

# Moderní technologie a psychiatrie v době postfarmakologické (II)



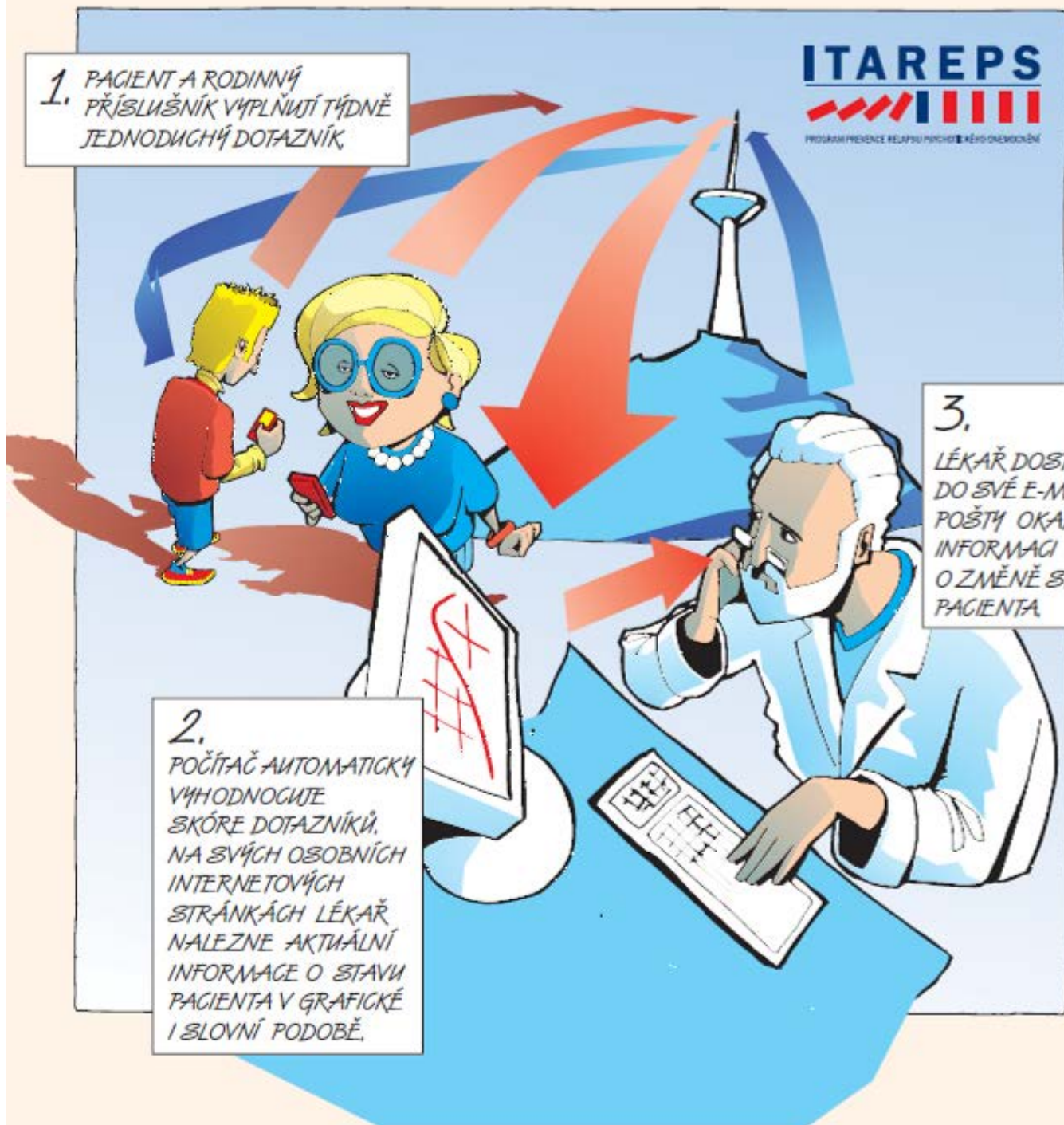
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1. PACIENT A RODINNÝ  
PŘÍSLUŠNÍK VYPLNÍ TJÍDNĚ  
JEDNODUCHÝ DOTAZNÍK

2.  
POČÍTAČ AUTOMATICKY  
VYHODNOUJE  
SKÓRE DOTAZNÍKŮ.  
NA SVÝCH OSOBNÍCH  
INTERNETOVÝCH  
STRÁNKÁCH LÉKAŘ  
NALEZNE AKTUÁLNÍ  
INFORMACE O STAVU  
PACIENTA V GRAFICKÉ  
I SLOVNÍ PODOBĚ.

3.  
LÉKAŘ DOBÍVÁ  
DO SVÉ E-MAILOVÉ  
POŠTY OKAMŽITOU  
INFORMACI  
O ZMĚNĚ STAVU  
PACIENTA.



# 10-item Early Warning Signs Questionnaire: Patient Version (EWSQ-10P)

Evaluated is the change in items since the last evaluation.

Scoring:

- 0: No change or improvement
- 1: Mild worsening
- 2: Moderate worsening
- 3: Severe worsening
- 4: Extreme worsening

**1. Has your sleep worsened since** <sup>++</sup>

*Compared to the last evaluation, your sleep during the early morning awakening. The problems have been*

**2. Has your appetite**

*Compared to the last evaluation, your weight has newly occurred*

**3. Has your concentration worsened since**

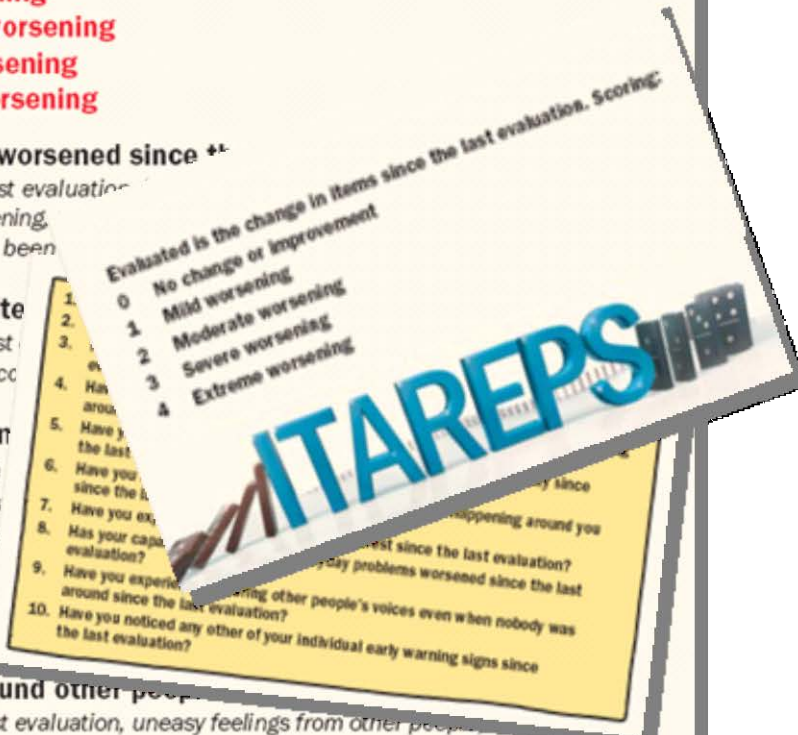
*Compared to the last evaluation, your inability to read a book or a TV show, to occur (or worsen)*

**4. Have you experienced increased restlessness, agitation, or irritability while being around other people?**

*Compared to the last evaluation, uneasy feelings from other people, being noticed by other people, being the focus of their attention, being talked about, have newly occurred (or worsened).*

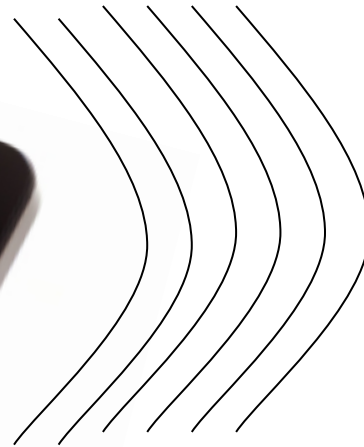
**5. Have you experienced increased restlessness, agitation, or irritability since the last evaluation?**

*Compared to the last evaluation, a compulsion to walk up and down, inability to stay in one place, inner feelings of tension without any obvious cause have newly occurred (or worsened).*





- 0: beze změny či zlepšení
- 1: mírná změna k horšímu
- 2: střední změna k horšímu
- 3: výrazná změna k horšímu
- 4: extrémní změna k horšímu



**0010210010**

# The Information Technology Aided Relapse Prevention Programme in Schizophrenia: an extension of a mirror-design follow-up

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OnlineOpen: This article is available free online at [www3.interscience.wiley.com](http://www3.interscience.wiley.com)

Linked Comment: Volavka. *Int J Clin Pract* 2008; 62: 1824-5.

### SUMMARY

**Aims:** Decreasing a number of hospital admissions is important for people with schizophrenia. The Information Technology Aided Relapse Prevention Programme in Schizophrenia (ITAREPS) program is a telemedicine intervention in psychosis by identification of relapse using home telemonitoring via a phone-to-PC system. This study was a 1-year extension of a previously published evaluation of programme clinical effectiveness. In total, 45 patients (45 patients from original sample and 28 collaborating with 56 family members) participated in the study. Results: There was a statistically significant 77% decrease in hospitalizations during the mean 396.8 ± 249.4 days of follow-up compared with the same time period before participation (signed rank test,  $p < 0.00001$ ), as well as significantly less relapse days when in the ITAREPS (2365 hospital days, 991 days after ITAREPS enrolment respectively, Wilcoxon test,  $p < 0.003$ ). **Conclusion:** The ITAREPS programme represents the long-term treatment of patients with psychotic disorder.

### Introduction

The need for providing more efficient healthcare services, coupled with major advancements in information and high-tech communication technology

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## Psychiatrist's adherence: a new factor in relapse prevention of schizophrenia. A randomized controlled study on relapse control through telemedicine system

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**Keywords:** antipsychotic medication, hospitalizations, information technology, psychotic disorders, relapse prevention, schizophrenia

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**Conflict of interest:** Filip Španiel is an author of ITAREPS system. ClinicalTrials.gov Identifier: NCT01885923.

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### Accessible summary

- Exposure to psychotic states has detrimental effects on the long-term outcome of schizophrenia and brain integrity. Therefore, improving relapse prevention is a key component of long-term management of schizophrenia. Previous studies using continuous monitoring of an individual's early signs of relapse and adopting preventative pharmacological interventions, when early signs are detected, showed promising clinical results in terms of relapse risk reduction.
- This 18-month multi-centre parallel randomized controlled, open label, trial with telemedicine relapse prevention programme ITAREPS failed to show superiority of maintenance plus prodrome-based targeted medication strategy over treatment as usual. The study, marked by low investigator's adherence, confirmed the absence of pharmacological intervention at early stage of prodrome, critically influenced the risk of relapse.
- This and previous randomized controlled trials with telemedicine programme ITAREPS suggested that substantial improvement in relapse prevention in schizophrenia is likely to be unattainable under current clinical settings.
- Future preventive strategies in schizophrenia would require rapid pharmacological intervention upon occurrence of subclinical prodromal symptoms that are undetectable under conventional outpatient practice. Studies with ITAREPS suggested that integration of telemedicine relapse prevention systems and visiting nurse service might together represent practical solution capable to address those requirements.

### Abstract

The Information Technology Aided Relapse Prevention Programme in Schizophrenia (ITAREPS) presents a telemedicine solution for weekly monitoring and management of schizophrenia. This study aims to evaluate the effectiveness of the programme in reducing the number of hospitalizations during the 18-month multi-centre parallel randomized controlled, open label, trial. Outpatients with schizophrenia or schizoaffective disorder were randomized to the active ( $n = 74$ ) or control group ( $n = 72$ ). In the active arm, investigators increased the antipsychotic dose upon occurrence of prodrome announced by the system. Intention-to-treat analysis showed no

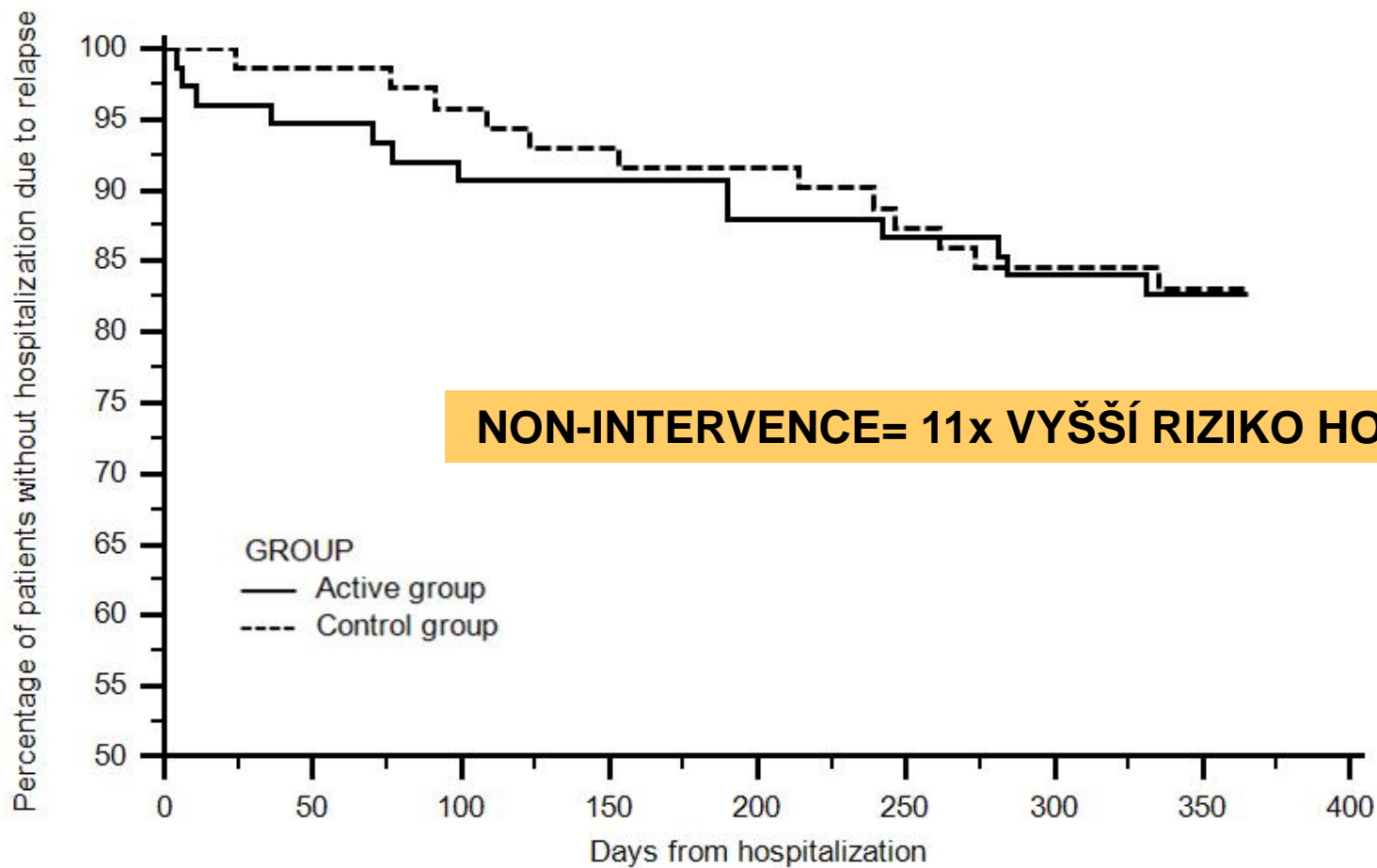


Available online at [www3.interscience.wiley.com](http://www3.interscience.wiley.com)  
Schizophrenia Research  
ITAREPS: Information Technology Aided Relapse Prevention Programme in Schizophrenia  
Španiel F, Vohlídka P, Kožený J, Novák T, Hrdlička J, Motlová L, Čermák J, Hóschl C  
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Effectiveness of the Information Technology Aided Program of Relapse Prevention in Schizophrenia (ITAREPS): A Randomized, Controlled, Double-Blind Study  
Abstract  
The overall relapse rate in schizophrenia is high, varying from 20% to 50% annually. This study aims to evaluate the effectiveness of the programme in reducing the number of hospitalizations during the 18-month multi-centre parallel randomized controlled, open label, trial. Outpatients with schizophrenia or schizoaffective disorder were randomized to the active (n = 74) or control group (n = 72). In the active arm, investigators increased the antipsychotic dose upon occurrence of prodrome announced by the system. Intention-to-treat analysis showed no significant difference in the number of hospitalizations between the two groups. The study was limited by low investigator adherence, which may have influenced the results. Future preventive strategies in schizophrenia would require rapid pharmacological intervention upon occurrence of subclinical prodromal symptoms that are undetectable under conventional outpatient practice. Studies with ITAREPS suggested that integration of telemedicine relapse prevention systems and visiting nurse service might together represent practical solution capable to address those requirements.

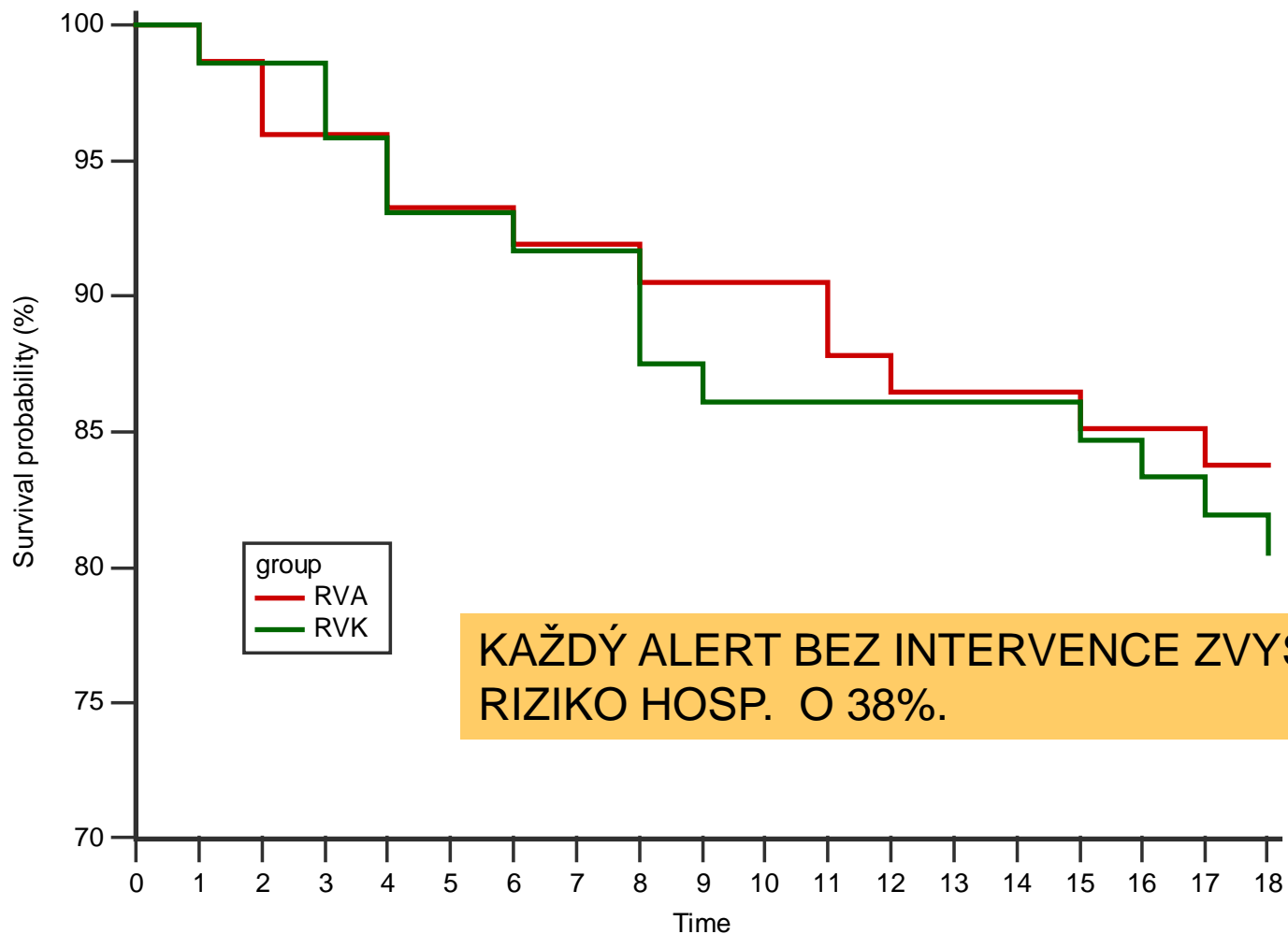
# RCT 39% ADHERENCE

## ITAREPS-Czech I, n=150, 1 rok



# RCT 67% ADHERENCE

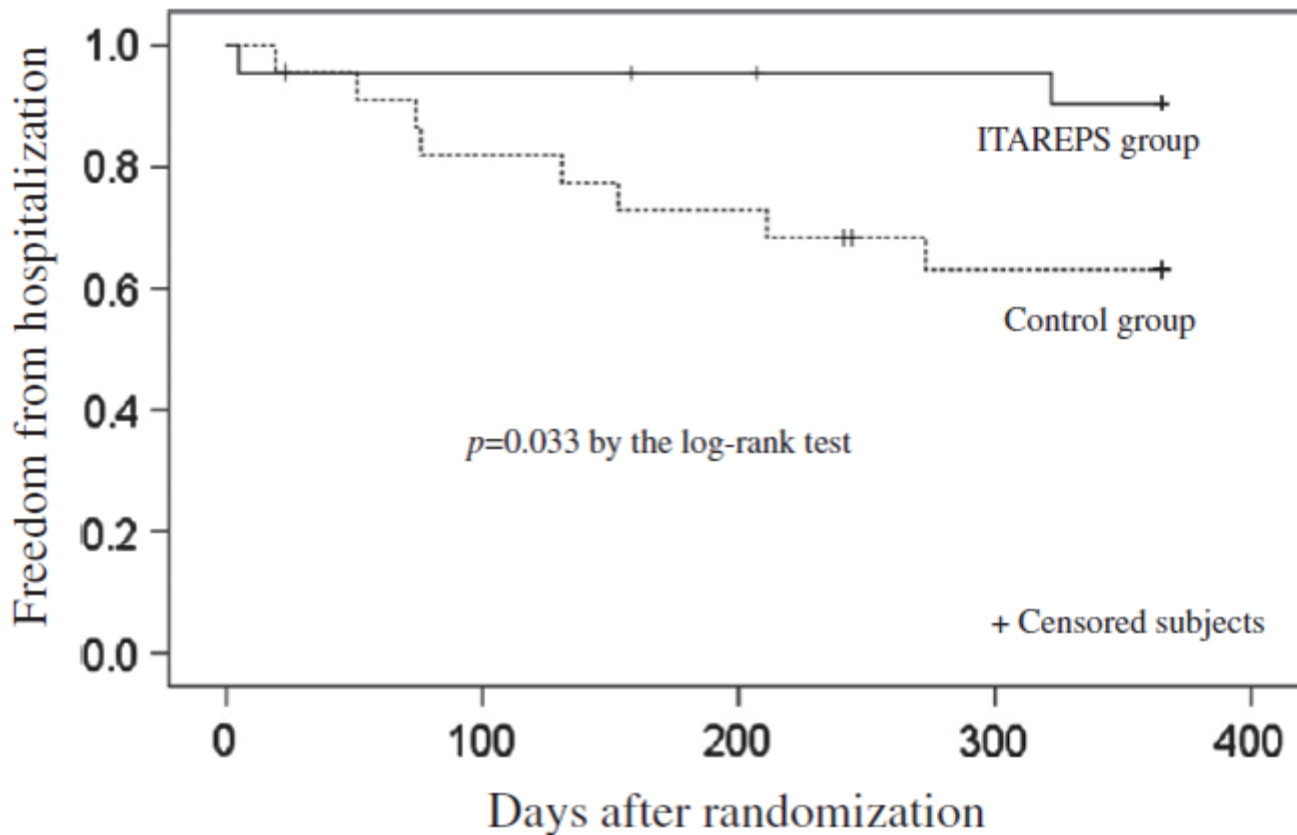
ITAREPS-Czech II, N=150, 1.5 roků





# RCT: 100% ADHERENCE

## ITAREPS RCT JAPPONSKO



ITAREPS SNIŽUJE RIZIKO HOSPITALIZACE  
NA JEDNU PĚTINU.

Komatsu 2013

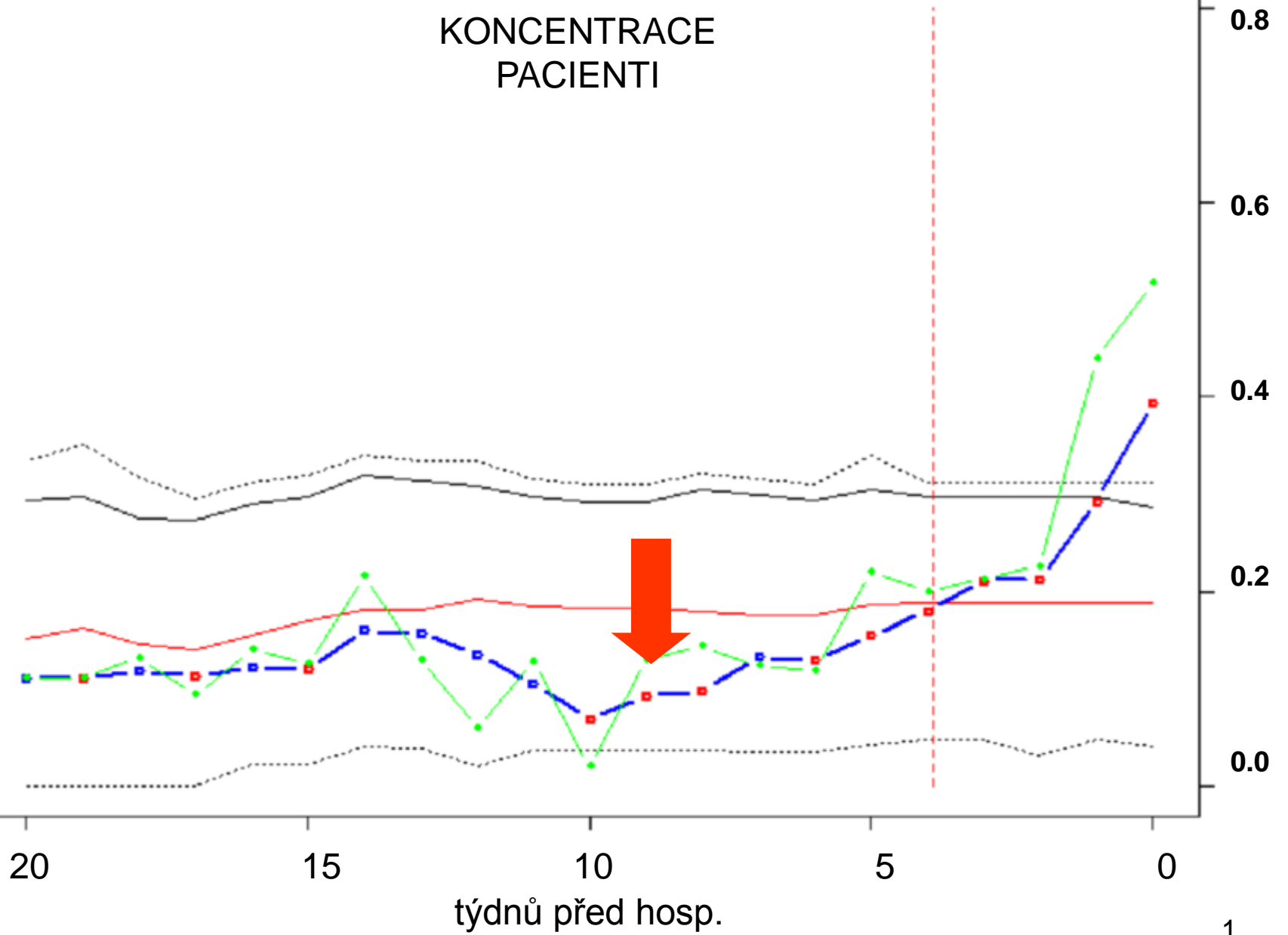
# Závěr

- V prostředí současné klinické praxe není možné dosáhnout účinné prevence relapsu schizofrenie
- Tento cíl vyžaduje úplnou proměnu dlouhodobé léčby.

# Délka časných varovných příznaků před relapsem psychózy

	N	Počet relapsů	Frekvence kontaktů (týdny)	Posuzovací nástroj	Vyšetření	Trvání časných varovných příznaků (týdny)
Subotnik and Neuchterlein (1988)	50	17	2	BPRS	O	6
Birchwood et al. (1989)	19	8	2	ESS	O	4
Tarrier et al. (1991)	22	12	4	PAS	S	4
Malla and Norman (1994)	55	–	4	BDI, SEQ, GHQ-28, PSS, SANS	S+O	4
Jorgensen (1998)	60	27	2	ESS, PANSS	O	4

# KONCENTRACE PACIENTI





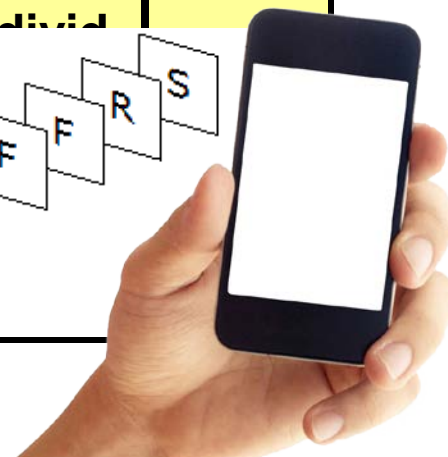
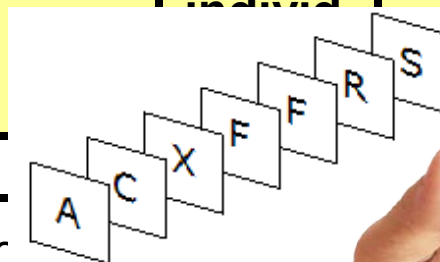
# Prediktory relapsu

	spánek	chut' k jídlu	soustředění	strach	neklid
týdnů	6	5	10	6	8
p	0.0072	0.0235	0,000000000000000001	0.0125	0.001

	denní rutiny	individuální
t	1	
	0.3255	



 BiPoGear



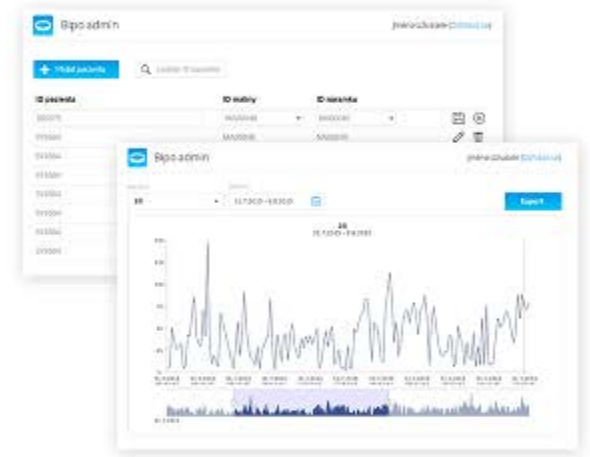
# Bipogear



Current prototype

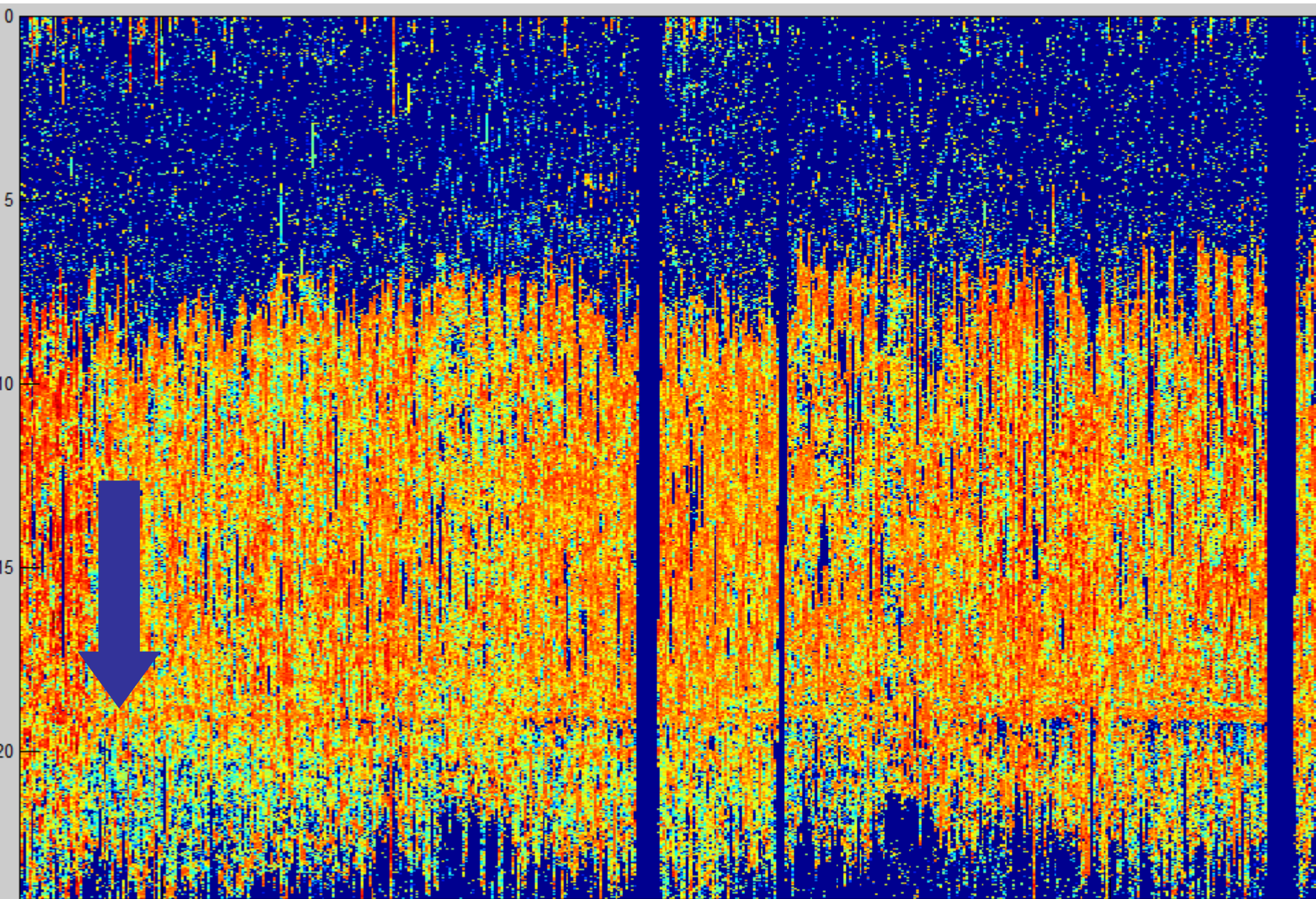


Opened Raspberry Pi home station



Admin for doctors





2007

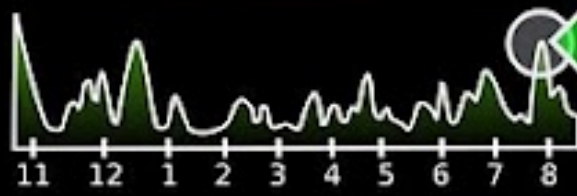
2008



# Sleep as Android



During sleep your phone tracks your movements



For your pleasant mornings to find an optimal wake-up time





