Introduction:
Preventive strategies are effective in reducing Ventilation-associated pneumonia (VAP) in adults. In paediatric population there are no data about VAP prevention, so we introduced a new bundle (VAP-p) based on the available evidence for adults.

Methods:
This was designed as a before-after study. We enrolled all patients admitted to 8-bed medical-surgical paediatric ICU at Gemelli Hospital in Rome, requiring mechanical ventilation for at least 48 hours. Patients with pre-existing tracheostomy were excluded. VAP-p has been introduced since 2018 in order to improve quality of assistance. Our bundle consisted in twice a day oral hygiene with chlorhexidine swab, daily check of oral bacterial colonization and aspiration prevention. Comparison was made with an historical group including patients admitted before VAP-p introduction (since 2016 to 2017). All data about demographics, antimicrobial therapy, ICU stay and treatments, were collected.

Results:
162 patients were included (82 after and 80 before VAP-p introduction). 5(6%) events of VAP were recorded in VAP-p group compared to 16 (20%, p=0.01) VAP-p group had less VAP per days of mechanical ventilation (1/100 compared to 3.3/100 p=0.01). Multivariate analysis yielded an OR of 0.23 (95%CI 0.07-0.81) for VAP incidence after bundle introduction. Mortality rate was slightly reduced in VAP-p group (2.4% vs 6.2% p=ns). Patients who developed VAP required more days on mechanical ventilation and had higher mortality rate (12 vs 5 days p<0.001 and 14% vs 3% p=0.047, respectively).

Conclusion:
Our VAP-p seems effective in reducing VAP incidence in critically ill paediatric population.

References:
Torres A et al. Eur Respir J. 10;50(3), 2017