Latest Wireless Technology in Medical Treatment: A Dive Beyond the Conventional or Existing Healthcare Systems

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Abstract:

Medical errors or wrong treatments or late diagnosis in the existing healthcare systems often leading preventable diseases to severe sufferings or deaths are a major global concern. Diving beyond the conventional or traditional medical technology Wireless Body Area Networks and Security (WBAN&S) have emerged as a transformative technology, significantly enhancing healthcare and medical monitoring systems. WBAN&S is a specialized subset of wireless sensor networks (WSNs) designed for monitoring physiological signals and environmental parameters around the human body. It comprises power efficient, lightweight, and wearable or implantable sensors that collect, process and transmit vital health data in a timely manner.

This latest and efficient innovation is the next generation wireless technology in medical science. Successful application of WBAN&S in medical science can optimize human errors, faster process, timely diagnosis, efficient clinical outcomes and medication safety. WBAN&S will play very significant applications in health care for the elderly, disabled, vulnerable groups and the like of our global community. Sustainable development of the Internet/network, portable and wearable micro devices and available channel models will make the WBAN&S implementation process easy. Evolutionary intelligence-based algorithm and genetic algorithm (GA) can be used as a vital part to optimize WBAN&S system's performance.

These abstract focuses on the impact of WBAN&S in modern healthcare systems, emphasizing their technological advancements, applications, and it's shortcomings along with the ways to address the existing limitations for broader adoption and scalability.

Keywords:

Disability, GA, micro devices, vulnerable, WBAN&S.