Three scholarly research Articles on the Condition of of Resident Doctors, Published in News Paper- Indian Express on 6, 7 & 8 July 2015

How inhumanly long work hours are killing young doctors, literally

Multiple studies show they put their patients’, and their own, lives at risk — with increased chances of medical mistakes, car crashes and surgical injuries.

by Pritha Chatterjee | New Delhi- Indian Express - July 7, 2015

One demand of doctors who went on strike in Delhi last week was for shorter duty hours. They are unregulated currently, and resident doctors in the capital’s public hospitals easily end up working 36-48-hour shifts. (See the Page 1 report in this paper’s July 7 edition.) In Emergency wards of private hospitals by contrast, doctors work, at the most, 8-10 hours at a stretch — and treat, by conservative estimates, about a tenth the number of patients at a government hospital Emergency.

Senior consultants or teaching professors are usually never on duty during Emergency hours in government hospitals. After 5 or 6 pm, Emergencies, Emergency operation theatres, and wards — often with two of three patients sharing a bed — and ICUs are left entirely to the resident doctors.
Rules say consultants must report to hospitals in grave emergencies, but rare is the day when a senior consultant is seen in a hospital after midnight. In private hospitals, consultants are on duty in ICUs and surgical wards through the night.

Residents also juggle what should ideally be discrete duties. So, a resident in Anaesthesia posted at an ICU may have to handle emergency surgery, leaving the ICU to juniors or interns. And if a patient in a ward starts to collapse, the same resident may be asked to rush there.

What is the impact of putting in insanely long hours in a high-pressure environment on the resident doctors and their patients? While Indian research is scant, a landmark study published in the New England Journal of Medicine (NEJM) in 2005 produced alarming findings.

The study by the Harvard Work Hours, Health and Safety Group found that resident doctors made 35.9 per cent more serious errors when working 24 hours-or-more schedules, compared to “every third night” call schedules. The study, based on 17,000 Internet questionnaires answered by over 2,700 doctors in their first year of post-graduate residency, also found that every time their work shifts overshot stipulated hours in a month, their risk of suffering a motor vehicle crash increased by 9.1 per cent, and the monthly risk of a crash during the commute from work to home by 16.2 per cent.
In months with five or more extended shifts, “the risk that they would fall asleep while driving or while stopped in traffic was significantly increased” — by ratios of 2.39 and 3.69 respectively, the study found.

Another 2006 multi-institutional study published in the Journal of American Medical Association (JAMA) by the Harvard Medical School and Vancouver General Hospital, found accidental percutaneous injuries — needlestick or laceration injuries — common in residents who worked 24 hours.

“Lapse in concentration and fatigue were the two most commonly reported contributing factors (64% and 31% of injuries, respectively),” the study noted. Needlestick pricks expose doctors to blood infections, which may be life-threatening, like HIV and HCV.

A third multi-institutional study, by the Kansas City School of Medicine, published in the journal Academic Emergency Medicine in 2008, found 8 per cent resident doctors posted in Trauma or Emergencies saw 96 motor vehicle crashes, and 58 per cent doctors reported 1,446 near crash injuries after duty hours. Nearly three-fourths of motor vehicle crashes and 80 per cent of near-crashes followed the night shift, according to the study.

In 2006, a study of gynaecology residents by Northwestern University’s Feinberg School of Medicine, published in the American Journal of Obstetrics and Gynecology, found 89.8 per cent “showed evidence of moderate burnout” and 34.2 per cent were “considered depressed”.
In the West, rules regulating work hours of junior doctors have been in place for the last 10-15 years. Studies in the United States have already quantified improvements in patient care, including significant reductions in mortality.

In the UK, working hours for junior doctors are limited by the European Working Time Directive. A doctor can now work an average 48 hours per week (from the earlier 56 hours), calculated over 26 weeks. After continuous duty of 11 hours, a rest day is prescribed. A day off is mandated every week, and a 20-minute rest every 6 hours.

Dr Soumyadeep Bhaumik, Executive Editor, Journal of Family Medicine & Primary Care, says the US-based Accreditation Council for Graduate Medical Education has recognised long work hours as a safety hazard for interns. “The nation simply cannot afford to lose young doctors due to faulty regulations in place. The results of these studies have implications for medical residency programmes, which routinely schedule physicians to work more than 24 consecutive hours,” Dr Bhaumik said.

Bodies of senior doctors in India, like the IMA or state councils, have rarely raised the issue of duty hours for junior doctors. The British Medical Association, by contrast had, in 2013-14, campaigned against the violations of these rules in the UK.
Neither gloves nor saline drip, patients given just half a dose

Every time a patient is brought in, doctors brace for one common procedure. How to tell the relatives to go fetch basic medical equipment as the hospital is out of surgical gloves and critical syringes, saline drips.

by Pritha Chatterjee | New Delhi | Updated: July 8, 2015 9:25 am

Hindu Rao Hospital’s gynaecological emergency gets an average 60-70 cases a day, going up to 100. Its main emergency usually has 300 admissions a day. Every time a patient is brought in, doctors brace for one common procedure. How to tell the relatives to go fetch basic medical equipment. The 925-bed hospital in North Delhi is out of surgical gloves and critical syringes, hasn’t received its supply of saline drips in three months, and is always short of basic painkillers such as morphine, apart from sutures and cotton gauze. There are around 390 doctors on rolls, but most of them — from
resident doctors to specialists and even the dean of its attached medical college — are on a 44-day contract, renewable every 39th day.

Under severe financial stress, the hospital recently delayed salaries to doctors for three months. It was among the government hospitals in Delhi whose doctors went on a two-day strike last month.

It’s 8.30 pm on a Thursday when a 39-year-old reports to gynaecology emergency. In labour and bleeding, she is referred to the labour room on the third floor. There are no nursing orderlies or stretchers, so her husband carries her up the two floors.

There are 43 patients squeezed into 14 beds in the labour room, and 20 on six beds in the post-delivery ward. The beds have no sheets. Earlier patients were asked to buy clean sheets; now every time a woman’s water breaks, an ayah preps for the next case by wiping the bed dry with one of four pieces of cloth with her.

As Dr T (name withheld to protect identity) tries to get her medical history, the 39-year-old stands leaning on an ayah. Simultaneously, the resident doctor is doing a vaginal examination of another patient, who is sharing a bed with two others. They have shifted wordlessly to make space.

The 39-year-old reveals this is her sixth delivery and that, for a month now, she has been going to a neighbourhood quack to ensure it is her last, behind
her husband's back. The ayahs have meanwhile laid out two cardboard sheets on a bench outside the ward, and the patient is helped onto it.

There are two fans in the room, one of which works. The six women who share the two beds directly under this fan squabble constantly. Dr T has learnt to ignore them.

Right now, her mind is on another matter. Before she examines the 39-year-old, she needs fresh surgical gloves. So she sends her intern to the patient's husband. Seconds later, the intern returns. Her nose cringed, she complains that the husband seems drunk and is creating a scene. The 39-year-old struggles up, telling the ayah to let her speak to him. Dr T screams at her to keep still and goes out to talk to the husband herself. “Use the same gloves you are wearing,” the husband tells her, as a crowd of restless relatives listens. Two women guards flanking her, Dr T is blunt. “These gloves have already gone inside a patient. If you want your wife to live, get gloves. And vaginal pads, and a packet of cotton gauzes.” The gloves arrive half an hour later, and Dr T does the examination. The woman needs an emergency ultrasound, but before that a form must be arranged. Since the hospital is out of ultrasound forms, the husband is given one of four copies and told to get it photocopied from outside the hospital. Muttering abuses, he leaves. Dr T calls out, “Your wife looks dehydrated, she will need a saline drip, you need to buy that too.” The 39-year-old has by then started crying in pain again. In the
delivery room, the bulbs have fused once more. An intern points with her cellphone light as Dr T makes a cut between the vagina and anus to prevent injury during delivery. The cut is stitched back later, under mobile light, and doctors joke they have to ensure they don’t close the whole vaginal opening. There are no bags when women in labour vomit. An ayah just pushes a dustbin near them — to the foot or head of the bed, depending on which mother is throwing up. At times, when the rush is too much, deliveries are done on the floor or on the cardboard bed, say senior resident doctors.

“Women come to hospital in the hope of hygiene, but really, there is no difference. If they have to deliver on the floor, they might as well go to midwives,” Dr T says, nine deliveries and five hours later. Vaginal pads — about 10 are needed per delivery — are lacking, while sutures are finally available after having run out a month earlier. The emergency has more critical shortages, including of antibiotics like augmentine, hemantics, cardiac drugs, sedatives, painkillers and analgesics. Sources said centralised regular purchases haven’t taken place since December, and buying is done as per emergency demand. No permanent posts of resident doctors have been opened for interview in three years, and none for specialists in a decade. It’s around 10 pm, and two floors below, the main emergency has just got 60 new patients. A woman is hurling abuses at a doctor. Her husband got bitten by a snake about 13 hours ago, and she has taken him to three government
hospitals, to be told for anti-venom drugs are not available. When told the same at Hindu Rao, she collapses. Doctors start calling the casualty medical officer for an immediate purchase, circumventing the tendering process. Two hours later, the woman’s husband gets his injection but she is counselled he may not live. He needs at least 30 vials of anti-venom in 24 hours. Anti-rabies serum injections, administered directly on severe animal bites, continue to be out of stock across Delhi, Dr A says. An intern and a single guard stand at the door of main emergency. The intern’s duty is to warn every arrival that drugs are in short supply. Around 11 pm, a 45-year-old is carried in by four people. The 23-year-old intern crouches on the floor to examine him; the guard struggles to keep the attendants away. They argue, even as the patient is collapsing. So, in full view of at least 100 people, jostling on all sides, the doctor starts cardiac resuscitation with her bare hands. Half an hour later, the patient is declared dead. At 1 am, a 15-year-old arrives screaming. Four attendants hold him down as a doctor stitches his open thigh wound. Lignocaine, a common local anaesthetic, is out of supply. The parents are given the option of going to another hospital. At this time of night, they choose to stay back. They are later sent out to get 5 ml syringes. These too are scarce. There is an eight-bed ICU on the ground floor. Of 12 ventilators, three are out of order. The single ECG technician on duty after 4 pm handles cases there and in OTs, wards and emergency. The High Dependency Unit — an
intermediary between ICU and general wards — is closed due to shortage of staff. It’s around 2 am now, and a man who arrived in a critical state 24 hours earlier with liver cirrhosis and needing intubation (placement of a tube in the windpipe) is still waiting for an ICU bed. Finally, after four hours, he is sent to the medicine ward. Normally one attendant is allowed per patient, but at least 10 crowd around his bed, taking turns with the ambu bag, to give him manual resuscitation. Of the hospital’s four portable ventilators too, two are out of order. “This is a difficult intubation due to his weight (85 kg) and his small neck. We need to shift him to ICU,” says Dr D, the only anaesthesia resident on duty. Attendants pitch in at the ICU too, around 15 at any given time. Doctors can’t say no; the attendants are the ones who run out to buy critical supplies, including syringes needed for infusion pumps and transfusions. None of them wears protective gowns or surgical masks. “Gowns, gloves and masks are in short supply even for doctors. How can we give them to attendants?” a doctor laughs. Such rationing, says Dr S, is key to keeping Hindu Rao going. “If a patient needs two vials of a painkiller, we give him half. There is no other way.” –
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**Doctor’s 35-hr shift on 8 bananas, a toilet in nearby cafe -**

It’s 15 days after their strike ended, and the 32-year-old is back at work at Ram Manohar Lohia Hospital, located on the bustling Baba Kharak Singh Marg in Central Delhi. The hospital gets around 20 lakh patients annually in OPD, 5 lakh in emergency, and the PG resident in surgery is among its 1,000-odd resident doctors, including non-academic junior residents.

Today Dr M’s (name withheld to protect his identity) duty begins in the surgical emergency, and he arrives at 8.50 am, bolstered for the next 36 hours that will follow with a change of shirt, his copy of the Sabiston Textbook of Surgery, three packets of glucose biscuits, eight bananas and two bottles of water.

Dr M is happy today. He has had five continuous hours of sleep.

There are 45 patients in the surgical emergency ward, sharing a total of 20 beds. Two beds are empty — left for patients who may show up with grave emergencies. Two to three patients share most of the occupied beds; a couple of them have up to four.
Dr M and other senior residents begin their round checking on the patients admitted in the previous shift. The patients here are awaiting procedures, either because the operation theatre is not free or because essential pre-surgery investigation reports haven’t yet come in.

Dr M and a senior sort case sheets in decreasing order of priority. The emergency has a single major OT, shared between the departments of general surgery, gynaecology, paediatric surgery, burns and plastic surgery, ENT and opthalmology. And it is always occupied.
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There is a minor OT but that is used for mostly sutures or cleaning of open wounds.

In his first round, Dr M does four catheterisations and changes canulas on six patients. Angry relatives of two patients, both awaiting prostate surgery and sharing a bed, demand to know why their urine bags are leaking — it’s a common problem, the doctors pacify them.

In the next 24 hours of his duty in emergency, Dr M will do at least 500-600 catheterisations and canula tweaks alone. In a private hospital ER, both these procedures are done by nurses.

Around 10 am, Dr M scrubs in for the first surgery of his shift. It is a 32-year-old abdominal tuberculosis patient who has been awaiting his turn in the OT for a week.

The surgery lasts five hours. A usual surgery in the emergency OT takes around two hours, and there is a restless crowd waiting outside by now. It’s nearly afternoon and no patient who has come this day has been admitted so far. Dr M is sent out to pacify the edgy relatives.

Dr M shouts out to a nurse that one of the “spider lights” — placed atop a surgery OT table — is not working again. The nurse, busy filling out the fast-depleting blood transfusion forms, barely listens. Gobbling down two biscuits and a banana, Dr M braces himself for his next shift — at the desk — beginning 3.30 pm. Six chairs are placed around a normal-sized desk.
Patients who report to casualty are divided into surgical, medicine and orthopaedic emergencies. Desk duty means reviewing an average of 50 cases in an hour to direct patients where they need to go — minor OT, major OT or admission. Police bring in two patients who have been in a brawl — one has a cut below the eye, the other above. Dr M decides to handle the cut below the eyebrow himself, and assigns an intern to the second case. “How dare you put a junior doctor on my case? Is his vision more precious?” the other patient screams. Dr M tries to explain that a cut above the eye is far easier to stitch. The lights in the minor OT are not working, and patient beds are placed along walls with regular house bulbs aligned to illuminate the room. At 5 pm, Dr M shortlists a 26-year-old road accident victim with blunt trauma to his abdomen as the next surgical case. The family is reasonably well to do and agrees to get some pre-surgery essential tests done outside the hospital. These would take hours at the emergency ward. But when told that even a CT abdomen or a CECT abdomen — a radiological test to see the exact spot of the injury — was not available, the family erupts, hurling abuses at the junior doctors. It is left to Dr M again to explain that only head CT is done in emergency. Meanwhile, the patient is slipping. Doctors decide against wasting any time and wheel him into the OT. They are used to waiving away protocols such as essential tests to save lives now. It proves to be a case of spleen rupture. It takes two hours to remove the patient’s spleen. As doctors start
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closing up the patient, Dr M is sent out to calm down a gynaecology resident who has been waiting for the OT for an emergency caesarean. Every two hours almost, the ward receives a caesarean case. Caesareans always get priority, with the principle brutally simple: it involves two lives instead of one. So Dr M and an orderly wheel out a general surgery patient — with multiple stab wounds — to first get in the C-sec. By 8 pm, the ward is overflowing, and patients are now being accommodated in trolleys and stretchers in corridors. Dr M quickly gulps down two more bananas while running in and out of the minor OT. His textbook is always by his side. In the minor OT, doctors use the five minutes or so between cases for a quick read. Dr M’s final year exam is a year away. At 9 pm, now 12 hours after his duty started, he is preparing for his third major case of the day. A patient has come in bleeding with multiple cuts on his wrist — a suspected suicide attempt. However, a case of ruptured ectopic pregnancy — a pregnancy in the Fallopian tube instead of uterus — arrives just then. The gynaecologists need a general surgeon to assist them, but Dr M’s seniors need him in the suicide attempt case too. So while the gynaecology resident doctor argues with the sister in charge of the OT, Dr M finishes his case in 25 minutes. Doctors, nurses, anaesthetists are all ready for the ectopic pregnancy now, but they have to wait half an hour for the mobile ECG machine and its technician. Two hours later, at around 1 am, the
patient is finally out. But the foetus could not be saved. Dr M’s next two hours are taken up by a household burns patient. At around 4 am, a six-year-old child who has gulped two beads is brought in. Dr M had been preparing a urology case who had been waiting six hours for his turn in the OT, but again, a child gets priority. Next, around 5 am, a 13-year-old is wheeled in. She fell from the roof of her house two hours earlier and has already been to three government hospitals. Neurosurgery residents have operated on her concussion but there are multiple wounds in her abdomen and face. With her liver and spleen both ruptured, Dr M and his senior have to take over. As he emerges from the OT at 7.30 am, Dr M conceals a yawn. He is thinking about his first meal in nearly 24 hours. However, the nurse catches him just as he is cleaning his hands. One of the patients he catheterised in the afternoon has a leak in the urine bag again. A senior calls him to also check on a pancreatitis patient who was brought in during the night. At 8 am, Dr M is preparing for his next duty shift, finishing the last of his bananas, when he is again summoned. A patient with symptoms of twisting in his testes had arrived with acute pain at 3 am. Doctors needed a colour doppler test to determine if the testes was retrievable, and the patient had been sent to AIIMS. He had now come back with the tests done at a private centre. By the time doctors finish on him, it is 10 am and Dr M is late for his next shift. It is OT day, his favourite, and he skips the meal he had been longing for. Instead, Dr M heads to the
emergency duty room’s washroom to freshen up. It has not been cleaned as usual. With eight hours of OT without a break ahead of him, Dr M ignores the last patient who needs suturing — telling the nurse to wait for the next shift — and hurries out. He drives to a nearby coffee shop and, while his coffee is coming, uses the washroom there. In 10 minutes, he is back in the car. By the time he is back at hospital, he is an hour late for his shift. The next seven hours are spent in the OT. Till 5 pm, he assists a consultant on six cases. At 5.15 pm, Dr M sneaks out to the hostel canteen. He has been told his unit head wants to do a round of the wards before he calls it a day, and he has just about time to gulp down four bhaturas with lassi — his first meal in 34 hours. He usually has dinner between emergency cases, but last night was too busy. Through the 15 minutes of his meal, he leafs through his Sabiston to read up on torsion (twisting) of the testes. By 5.40 pm, Dr M is back with his consultant. At 8 pm, Dr M is finally off duty. For 12 hours, till his shift in the OPD the next day. Back to Sabiston, he smiles.