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M-health in psychiatry: A new horizon in mental health care

F. Spaniel[1], J. Hrdlicka[2], E. Bakstein[2], T. Novak[1]

[1]Clinical, Prague Psychiatric Centre, Prague, Czech Republic ; [2]Faculty of Electrical Engineering Department of Cybernetics, Czech Technical University in Prague, Prague, Czech Republic

Introduction

The ITAREPS system (Information Technology Aided Relapse Prevention Program in Schizophrenia) developed in Czech Prague Psychiatric Center, presents a mobile phone-based e-Health solution for weekly remote patient monitoring and disease management in schizophrenia and psychotic disorders in general.

Objectives

The program provides health professionals with home telemonitoring via a PC-to-phone SMS platform that identifies prodromal symptoms of relapse, to enable early intervention and prevent hospitalizations.

Aim

This work presents data on ITAREPS effectiveness obtained from a recent mirror-design follow-up evaluation carried out in Czech Republic and a randomized controlled trial performed in Japan.

Methods

A retrospective within-subject mirror-image study was performed to compare inpatient days and inpatient costs for 134 adults with psychotic illness (ICD-10 dg. F 2X.X) before and after at least one-year ITAREPS participation.

Results

The total number of hospitalizations and (inpatient days) decreased significantly from 159 and (6980) in pre-enrolment period to 47 and (3138) post-enrolment respectively (Wilcoxon-signed ranks test, Monte Carlo, exact test, two-tailed, Z = 6.13 /hospitalizations/, $p<0.000001$ Z= 6.41 /inpatient days/, $p<0.01$). Methodological weaknesses specific to mirror-image design were controlled by use of resampling method.

Outpatients with schizophrenia were randomized to the ITAREPS (n = 22) or control group (n = 23) and were observed during one- year follow-up (1).

Results: Time to rehospitalization was statistically significantly longer in the ITAREPS group than in the control group (Kaplan–Meier survival analysis, 13 p = 0.033 /Fig.3), with a hazard ratio of 0.21 (95% CI 0.04–0.99). The total number of rehospitalization days (Fig. 4) was significantly lower in the ITAREPS group (37 days) compared with the control group (710 days, p =0.023).

Conclusions

The ITAREPS presents a novel approach towards relapse prevention.

The robust effectiveness of ITAREPS program together with its low start-up and recurrent costs makes it an attractive consideration for long-term treatment in outpatients with schizophrenia and psychotic disorders in general.

Its web-based platform allows for implementation in clinical practice across different health care systems.
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