

HCFI Dr KK Aggarwal Research Fund

Round Table Environment Expert Zoom Meeting on “Swachh Sarvekshan 2023 of Swachh Bharat Mission”

January 14, 2024 (Sunday, 12 noon-1 pm)

- The Hon’ble President of India conferred the 2023 Swachh Sarvekshan (cleanliness survey) Awards on 11th January. Indore and Surat were jointly awarded the top rank as the cleanest cities. For Indore, this was the seventh successive award.
- Navi Mumbai took the second place. Other cities in the top 10 included Visakhapatnam, Bhopal, Vijayawada, New Delhi (NDMC), Tirupati, Greater Hyderabad and Pune.
- The theme for the year 2023 was “waste to wealth”. This encompasses various issues such as legacy waste dump site, management of plastic waste, implementation of principles of 3Rs (Reduce, Reuse, Recycle) and ensuring safety of Safai Mitras.
- The G20 Declaration has also committed to enhance environmentally sound waste management and substantially reduce waste generation by 2030 and highlight the importance of zero waste initiative.
- In the theme “waste to wealth”, surplus waste management is followed and the circular economy process of recycling and reusing is proving helpful for sustainable development.
- Waste management rules have also changed towards circular economy with focus on extended producer responsibility.
- The theme for Swachh Sarvekshan 2024 is “Reduce, Reuse & Recycle”.
- Steel slag has been used in Surat to build roads (all layers). This road has 30% more strength than other roads.
- India’s first national highway steel slag road on NH-66 (Mumbai-Goa highway) was inaugurated on 13th January.
- Steel slag is also a waste product. It may do away with the need of using aggregates for road construction.
- While states have been ranked as clean, none of the cities in the state feature among the list of cleanest cities. Some cities have gone down in the ranking, while some improved their ranking.
- The Ministry of Housing and Urban Affairs (MOHUA) has classified cities into different categories based on their population.
- Source segregation is the responsibility of the waste generator. But preprocessing centers (secondary storage) should be available for collection of segregated waste.
- The most important parameter, which affects ranking is perception. Peoples’ perception change if they see that all facilities are there.
- The second phase of the Swachh Bharat Mission emphasized on biomining and removal of garbage dumps across the city. But where will the city put the recovered material is not being assessed.
- The parameters for comparison need a review. Different brackets must be created for comparison. Old cities cannot be compared with new planned cities.
- Delhi has always ranked near the bottom despite good infrastructure. This year it has improved its ranking.
- Assessment should be done by technical experts.
- Infrastructure is not the only criterion to get ranking.
- The survey is done on 3 parameters: service level improvement (solid waste management, waste water management, legacy waste, construction and demolition waste management), certification (ODF, garbage-free city) and citizens’ feedback.
- Availability and proper utilization of funds is important. Political will is very important.
- There should be some mechanism to address the carrying capacity system of cities. Implementation will not help, unless this is done. If it goes beyond the unmanageable, it becomes impossible to manage.
- NIMBY (Not In My Back Yard) syndrome often impedes development of infrastructure in local areas.
- Unless there is public participation with source segregation and 3Rs, waste cannot be managed efficiently. This may hamper achievement of high rank in the survey list.

- Several factors influence ranking such as cleaning of roads and collection of waste every day. The city should have good drainage with no water logging.
- There should be designated spaces in the city for parking of public transport vehicles. Management of hawkers is very important.
- Vehicles parked on roads prevent proper road cleaning.
- Cities should have proper plantation on road sides or other green areas. This will improve air quality.
- The public toilets should be clean and hygienic.
- In addition, traffic should be managed with the help of traffic policemen in place of depending on traffic lights, especially on all crossroads or bottleneck areas. Noise reduction in cities is very important.
- These parameters are very important from the citizens' point of view.

Participants: Dr Anil Kumar, Dr SK Gupta, Dr M Dwarakanath, Dr Ravindra Kumar, Mr Pradeep Khandelwal, Mr Sanjiv Kumar

Minutes of an International Weekly Meeting on "Extracorporeal Shock Wave Therapy: Kidney Stones and Beyond"

Speaker: Dr Satyajeet P Pattnaik, MBBS, MS (Gen Surgery), DNB (Gen Surgery), MCh (Urology), FMAS. Consultant Urologist, Andrologist, Sexologist and Transplant Surgeon, SS. Urological Institute and Dr Pattnaik's Hitech Urology Hospital, Mumbai, Maharashtra, India

March 23, 2024 (Saturday, 9.30-10.30 am)

- Electromagnetic waves originated 150 years ago when James Clerk Maxwell, an English scientist, developed a scientific theory to explain the electromagnetic waves.
- Electromagnetic waves are propagated by simultaneous periodic variations of electric and magnetic intensity.
- Shock waves are propagative and concentric waves, which are targeted towards a focal point, which is the kidney stone and not the kidney.
- Shock waves are acoustic waves, which carry high energy, which is useful in regeneration and reparative processes of the bones, tendons, and other soft tissues.
- The lithotripter was first used in Germany. Its use in India began in the 1980s. The water bath system

was used from 1984 to 1986, where the patient was immersed in a water bath. The kidney stones were localized with the help of X-rays.

- Extracorporeal shock wave lithotripsy (ESWL) is a noninvasive procedure. The waves are focused on the kidney stones, which are fragmented into dust-like particles, which are expelled in urine.
- There are some misconceptions about shockwaves. ESWL damages renal parenchyma, ESWL cannot be used for too big, too small, too hard, or too soft stones. ESWL can be used only for kidney stones.
- There is lack of awareness about other uses of shockwaves.
- A urologist should always be in-charge of the machine. No technician should deliver the treatment.
- ESWL is a daycare procedure. There is a bias towards retrograde intrarenal surgery and percutaneous nephrolithotomy as they are more expensive treatments.
- ESWL is a daycare procedure. It is completely noninvasive, requires no anesthesia (occasionally only sedation), USG-guided procedure. Pelvi-ureteric junction stones, ureter stones, urinary bladder stones, vesicoureteric calculi can be treated with shockwaves.
- In chronic calcific pancreatitis, pancreatic calculi, biliary calculi, ESWL can be given pre-/post-ERCP (endoscopic retrograde cholangiopancreatography) + stenting.
- Most lithotripters used nowadays are piezoelectric lithotripters.
- Every fragment when measured with USG should be <3 mm for successful passage.
- Shockwaves have been used for the treatment of erectile dysfunction, chronic prostatitis, pelvic floor therapy in women suffering from urinary incontinence, hypocontractile bladder, tendonitis, plantar fasciitis, sports medicine. Low intensity shock waves have been used for single vessel coronary artery disease.
- Low intensity shock wave cause shear stress on blood vessels. The intra- and extracellular responses stimulate endothelial nitric oxide synthase, which causes release of vascular endothelial cell growth factor and production of proliferating cell nuclear antigen, thereby promoting neovascularization. The vessel condition and diameter improve as the atherosclerotic plaques are removed.

- In diabetic foot ulcers, shock wave therapy (SWT) helps save the foot from amputation. It targets the vessel block and the peripheral vascular disease using CT angio and color Doppler. SWT at various points unblocks the blood vessels resulting in improved blood flow and neoangiogenesis.
 - SWT is a novel treatment for lateral epicondylitis. Its effectiveness has been demonstrated in cases refractory to other nonsurgical therapeutic procedures.
 - Application of shock waves to trigger points is a new therapy for the treatment of temporomandibular joint disorder. Initially 2 to 3 sessions are given. If no response then Botox is given in masseter and temporalis and both pterygoids followed by SWT sessions again. The recovery is painless.
 - Although there is no documented evidence, SWT definitely helps in skin tightening.
 - Acoustic wave therapy for cellulite, body shaping and fat reduction is also possible with SWT.
 - There is a need for a dedicated SWT department with multidisciplinary approach. Specialists like urologists/andrologists, sports medicine specialists, physiotherapists, gynecologists, orthopedic surgeons, hepatobiliary surgeons, all come together to treat the patient.
 - SWT has been used in limb venous stasis along with graduated pressure stockings. SWT tightens the fascia and improves venous return. This requires real-time monitoring.
- Participants – Member National Medical Associations:** Dr Yeh Woei Chong, Singapore, Chair of Council-CMAAO; Dr Angelique Coetzee, South Africa; Dr Akhtar Hussain, South Africa; Dr Benito Atienza, Philippines; Dr MuktiShreshtha, Nepal
- Invitees:** Dr Monica Vasudev, USA; Dr P Lata Anand; Dr B Kapoor; Dr Amar Singh Choudhary; Dr S Sharma, Editor-IJCP Group
- Moderator:** Mr Saurabh Aggarwal



Early Puberty Increase in India: ICMR's Nationwide Study

The National Institute for Research in Reproductive and Child Health (NIRRCH) in Mumbai, under the Indian Council of Medical Research (ICMR), is planning the first national-level survey to assess the degree of prevalence of precocious puberty in India.

This is particularly concerning after the COVID-19 pandemic, as the condition is more likely to be detected in girls due to the appearance of secondary sex characteristics such as breasts, pubic hair, and the onset of menstruation. In boys, the condition can be characterized by enlarged testicles and penis, deepening of the voice, and facial hair, mainly on the upper lip.

Puberty, the adolescent stage of sexual maturity, typically occurs between ages eight and 13. However, factors like obesity, lack of sleep, stress, anxiety, and hormone-disrupting chemicals can lead to early puberty. This can cause premature bone maturation, shorter adult height, and emotional and psychological challenges like low self-esteem and anxiety.

A 2017 study in Kerala found a 10.4% prevalence of precocious puberty among 11- to 15-year-old girls, which was considered high by experts, highlighting the limited empirical evidence on this topic.

The global prevalence of precocious puberty was one in 4,000 kids in 2020, but clinicians report a rise in cases, primarily of the first type. Precocious puberty can be categorized into central or gonadotropin-dependent precocious puberty, where the brain releases hormones too early, and peripheral precocious puberty or gonadotropin-independent precocious puberty, where sex organs trigger the condition.

ICMR scientists explain that early puberty cases are incomplete precocious, with secondary sex characteristics not progressing to full puberty. The current diagnostic test lacks a recognized GnRH cut-off range, aiming to provide a precise reference range for better patient treatment.

(Source: <https://theprint.in/health/rate-of-early-puberty-rising-in-india-icmr-plans-nationwide-project-to-find-answers/2011194/>)