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**Title:** Evaluation of wireless telemonitoring of CPAP therapy in obstructive sleep apnea - TELEPAP study

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**Body:** Background: In Obstructive sleep apnea (OSA) compliance rates with CPAP therapy are disappointingly low and since long-term adherence can be predicted by early CPAP use, effective interventions are needed to improve CPAP compliance among patients newly diagnosed with OSA. Aim: To determine outcomes of telemonitoring CPAP compliance and efficacy data, compared with standard clinical care and active phone call care. Material and Methods: We performed a randomized controlled clinical study, in which 51 patients (42 males; mean age: 54 years old; mean Apnea/hypopnea index (AIH): 36.8/h) newly diagnosed with OSA were consecutively randomized to either standard clinical care (SC) (n=21), active weekly phone call care (PC) (n=18) or telemonitored clinical care (TC) (n=12) with the use of Restraxx™. All patients were submitted to a comprehensive educational program during APAP adaptation. Patients were followed for their first 4 weeks of treatment with APAP (AutoSetSpirit S8; Resmed™) and data regarding compliance and efficacy was analyzed. Results: Patients randomized to TC used APAP an average of 5.0 ± 1.8 hours per night (hpn), SC patients averaged 5.1 ± 2.5 hpn and PC patients averaged 3.9 ± 2.6 hpn. Residual AIH was 5.3 ± 3.0 in TC, 5.0 ± 2.5 in SC and 5.6 ± 3.8 in PC. No statistically significant differences were found between the groups regarding CPAP compliance or efficacy (p=0.296 and p=0.825, respectively). Conclusions: In the presence of a comprehensive educational program during APAP adaptation, telemonitoring OSA patients didn't show benefits concerning compliance or efficacy. Standard clinical care, given its lower cost, should be privileged.