

The government firmly denies it has interfered with freedom of speech. "No government has safeguarded and upheld principles of freedom of expression, freedom of speech and freedom of press as much as this government of Hasina has done," Huq said.

A new law, called the Digital Security Act, signed into law by the nation's president on Monday despite protests from local journalists and the United States, stipulates a maximum jail sentence of 14 years for several offences, including secretly recording inside government buildings and spreading "propaganda" against Bangladesh's 1971 war for independence.

About the newly-passed Digital Security Act, Hasina told Reuters that reporters had nothing to fear.

"If they have confidence that they will not do anything wrong then why should they worry," she said.

PM to visit

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According to Railways Ministry sources, the first phase of the "Padma Bridge Rail Link Construction Project" will establish rail link between Mawa and Bhanga via Janzira and Shibchar through the Padma Multipurpose Bridge that will connect Dhaka, Narayanganj, Munshiganj, Shariatpur, Madaripur, Faridpur, Gopalganj, Narail and Jashore.

The Chinese government-nominated contractor China Railway Group Limited is implementing the project under China G2G system.

Nasa

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Chandra is an X-ray observatory, which collects emissions from the very hot parts of the universe. In the time that it has been scanning the sky from orbit, the sophisticated telescope has helped spot the beginnings and ends of black holes and galaxies, helping us understand the central processes of the universe.

The issues came just days after the Hubble space telescope, responsible for some of the most iconic space images ever taken, also put itself into safe mode. That happened because of problems with the on-board gyroscopes, which are used to ensure that it is pointing in the right direction.

Like its fellow space telescope, Chandra has managed to survive much longer than engineers had promised when it first launched. It has now been around for 19 years -- despite being originally designed for just five -- and Nasa said that it expects it to continue its work in the years to come.

As well as Hubble and Chandra, the Kepler space telescope -- which looks for distant planets by watching for them passing in front of stars -- has also run into issues because of a lack of fuel.

Astronomers joked that now would be the perfect time for strange events to happen in space. "Both Hubble and Chandra in extended safe modes," wrote the University of Alabama's William Keel on Twitter, saying that we should now anticipate "galactic supernova", an "alien fleet", "comet disruption/impact with one of giant planets" or a range of other phenomena.

Zafrullah sorry

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such intention either."

He said Gen Aziz was neither a GOC of Chittagong Cantonment nor a commandant. "He is an efficient military official."

Mentioning that Aziz worked as a trainer of artillery at Chittagong Cantonment, the Gonoshasthaya Kendra founder said he faced a court of inquiry, not a court martial.

"I again sincerely apologise if I apathetically hurt General Aziz."

ARMY PROTESTS COMMENT

Bangladesh Army yesterday called "completely untrue, misleading and motivated" the recent comment by Zafrullah regarding the army chief, reports BSS.

In a statement, the defence force said the comment affected every military personnel's morale, the force's solidarity and extremely belittled the army's top position.

"The untrue and irresponsible comment by a renowned person like Dr Zafrullah Chowdhury regarding a serving army chief appears to be completely motivated to belittle a state organisation like the army before the

people."

The statement, issued by the Inter-Services Public Relations (ISPR) Directorate, added that the comments not only affected Gen Aziz's reputation and social status, but also "extremely belittled" the army chief's position.

"In a different way it misled every serving military personnel and affected negatively their morale. Besides such a misleading campaign harmed the solidarity and unity of a disciplined force like the army which is unexpected," it read.

In a talk show titled "Sampadokyo" aired on Somo TV on October 9, Zafrullah said the army chief was the force's Chattogram area GOC when huge cache of military weapons and ammunitions "went missing, were stolen or sold out" from there.

He said the incident exposed Gen Aziz to a court martial.

The army statement said, "No incident of theft or going missing took place in Chattogram or Cumilla during that period. It is especially mentionable that Chief of Army Staff Aziz Ahmed did never face any court martial during his long colourful army career."

KSA risks

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mission on an Apple Watch.

Turkish officials have said they believe Khashoggi was killed inside the consulate and lurid claims have been leaked to media that he was tortured and even dismembered.

Saudi insists Khashoggi, a Washington Post contributor whose writings have been critical of powerful Crown Prince Mohammed bin Salman, left the building safely but has yet to offer visual evidence of this.

The outcry surrounding his disappearance threatens to not just harm brittle Turkey-Saudi relations but also alarm the kingdom's supporters in the West and tarnish the reform drive spearheaded by the crown prince.

"We're going to get to the bottom of it and there will be severe punishment," Trump told CBS's "60 Minutes" program, according to an extract of an interview that was released yesterday.

"As of this moment, they (Saudi) deny it and they deny it vehemently. Could it be them? Yes," Trump said in the interview, which was conducted on Thursday.

But he again voiced his reluctance to limit US arms sales to the kingdom, which analysts see as one of Washington's key potential levers.

Trump, who has become notorious for his attacks on American journalists, added the matter was especially important "because this man was a reporter".

The Saudi delegation was in Turkey and due to have talks this weekend in Ankara and take part in a working group on the disappearance, official Turkish media said. The NTV channel said the 11 person delegation had on Friday inspected the consulate in Istanbul.

Riyadh has warmly welcomed the creation of the working group but Interior Minister Prince Abdel Aziz bin Saud bin Nayef slammed claims that the kingdom ordered Khashoggi to be killed inside the consulate.

He described the allegations as "baseless allegations and lies".

Ankara has so far trodden carefully in the controversy, with the most sensational allegations splashed in the pro-government press but President Recep Tayyip Erdogan has so far stopped short of directly accusing Riyadh of wrongdoing.

Turkey and Saudi have an uneasy relationship, with disputes over the ousting of the Islamist government in Egypt and the blockade imposed on Ankara's ally Qatar.

But Erdogan has generally been wary of needling the oil-rich conservative kingdom and yesterday again gave a long speech to supporters without mentioning the issue.

The spokesman of Erdogan's ruling party, Omer Celik, acknowledged that there were "extremely sensational claims" about Khashoggi's fate in the media and said there would be "severe consequences" for anyone found responsible if they were true.

"Far from the speculation, work is being carried out in the most sensitive way to find out what happened," he said in televised comments.

The latest claims reported by the pro-government Sabah daily said that Khashoggi had been wearing an Apple Watch when he entered the consulate which was synced with an iPhone left outside with his fiancée Hatice Cengiz. It said that the watch had recorded what happened inside the consulate and this was uploaded to his cloud, although Saudis sought to partially delete it.

"The moments of Khashoggi's questioning, torture and killing were recorded on the Apple watch," said Sabah.

Analysts say that Turkey is hoping to find support from its Nato ally the United States in the case, although Ankara-Washington have been in crisis over the detention for the last two years of a Protestant pastor.

But the pastor, Andrew Brunson, was freed on Friday and allowed to fly home by a Turkish court, in a move that could help normalise ties.

Meanwhile Prince Mohammed's big October conference -- the Future

Investment Initiative dubbed by media as the "Davos in the Desert" after the annual conference in the Swiss resort -- has suffered a litany of cancellations over the controversy.

Key business figures like the chief executive of ride hailing app Uber -- into which the Saudi's own investment fund injected money -- are no longer showing up while media groups like the New York Times, Financial Times and Bloomberg have pulled their sponsorship.

US Treasury Secretary Steven Mnuchin said Saturday that he still planned to attend, as did IMF chief Christine Lagarde.

She said she was "horrified" by the case but has to "conduct the business of the IMF in all corners in the world and with many governments".

Journalist

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All of a sudden, three unidentified men came on a motorcycle and swooped on him with iron rods and sharp weapons near Pathartola area, Habibur said.

As the attackers left, locals rushed him to the hospital.

Obaidul Hoque, officer-in-charge of Pabna Sadar Police Station, said they were trying to arrest the attackers.

Motive behind the attack could not be known immediately.

Local journalists said Habibur is involved with different progressive organisations in Pabna.

Earlier on August 28, unidentified criminals hacked a female journalist to death near her house in Pabna town. Suborna Nodi, 30, daughter of Ayub Ali of Radhanagar village, was the Pabna correspondent of private television channel Ananda TV.

3 students

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Quoting locals, Md Azaz Pasha, officer-in-charge (OC) of Goalanda Police Station, said Jakia and Chadni were seriously injured when a Jashore-bound Eagle Paribahan bus ran over them while they were crossing the highway in front of their school.

He added that the girls were rushed to the Goalanda Upazila Health Complex where doctors declared them dead.

Local sources said more than a hundred students blocked the highway in front of the school from around 1:30pm, torched a bus and vandalised at least six more vehicles in protest, leading to severe traffic jam on the highway, adding that they called off the agitation at 4:00pm after police told them that immediate action would be taken against the bus driver.

Md Sohiful Islam, headmaster of Daulatdai Model High School said, "If there was a speed breaker in front of our school, this accident would not have happened."

Upon hearing the news, Kazi Keramat Ali, state minister for technical and madrasa education, went to the spot and assured that compensation would be given to the victims' families.

OC Azaz said police had seized the bus and arrested the driver.

Meanwhile in Barishal, a college student was killed when a bus crushed him under the rear wheels at Gournadi on the Barishal-Dhaka highway yesterday noon.

The dead was identified as Rezaul Islam Tamim, 19, a student of Govt Gournadi Degree College and a BCL activist, police sources said.

Quoting witnesses, Atiar Rahman Sheikh, OC of Gournadi Highway Police Station, said Tamim was on his motorcycle, coming from Ashukathi toward Gournadi Bus Stand, when a Sakura Paribahan coach, plying on the Dhaka-Barishal route, tried to overtake the motorcycle, crushing Tamim under the rear wheels in the process. The bus then immediately took off.

Tamim was rushed to the upazila health complex, where he was declared dead, police sources said.

OC Atiar said the bus was seized from Batajore area, adding that the driver, however, was on the run.