more in detail, to predict the level of the disease and dyspnoea severity. Compared to daytime hours, sleeping hours may offer a better trade-off between patients' comfort, sensor unobtrusiveness and signal quality. The results showed that, by using probabilistic features extracted from multimodal sensor data during night-time, it is possible to differentiate between healthy and patients with COPD with 94% accuracy and between disease severity and dyspnoea severity with an accuracy of 94% and 93%, respectively [179].