The fatigued anesthesiologist: Improve operating room climate to minimize effect of residual anesthetics

Sir,

We read with interest "The fatigued Anesthesiologist: A threat to patient safety?" by Sinha *et al*.[1] Authors have highlighted in detail professional hazards of prolonged working hours. It is noteworthy that anesthesiology organizations have come forward with strategies to cope up with sleepiness and other fatigue management plans to ensure patient safety. Editorial "Maximum working hours and minimum monitoring standards-need for both to be mandatory"[2] further enlightens us with the methods to improve attention span of the anesthesiologists by optimizing working hours per day/per week.

We wish to emphasize upon the need of scavenging facilities in the operating rooms. Exhaustion after day's work is directly proportional to the operating room environment, surgery proposed, type of anesthesia required, physical status of the patient and anesthesia equipment used. Tankó *et al.*[3] used volatile anesthetic absorbers to detect amount of sevoflurane absorbed during intracerebral surgery. Authors reported that absorbers placed in the proximity of patient's breathing zone captured maximum amount of sevoflurane (1.54 ± 0.55 parts per million [ppm]), followed by the detectors placed near the anesthesiologist (1.14 ± 0.43 ppm). Surgeon's exposure to volatile anesthetics was six-fold less compared to the anesthesiologist. (0.15 ± 0.05 ppm). This observation of different risk stratification according to professional work have been recently verified in a study by Zaffina *et al.*,[4] where multi-point sampling method for environmental monitoring was used. To minimize exposure to inhalational anesthetics use of double masks or anesthesia hoods has been suggested.[5,6] Alternatively, use of Total Intravenous Anesthesia or regional anesthesia techniques (wherever feasible) should be encouraged.[7] However, these issues have not been widely addressed in pediatric OR and literature from developing countries is scanty.[8,9] In 1999, Marsh *et al.*[10] conducted a postal survey of consultant Pediatric Anesthetists to find out anesthesia and scavenging techniques used in neonates, infants and older children (less than 20 kg). Authors reported that T-Piece remains the commonest breathing system used in smaller children and 60% respondents of survey used scavenging system with T-piece. Thus, an anesthesiologist working in a poorly ventilated pediatric operating room (OR) with open/semi-open anesthesia circuit and no scavenging facilities is more likely to be exposed to waste gas residues

compared to the one working in an OR with appropriate facilities for removal of exhaled anesthetics. Similarly, if there is rapid turn-over of cases requiring inhalational anesthetics, anesthesia providers are more likely to be dosing themselves and get exhausted early. Thus, the effect of residual anesthetics on the occupational performance, driving capabilities and sleep behavior of pediatric anesthesia providers in developing countries needs further evaluation. Keeping these in mind, national societies should take adequate measures to ensure the safety of one and all working in operating areas.

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