USE OF ICT

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The Use of ICT to Alleviate Mental Health Problems in the Society

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Introduction

Information and Communication Technologies (ICT) are essential in solving and alleviating a wide variety of health-related problems. For instance, ICT can be used in e-learning platforms for preventive education, information dissemination as well as self-care, and follow-up. This proposal will delve into the use of ICT as a tool for mental health (Lal, 2019).

Mental health problems can be categorized into various groups and these groups include anxiety disorders, depression, substance-related problems, personality disorders, and psychosis. The most prevalent of these mental health forms are depression and anxiety disorders. Along with depression, anxiety can affect a large percentage of the people in society. Anxiety is a state of excessive fear, nervousness, or worries about an immediate future event or situation.

Informatics Tool Description

To alleviate the burden of mental health problems in society, there is a need to have an effective and efficient application of ICTs. The proposed system has three modules;

Active patient monitoring module: To manage a patient, there will an active management module in which the device collects the vital signs, records the pressure level on the heart muscle, records any abnormal heart activities or arrhythmia as well as monitors breathing patterns in patients. This information is sent to a centralized server for analysis.

Personalized therapeutic module: The information processed by the server is used to develop a tailored therapeutic program for the patient. The information can be used to create an online therapeutic program for self-care. The patient can also interact with health professionals who have specialized insight on the pathogenesis of the disease as well as the treatment

modalities involved. Classes are also conducted regularly to educate patients on adopting healthy lifestyles and measures for self-care.

System-wide monitoring module: Using data collected by the other modules, the system can detect deviations from normal levels in patients as well as tracks the health status of the patient. The system can be activated at any time by a health care professional in case of an emergency situation.

Stakeholders

This proposed system will be implemented in different settings including hospitals, clinics, and homes. There are many stakeholders involved in this implementation and these include patients, doctors and other health professionals, hospitals, business owners (manufacturers of the devices), managers of the healthcare services facility, manufacturers of ICT devices such as smartphones and computers.

Performance Monitoring and Evaluation

To effectively gauge the success of the system, there is a need to set certain key performance indicators (KPIs) for each module. The KPIs will help in determining the efficiency and effectiveness of each module in addressing mental health problems. These indicators can then be monitored on a regular basis so that modifications can be made to improve them further.

The following procedures will be used to evaluate the proposed system. Clinical evaluation: Data from different patients will be collected and analyzed to determine the effectiveness of this system in addressing mental health problems. The evaluation will include 2,000 patients. Monitoring and follow-up: The proposed system will also be used for monitoring and follow-up purposes. Initially, data on 1,000 patients will be collected and evaluated to analyze the usefulness of this system for monitoring purposes. Economic evaluation: The

economic evaluation will be conducted on 500 patients to determine whether the system is cost-effective.

Implementation Plan

The proposed system will be implemented in three hospitals. Here, all the stakeholders involved will be trained about this system and then they will be trained to run the system at their respective hospitals. A training manual for the participants will be developed. The participants need to take an online certification test after training. It is important to also address patient privacy as well as the legal aspects of this implementation. The system is also devised in such a way that it can be used for monitoring patients outside the hospital. This will be done by sending the collected data to a centralized server which will assess and process this information.

The implementation of this proposed system will be carried out by a person known as the Designated Administrator (DA). This person will have a medical background and ICT knowledge, which is important so that they can address mental health issues while coordinating an ICT tool. The person will be in charge of all the planning and development phases and also maintenance and management. These results are to include statistics on the number of patients who use this system, the number who need to visit a hospital, and other metrics related to monitoring effectiveness. It is expected that the proposed system will help in reducing the number of mental health-related hospital admissions.

Proposed Changes to The Workflow

The proposed system will cause some changes in the workflow of the hospital. It is expected that the patients will be notified of any issues regarding their mental health, which will prompt them to visit a doctor for assessment. This process will involve both calling and text messaging of reminders, which can be done by either the DA or a centralized server. The

hospital staff and doctors can also target patients for various treatments using sophisticated data collection techniques. The DA has also devised a framework of using data analytics and predictive tools based on cognitive processes to ensure that only the most critical cases are attended to first. This may be challenging, however, since patients will now have to make an appointment and waiting times are expected to increase.

Risk Management Plan

The proposed system will hold a lot of patients' information, which will be very sensitive. Therefore, appropriate measures have been taken to protect such information. The patient diagnostic and risk assessment forms are going to be filled out in the hospital's Patient Relationship Centre, which will only be accessed by the staff who need this information and the general public can't get it. Also, this data will not be disclosed to external parties without the consent of the patient or their legal representative, and it also cannot be disclosed to third parties without prior permission of the DA.

References

Lal, S. (2019). E-mental health: promising advancements in policy, research, and practice. *Healthcare management fórum*, *32*(2), 56-62.

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