

Abstract

Background: Multiprofessional therapy programs for obese children and their families, including physical activity, nutritional, and behavioral interventions, have been shown to be effective, in group (MGP) as well as in individual (MIT) settings. However, due to limited personal and financial resources, 11% of children affected participate in such programs.

Objective and hypotheses: Health IT systems (HIS) have the potential to improve therapy assisting families in different settings. A novel mobile application that accompanies obese children and their parents during everyday situations was developed.

Method: A HIS offering physical activity, mood, photo documentation and eating speed services on a tablet PC was designed by specialists and children, with a secured direct transfer of usage data between home and centre. In a pilot observational study, usage as well as physical and psychological outcomes were explored for 7 months in each six children with HIS and group therapy (HIS-MGP) or individual therapy with HIS (HIS-MIT) or without HIS (C-MIT). Physical and mental health, motivation, eating disorders, wellbeing and parenting were assessed as previously described with nationally validated questionnaires.

Results: In all groups likewise, children were extremely obese (total mean S.D.: BMI-SDS 2.9±0.5, age 13.2±3.4 years). Both in HIS-MGP and C-MIT, BMI-SDS decreased by 0.3 and 0.2 S.D., respectively, but not in HIS-MIT. Before and after therapy, there were no major group differences in the main outcome parameters. The trend (P=0.07) to reduce obesity under higher emotional strain was not reflected by HIS usage. Despite contracts with children and parents, HIS, mainly activity and mood services, were only used by those patients who were closely supervised by therapists or parents. Therapists found HIS to be helpful in coaching the patients.

Conclusion: MGP and MIT are effective therapies. This pilot study cannot demonstrate that mobile Apps alone improve obesity therapy. Only under close supervision, HIS did simplify communication between therapist and patients. Further randomized controlled studies in less severely obese patients will prove whether a HIS with an automatic SMS reminder system in addition to a closely supervised therapy program can support lifestyle changes.

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