

The need for low-cost innovations in Emergency and Trauma Care in developing countries

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Abstract

The 3D printed organs, virtual reality surgical simulators and stem cell delivery devices are few examples of recent innovations in medicine. Innovation is defined introduction of a new product, idea or method. The practice of medicine goes as far back as the human race itself. History is, of course, riddled with examples of extraordinary surgical and medical innovations and this trend has continued over the years. Trauma care and emergency care have been revolutionized in particular by the discovery of anesthesia and anti-microbials. Furthermore, computer simulation allows junior surgeons and healthcare workers to practice managing trauma patients extensively before applying those skills in a real world scenario where they would commit fewer mistakes and save more lives. Similarly, the introduction of smart glasses allows us to seamlessly look inside a patient's body even before touching the patient. This futuristic device would provide a real-time 3-D visualization of the anatomy of a patient's organs including the position of the patient's skeleton structure, soft tissue, and vessels, and all of the data that comes from CT scanning. The future of trauma and emergency care is indeed very bright.

Unfortunately, all that glitters is not gold. Most of these hi-tech innovations are not applicable in most parts of the world simply due to non-availability of resources. Of the 313 million procedures undertaken worldwide each year, only 6% occur in the poorest countries, where over a third of the world's population lives. Lack of access to trauma care, financial constraints and limited resources are just a few reasons as to why the world needs to focus on low-cost innovations that are universally accessible to all. In resource-limited settings these cost savings translate

directly to lives saved, because cost is a major barrier to treatment. The life-box oximeter, Chhabra shunt, Arbutus drill and bagota bag are just a few of the low-innovations that this paper talks about in detail to emphasize on the need for more of these low-cost innovations.

Medical technology has enabled us to witness unprecedented advances in the last century, but mostly at great financial cost. In the settings where such expensive technology can simply not be applied, affordable innovations start to come into play. Each penny saved directly equates to saving a life. Such is the impact of these innovations.



Biography:

Ahmed Ayaz has completed his MD at the age of 24 years from Aga Khan University and is a research fellow in the Emergency and Trauma Department there. His main focus is to make trauma care and surgical care more accessible to the rural population of South Asia in the form of low cost healthcare units and cost effective medical equipment. His research interests are also geared towards this cause.

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