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The Implementation of a Synchronous Telemedicine Platform Linking Off-Site Pediatric Intensivists and On-Site Fellows in a Pediatric Intensive Care Unit: A Feasibility Study

Mahmoud Nadar

University of Quebec Outaouais, Canada

Objective: The aim of this study was to assess the feasibility of implementing a synchronous telemedicine platform in a pediatric intensive care unit (STEP-PICU).

Method: A prospective mixed study was conducted. Two sources of data were mobilised: A survey with structured questionnaires and direct non-intrusive observation.

The study site was the PICU of a university hospital. Users' perceptions of six aspects of the STEP-PICU were studied: Telemedicine system quality, data quality, quality of technical support, use of the new system, overall satisfaction and system benefits.

Results: During the 6-month experimentation period, use of the telemedicine platform was rather limited and fell short of the promoter's expectations. The mean scores for the six user perception dimensions were low, with no differences between the two groups of users. A Mann-Whitney test showed that being an off-site pediatric intensivist or on-site fellow did not make a statistically significant difference in responses on system quality ($p = .518$), data quality ($p = 1.00$), quality of technical support ($p = 1.00$), system use ($p = .556$), overall satisfaction ($p = .482$), or benefits ($p = .365$). The low use of the STEP-PICU was attributed to three root causes: Human factors, the platform's functionalities and technical problems.

Biography

Mahmoud Nadar research interests lie in the area of using new developments in telemedicine technologies to provide whole-person care. He is interested in investigating the use of different information and communication technologies to bridge geographic distance and improve healthcare delivery for the elderly, for people living at home with chronic and life-threatening illness and for persons having undergone surgery. He examines the feasibility of integrating a tele-health program in the current healthcare system. This includes the development of a combination of interventions targeted at the patient, the family, healthcare providers and the healthcare organization. The goal of the program is to provide access to quality care and to improve patients' and families' quality of life. An important part of this program of research is exploring how an interpersonal relationship can be developed using a video-conferencing approach.

Notes: