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**Title:** Effect of a closed loop ventilation strategy on the duration of ICU stay: A randomized controlled trial (interim analysis results)

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**Body:** Background and aim: There are some studies suggesting that adaptive support ventilation (ASV), a closed loop ventilation mode, shortens the weaning duration in some patient groups. We aimed to investigate the effect of ASV on total duration of mechanical ventilation (MV), weaning and intensive care unit (ICU) stay when compared to pressure controlled ventilation (PCV), a conventional mode. Materials and Methods: Patients who were mechanically ventilated longer than 24 hours were randomized into ASV and PCV. Demographic data and total duration of MV, weaning and ICU stay, total number of manipulations, need for sedation and complications (self-extubation, ventilator associated pneumonia) were compared. Results: Data are expressed as median (IQR). 96 patients (73 COPD) were enrolled between December 2011 and February 2012. Duration of weaning was 2 hours (2–7) in ASV and 4 hours (2–26) in PCV (p=0.013). Number of manipulations were 2 (1–3) in ASV and 3 (1–6) in PCV (p<0.001). When a subgroup analysis was done only on patients who could be weaned, in addition to the results above, duration of ICU stay was 4 days (3–7) in ASV while it was 7 days (5–10) in PCV (p=0.039). Conclusion: ASV seems to decrease the staff's workload, duration of weaning and ICU stay when performed from intubation until extubation. The present study is continuing until the targeted sample size is reached in order to detect the effects of this mode on secondary outcomes such as total duration of mechanical ventilation and need of sedation.