

# **New technologies in the emerging countries**

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## **Abstract.**

Healthcare in emerging countries are becoming rapid changes and at the same time facing challenges such as the burden of rising in aging populations. The delivery of adequate healthcare to the masses is lead to increasing demand for medical devices and diagnostic equipment. In 2014, reported by the World Economic Forum estimated that one-third of all global health expenditure will occur in emerging economies by 2022.

One of new technology becoming in to the daily anaesthesia practise is the use of ultrasound in anaesthesiology. Ultrasound-guided nerve blocks were first described in anesthesiology literature in 1978 and it has the potential advantage by allowing for the dynamic visualization of target nerves, needle tip, and the anesthetic as it is infused.

Transesophageal echocardiography (TEE) is the another techology using high-frequency sound waves (ultrasound) to make detailed pictures of your heart and the arteries that lead to and from it, which cannot be used in emerging countries years ago and now using not only in cardiac surgery but also in some indicated cases for pre operative assessments.

FDA stated in 2003 that the use of BIS can reduce in awareness and preventing and from preventable medical error. Entropy is also the similar to BIS and only in recent years it can be used in emerging countries.

Advances in the technology of infusion pumps such as Target Controlled Infusion (TCI), which makes more straightforward and user-friendly technique has made the changes of the use ofvolatile anaesthesia practice to TIVA.

There are also a lot of changes in Theatre environment in newly emerging countries. No proper air flow system to become modular operation theatre with laminar airflow system with better equipped enviroment. Anaesthetic

machines and monitors are becoming in advance not only for during operation also for use in transportation of the patients which makes safer for the patients.

Using of Intelligent Air Shower in newly built theatre is also another new technology as the greatest source of particulate contamination in a clean room is the operator. UV sterilizer is the another technology for the old theatres.

Newer Teaching Technologies in Anaesthesiology is also important for newly emerging countries. Medical education is facing challenges created by rapid changes in socio economic scenario world over. Anesthesiology is the hands-on specialty and students needs hand-on training. The use of simulator in the field of anesthesiology training offers teaching in a safe environment where deliberate practice is possible without causing harm to the patient and improved competency. It is also the new challenges for the emerging countries for anaesthesia training. A key challenge is in developing standards for anaesthesia simulators.

The use of new technologies and equipments in the field of anaesthesiology and intensive care in the emerging countries have made safer and better quality of care for our patients. Rapid developments of more and more advance technologies in the field of anaesthesiology in developed countries have made challenges and need for advance training for the anaesthesiologists of the emerging countries.