

DOCTORS' ATTITUDES TOWARDS THE USE OF IOT MEDICAL DEVICES IN SRI LANKA WITH SPECIAL REFERENCE TO ANURADHAPURA DISTRICT

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ABSTRACT

The Internet of Things (IoT) represents a significant technological advancement that utilizes Internet-connected smart devices and sensors to improve various aspects of daily life, including healthcare. IoT medical devices have the potential to revolutionize healthcare by providing accurate, data-driven insights and enhancing health-condition management. These concerns lead many medical experts to question whether IoT device integration genuinely enhances patient care, fearing that it may negatively impact the social aspects of medical practice. Doctors are especially wary of privacy intrusions, data breaches, and misuse of personal health information, which can undermine their confidence in these technologies. Limited research has explored doctors' attitudes toward IoT in the Sri Lankan context, particularly in Anuradhapura District, creating a knowledge gap. This study aimed to examine how security, privacy, familiarity, and risk perception affect doctors' attitudes toward the use of IoT medical devices in healthcare delivery. A conceptual framework was developed, identifying familiarity, risk perception, privacy, and security as independent variables, and attitudes toward the use of IoT medical devices as the dependent variable. Data were collected from doctors in the Anuradhapura District using a purposive sampling method and an administered questionnaire and analyzed using both descriptive and inferential statistics. The study revealed that security, privacy, familiarity, and risk perception are significant factors influencing the adoption of IoT medical devices, with doctors generally exhibiting a positive attitude towards their use. A notable finding was the high level of familiarity with IoT medical devices among doctors, which primarily contributed to their positive attitude. Enhancing familiarity and addressing security and privacy concerns could further improve doctors' perception and acceptance of IoT medical devices.

Keywords: IoT medical devices, healthcare technology, privacy and security, doctors' attitudes, risk perception