A theoretical model of healthcare monitoring surveillance system for patients with severe allergies

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Abstract

Allergies influenced by some unwanted foods, dust, and pollens create quick reactions, which may be basic skin diseases, life-threatening disorders, and serious breathing problems such as asthma. The most severe allergic reaction data is quickly and efficiently handled by the healthcare monitoring systems when merged with the information and communication technologies (ICT). A four-month study was conducted with the existing healthcare monitoring systems to know how quickly they provide solutions to the patients suffering from severe allergies. The study comprises collecting patients data, especially children under the age of five years, which include regular and specific food they eat, hygienic or dusty surrounding, environmental conditions influenced by allergy creation actors and quality of life before and after the allergic reactions. Accuracy of the data depends on the efficiency of the Healthcare Monitoring Surveillance System (HMSS), which employs the Multiple-Input Multiple-Output (MIMO) scheme as a new mechanism. In this research work, HMSS with MIMO technology provides not only better accuracy, quality of life, and quickness as compared to existing state-of-the-art HMSSs, but also improves the lifetime of the monitoring system with reliability, maintainability, and availability. The produced results show the supremacy of the proposed mechanism when accuracy is the main concern. (C) 2020 The Authors. Published by IASE.

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