

Correspondence

Re: Who will regulate the regulator?

The article by Ananthakrishnan raises important questions about the direction and philosophy of medical education reform in India.¹ The present moment demands not only a critique of existing regulations but also a clear reimagining of what the Indian medical education system is striving to become. Expansion, faculty shortage, and uneven quality are real concerns, but they are not the symptoms of a deeper absence of educational vision.

The conversation must move beyond how many colleges exist or how many teachers are appointed, to a more fundamental question: what kind of physician is being shaped through this process? Medical education today faces a tension between training for employability and nurturing professional identity. The modern medicine system, while continuing to emphasise compliance, increasingly requires adaptability, ethics, teamwork, and the capacity for lifelong learning.² Therefore, regulation needs to shift its focus from enforcing norms to enabling these capabilities.

The expansion of seats and colleges must be matched by a reform in the purpose and structure of training. While the present competency-based medical education (CBME) framework strives to move towards integrated learning, much more remains to be done to ensure a truly longitudinal 'context-based learning' approach that connects learning with patient care, community needs, and the realities of the health system.

A second, often-overlooked dimension is the future of teaching and how students shape their identities. Today's educator must be a designer of learning experiences, integrating technology, reflective practice, and interprofessional collaboration. Existing faculty development initiatives, such as the basic and advanced courses in medical education (BCME and ACME), have laid a strong foundation for capacity building. However, these programs often remain episodic and skill-focused. What is now needed is a structured, longitudinal framework that recognises medical education as a scholarly career pathway linking faculty development with mentorship, research productivity, and institutional leadership. Without sustained investment in developing the educator as a professional, educational reforms risk remaining fragmented and short-lived.

Equally important is the parallel development of learners within the CBME framework. Beyond competencies, CBME must intentionally nurture students' professional identity formation and sense of belonging within the healthcare community. However, an often-overlooked step is sensitizing students to the very intent of CBME before its implementation. Learners need to appreciate that CBME is not merely a shift in curriculum, assessment, or structure, but a transformation. Early orientation to its goals and multi-dimensional nature enables students to engage purposefully, understanding what they learn, how they learn, and most important, why they learn.

Regulation must also become data-informed and participatory. Instead of relying mainly on inspection reports, periodic publication of outcome data, graduate distribution, community service, research productivity, and learner feedback can create a culture of transparency and accountability. Independent academic audit boards, involving educators, health planners, and community representatives, would lend both legitimacy and diversity to oversight.

Finally, the transformation of medical education should not only aim to produce more doctors but also to redefine what it means to be a doctor in contemporary India. As medicine becomes increasingly technological and fragmented, the system must

intentionally cultivate empathy, moral reasoning, and social responsibility to restore humanism to healthcare. These are not by-products of training; they are outcomes that require deliberate educational design.

Hence, the future of Indian medical education is not moving towards faster expansion or regulatory relaxation, but in building an ecosystem that is evidence-based, inclusive, humanistic, and ethically conscious. The envisioned change is one where learning is continuous, teaching is valued as scholarship, and policy is informed by outcomes rather than intentions. Only then can reform truly align with the nation's broader goals of health, justice, and human development.

REFERENCE

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Re: Urinary iodine excretion: A valuable tool for monitoring salt iodisation programme

Kumari *et al.*¹ offer a valuable perspective by shifting the focus from school-based surveys to family-based monitoring of iodine status. Furthermore, the observation that double fortified salt (DFS) showed no significant difference in urinary iodine (UI) excretion compared to iodised salt (IS) provides critical reassurance for the implementation of the *Anaemia Mukta Bharat* strategy. However, a critical review of the methodology and data interpretation raises specific points that warrant further consideration.

First, regarding the statistical methodology, the authors appropriately reported median UI levels, acknowledging the typically non-normal distribution of UI data. However, the statistical significance of the differences between groups and time points was assessed using the Student's t-test. The Student's t-test is a parametric method that assumes a normal distribution of data. Applying this test to skewed datasets may result in inaccurate estimations of statistical significance. The use of non-parametric tests, such as the Mann-Whitney U test or the Wilcoxon signed-rank test, would be methodologically more appropriate for this dataset.

Second, the authors conclude that the decrease in median UI observed between 2019 and 2021 was likely due to the salt industry complying with revised Food Safety and Standards Authority of India (FSSAI) standards. While the methodology

states that the quality of salt at the household level was closely monitored, the article does not present quantitative data regarding the iodine content (titration levels) of the salt actually consumed by the participants. Without correlating the iodine content of the salt directly with the UI levels, attributing the reduction in UI solely to FSSAI compliance remains speculative. Other factors, such as seasonal variability or hydration status during spot sampling, cannot be ruled out.

Third, the longitudinal design of study B was interrupted for 6 months due to the Covid-19 lockdown, during which families reverted to purchasing packaged market salt. Although the study restarted in October 2020, this disruption introduces an important confounding variable. It is unclear if the washout period was sufficient to negate the biological variance introduced by the change in salt source during the lockdown.

Finally, the sampling strategy involved collecting urine from 'available and willing' family members during morning home visits. This convenience sampling method carries a risk of selection bias, as it may under-represent working family members who are absent during forenoon hours.

Conflicts of interest. None declared.

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Author reply Re: Urinary iodine excretion: A valuable tool for monitoring salt iodisation programme

We thank the reader for the observations. Our study¹ was mainly aimed at the use of urinary iodine excretion (UIE) for monitoring the salt iodisation programme. It is correct that Student's t-test was not appropriate to assess statistical differences between groups because the UIE data does not follow a normal distribution. We have redone the analysis using the Mann-Whitney U test to assess statistical significance.

At enrolment in 2017 versus 2019, the data was not

significantly different. After 1 year of use in both study A and study B, there was no difference in UIE in groups receiving iodized salt (IS) or double fortified salt (DFS). However, the UIE in study A IS group was significantly higher than in study B IS ($p < 0.001$) and in study A DFS group compared with study B DFS group ($p < 0.001$). At enrolment, intrafamily differences were significantly different by the Mann-Whitney test for boys versus women ($p = 0.003$), boys versus men ($p = 0.002$) and for boys versus girls ($p = 0.04$).

The inference remains unaltered. There has been a reduction in the median UIE during 2017–2021; there are intrafamily differences in the median UIE, and there were no significant differences in UIE between IS and DFS users.

We have hypothesized that reduction in the median UIE levels over time between 2017 and 2021 might be due to the efforts of FSSAI and other stakeholders to sensitise salt manufacturers that iodine content should not exceed 30 ppm at the manufacturing level, increasing awareness of adverse consequences of excess iodine intake, and industry complying with the modification of FSSAI standards that iodine content of salt at manufacturers level should be 20–30 ppm. This is a possible explanation for the observed finding.

The statement in the methodology that 'the quality of the salt was closely monitored' was made because the quality of salt was tested by spot iodine and iron testing kits in each batch of the salt received from the manufacturer and periodically in a sub-sample of salt collected from the user households.

The objective of the study was to assess the usefulness of UIE for monitoring iodine content under program conditions. Under program conditions, quantitative iodine estimation in salt samples will not be possible; interruptions in supply (as occurred in this study due to the Covid-19 pandemic) are likely to recur, and urine samples can be collected only from available family members.

Conflicts of interest. None declared

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