Introduction: In the treatment of MDD, insufficient treatment outcome and the delayed onset of action still remain major problems.

Measuring plasma concentrations, i.e. TDM is a possible option to improve therapeutic outcomes.

Aim: The aim of this prospective and naturalistic study was to evaluate the economic and clinical benefit of TDM for depressed inpatients treated with citalopram.

Methods: Inpatients with MDD according to ICD-10 were included and treated with citalopram. Psychopathology was assessed by the 17-item Hamilton Depression (HAMD-17) rating scale in weekly intervals for five weeks. In parallel, serum concentrations of citalopram were measured.

Results: 55 patients were included (27f). 84% of the patients with citalopram plasma concentrations below 50 ng/ml (n=36) were non-responders in week five. Among patients who achieved plasma concentrations ≥50 ng/ml (n=19) on day 7, 47% became responder at week five (p=0.025). Patients with plasma levels ≥50 ng/ml had a significantly shorter duration of hospitalization (49±20) than patients below 50 ng/ml (72±37; p=0.033).

Conclusion: Our results show that citalopram plasma levels above 50 ng/ml are predictive for later treatment outcome and that TDM is cost effective due to reduced duration of hospitalization.