

Workshop on Mercury-Free Dentistry

October 11, 2025 | Imphal, Manipur



Toxics Link
for a toxics-free world

Workshop on Mercury-Free Dentistry – Imphal, Manipur

October 11, 2025, Hotel Classic Grande, Imphal

Organised by: *Toxics Link in collaboration with the Indian Dental Association (IDA), Manipur State Branch*

1. Introduction

A workshop titled **“Let’s Join Hands to Phase Out Mercury Amalgam”** was organised by **Toxics Link**, in collaboration with **Indian Dental Association (IDA) Manipur State Branch** on **11th October 2025** at Hotel Classic Grande, Imphal. The event aimed to create awareness among dental professionals on the environmental and health hazards of mercury use in dentistry, to share global and national perspectives on mercury phase-out under the **Minamata Convention**, and to discuss the challenges and opportunities in adopting mercury-free alternatives.

The meeting saw the participation of dental practitioners and academicians from different dental institutes of Imphal, Manipur, reflecting the growing interest within the dental community to understand the implications of mercury use and explore sustainable alternatives.

The workshop was part of a national initiative by **Toxics Link** to engage with dental associations across India to promote mercury-free dentistry, following similar successful collaborations in states such as Rajasthan, Punjab, Andhra Pradesh, Chhattisgarh, and West Bengal .

2. Inaugural Session

The session began with a **welcome address by Ms. Priti Mahesh**, Senior Environment and Public Health Consultant, on behalf of Toxics Link. She introduced the organisation’s work on mercury management and broader environmental health issues, highlighting the organisation’s two-decade-long engagement in policy advocacy, public outreach, and research on hazardous substances.

In her opening remarks, Ms. Mahesh set the context for the workshop by outlining the **global commitment under the Minamata Convention on Mercury**—a legally binding treaty that mandates the reduction and eventual elimination of mercury use in various sectors, including dentistry. She underscored the urgency of transitioning away from mercury-based fillings, noting that while many sectors have already phased out mercury, dental amalgam continues to remain in use, especially in training institutions and smaller clinics.

She emphasised that the aim of the workshop was not only to sensitise dentists about the hazards of mercury but also to **encourage informed choices**, ensuring that both practitioners and patients understand the implications and the availability of safer, equally effective alternatives.

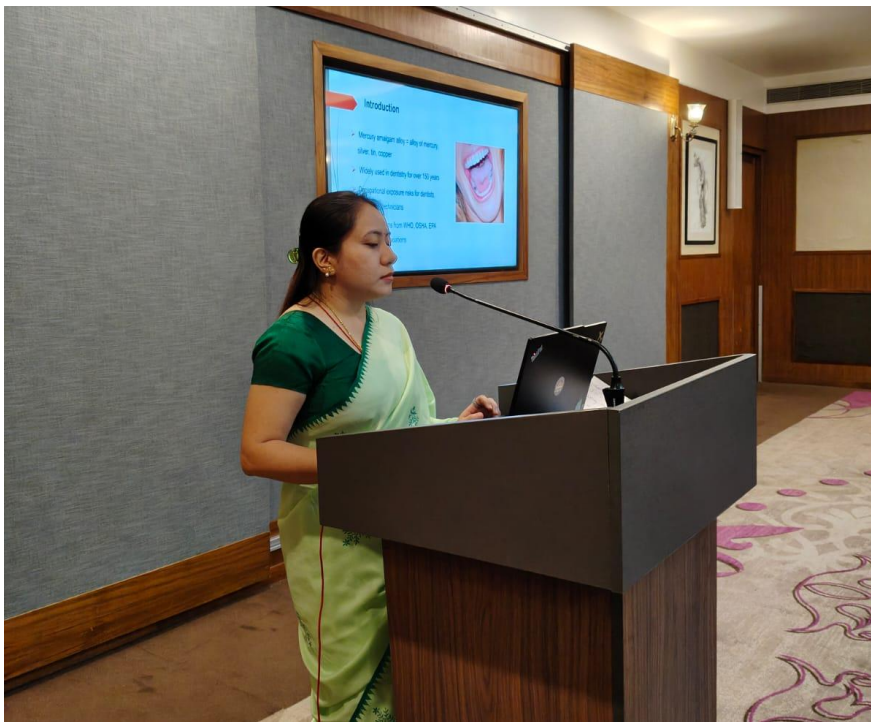
3. Technical Sessions

Session 1: Occupational Safety and Mercury Toxicity

Speaker: *Dr. Ningthoukhongjam Rati Devi, Associate Professor, Department of Conservative Dentistry and Endodontics, Dental College, JNIMS, Imphal*

The first technical session was delivered by **Dr. Rati**, who presented a detailed overview of **occupational exposure to mercury in dental settings** and its associated health risks. She explained how routine handling of amalgam during preparation, placement, and removal could lead to mercury vapor release, posing chronic exposure risks to dentists, assistants, and even patients.

Dr. Rati elaborated on mercury's **toxicological effects**, describing its neurotoxic and nephrotoxic properties. She highlighted the long-term impacts of low-level exposure, such as tremors, memory loss, fatigue, and reproductive health issues. The presentation also covered safe handling and disposal protocols, including the use of **PPEs, high-volume suction, air-water sprays, and proper ventilation**.



She urged dental practitioners to adopt **best management practices** for mercury waste and to ensure safe handling during amalgam removal. She cautioned that removing sound amalgam restorations unnecessarily could lead to acute exposure and should only be done under controlled conditions, following appropriate safety protocols.

Session 2: Challenges in Shifting from Mercury-Based Fillings and Alternatives

Speaker: *Dr. Jenny Atom, Assistant Professor, Department of Conservation Dentistry and Endodontic, RIMS Imphal*

The second session was presented by **Dr. Jenny Atom**, who provided an in-depth analysis of the **challenges in transitioning from mercury-based amalgam to alternative restorative materials**. Drawing from her clinical experience, she highlighted economic, technical, and perceptual barriers to adoption.

Dr. Atom discussed that while amalgam has traditionally been valued for its durability, ease of use, and affordability, **the long-term environmental and health concerns** far outweigh these benefits. She identified **key challenges**, such as:

- Higher cost and equipment needs of mercury-free materials;
- Limited training and skill development on newer materials among dental professionals;
- Patient misconceptions around the longevity and reliability of composite fillings; and
- Inadequate awareness about mercury hazards.



She elaborated on the range of **available alternatives**, including **composite resins, glass ionomer cements (GICs), ceramics, and zirconium-reinforced GICs (Zirconomer)**, discussing their comparative advantages and disadvantages. While composites and GICs offer superior aesthetics and biocompatibility, she noted that they are **technique-sensitive and require better moisture control and curing precision**.

Dr. Atom also touched upon innovations in **nanotechnology-enhanced dental materials**, such as nanocomposites and nano-GICs, which improve mechanical strength, reduce polymerisation shrinkage, and enhance fluoride release. She emphasised the importance of **training and continuing dental education (CDE)** to ensure effective and widespread adoption of these alternatives.

Her session concluded with a strong message: “There is no price for safety. Shifting to mercury-free dentistry may be challenging, but it is both achievable and necessary.”

Session 3: Mercury Hazards and the Minamata Convention

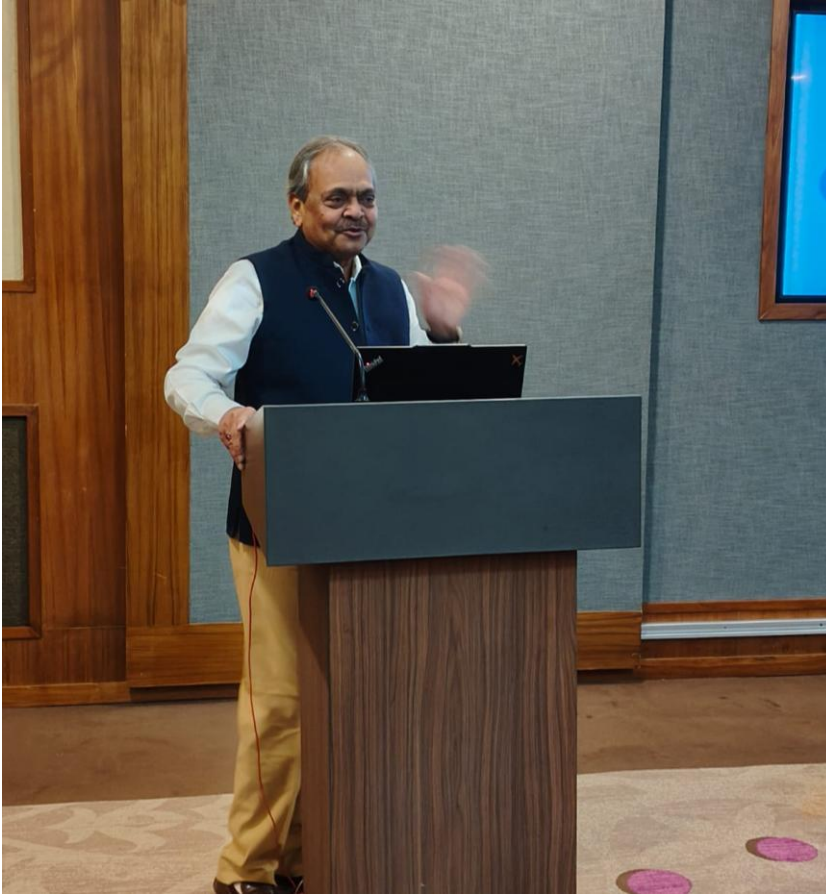
Speaker: *Mr. Satish Sinha, Associate Director, Toxics Link*

The final technical session was delivered by **Mr. Satish Sinha**, who has been closely involved with mercury-related issues for over two decades and has participated in global deliberations under the **Minamata Convention**.

Mr. Sinha began by explaining the **evolution of scientific understanding around mercury toxicity** and why materials once considered safe—like DDT and mercury—are now recognised as hazardous. He detailed mercury’s properties as a **persistent, bioaccumulative neurotoxin**, describing its capacity to travel long distances through air and water, bioaccumulate in fish, and enter the human food chain.

Citing historical examples such as **the Minamata disaster in Japan and mercury poisoning incidents in Kodaikanal, India**, he illustrated the devastating consequences of unchecked mercury use. He further explained that mercury exposure can occur through multiple pathways — air, water, and skin contact — and that even small doses can lead to irreversible health damage, especially in pregnant women and children.

Mr. Sinha also provided a comprehensive overview of the **Minamata Convention**, detailing its objectives, timelines, and the global movement to eliminate mercury from products and processes. He noted that while many countries have already phased out mercury in dental amalgam, India continues to take a **phased-down approach** due to challenges in policy, training, and infrastructure.



He urged participants to advocate for:

- **Curriculum reform** in dental education to remove amalgam-based training;
- Development of **national guidelines and policy directions** for mercury-free dentistry;
- Strengthening **waste management systems** to ensure safe collection and disposal; and
- Enhanced **public and patient awareness** to build demand for mercury-free options.

Mr. Sinha concluded by reminding participants that “Amalgam is a material of the past. The future is mercury-free, both for the health of our patients and the planet.”

4. Discussion and Closing

The presentations were followed by an interactive discussion. Participants raised questions regarding **testing for mercury levels, safe amalgam removal techniques,** and **availability of alternatives.** The session also touched upon practical issues such as **patient affordability, lack of technical infrastructure,** and **ways to enhance awareness through clinical practice.**

In the closing segment, **Ms. Mahesh** reiterated the importance of dentists' role in creating awareness among patients. She encouraged participants to display information material on mercury hazards in their clinics to help patients make **informed choices** about their dental care.

The workshop concluded with a **vote of thanks by Dr. Bebika**, CDE Convenor, IDA Manipur, who expressed appreciation to Toxics Link and all speakers for organising the event and initiating a meaningful dialogue on this important public health issue. She acknowledged the enthusiasm of the participants and expressed IDA Manipur's commitment to supporting further awareness and training initiatives on mercury-free dentistry.



5. Key Takeaways

- Mercury poses **serious occupational, environmental, and public health risks**.
- **Safer, effective alternatives** to amalgam—such as composites, ceramics, and zirconium-reinforced GIC—are now available.
- There is a **strong global movement** under the Minamata Convention to phase out mercury use.
- India needs **policy reform, curriculum updates, and awareness programs** to accelerate the transition.
- Dentists play a **crucial role** as advocates and educators in ensuring informed patient choices.

6. Way Forward

The workshop concluded with a collective understanding that the journey towards mercury-free dentistry in India must be collaborative. The discussions underscored the need for:

- Continued **capacity-building programs** for dental professionals;
- Development of **standard operating protocols** for safe amalgam handling and disposal;
- Stronger engagement between **IDA branches, educational institutions, and regulatory agencies**; and
- Integration of mercury-free practices into the **national oral health agenda**.

The IDA Manipur also shared a declaration on Moving towards Mercury-free Dentistry, reaffirming their commitment to protecting health and the environment.

