Introduction: Ventilator asynchrony results in morbidities and mortality. The aim of this study was to explore whether and how physicians used patient-ventilator interactions (PVI) to set mechanical ventilators (MV) in Thailand.

Methods: Thai physicians treating MV patients were asked to respond to questionnaires distributed in conferences and to e-mails sent. Types of asynchronies encountered and frequency of MV adjustment guided by PVI were evaluated. In addition, correlations between physician’s knowledge and 1) confidence to manage asynchronies and 2) their experience were analyzed.

Results: Two hundred and eleven physicians answered the questionnaires. Most of them were medical residents and ICU specialists. 82% of them set and adjusted MV by asynchrony guidance and the majority used waveform analysis to more than a half of their patients. The most and the least common asynchronies encountered were double triggering and reverse triggering, respectively, while the most difficult-to-manage and the most easily managed asynchronies were periodic/unstable breathing and flow starvation, respectively. Lack of confidence and knowledge of PVI were the major reasons of physicians who did not perform asynchrony assessment. For knowledge evaluation, more than 50% of physicians incorrectly managed asynchrony. Chest and ICU fellows had the greatest skills in waveform interpretation and asynchrony management with the mean score of 2.62 from the total 5, compared with specialist (2.58), medical residents (1.85), internists (1.84) and general practitioner (0.85). There were poor correlations between years’ experience in MV management and the skill in waveform interpretation ($r = 0.15, p=0.034$) and between physician’s confidence in PVI management and the clinical skill ($r = 0.27, p<0.001$).

Conclusion: The majority of Thai physicians realized the importance of PVI, but the skill in asynchrony management was moderate. Intensive programs should be provided to improve their clinical performance.