Introduction:
For mechanically ventilated critically ill patients, the effect of full feeding on mortality is still controversial. We aimed to investigate the relationship of energy intakes with 28-day mortality, and nutritional risk status influenced this relationship.

Methods:
This prospective observational study was conducted among adult patients admitted to ICU and required invasive mechanical ventilation (IMV) for more than 48 h. Data on baseline characteristics and the modified Nutritional Risk in Critically ill [mNUTRIC] score was collected on day 1. Energy intake and nutritional adequacy was recorded daily until death, discharge or until twelfth evaluable days. Patients were divided into 2 groups: a) received < 75% of prescribed energy b) received ≥ 75% of prescribed energy.

Results:
150 patients (65% male, mean age 51.0±15.3 years, mean body mass index 27.9±6.2 kg/m2, mean mNUTRIC score 5.8±1.7) were included. In the univariate analysis, mNUTRIC score was associated with 28-day mortality. In the multivariable logistic regression analysis, mNUTRIC score (Odds ratio, OR 1.65, CI 1.20-1.70, P < 0.001) was associated with 28-day mortality. Nutritional adequacy was assessed, median nutritional adequacy was 0.40 (0.17-0.75). In patients with high mNUTRIC score (5-9), received ≥ 75% of prescribed energy was associated with a lower predicted 28-day mortality; this was not observed in patients with low mNUTRIC score (0-4).

Conclusion:
Nearly 60% of IMV required patients admitted to ICU were at nutritional risk, mNUTRIC score is associated with 28-day mortality. Energy adequacy of ≥ 75% of prescribed amounts were associated with decreased mortality in patients with a high mNUTRIC score.