expected to occur together, particularly among overweight individuals with COPD [122]. Moreover, it has been demonstrated that there are no differences in measures of dyspnoea, sleep quality, sleep efficiency, and sleepiness during the day between patients with COPD only and patients with COPD-OSA overlap [122]. Although we cannot know whether the patients included had OSA, we can rule out that specific interventions influenced quality or quantity of sleep since only baseline data were analysed. Nowadays, sleep assessment in COPD is mainly based on self-reported measures of sleep duration and quality, which have poor precision and reliability when compared to objective measures [96, 100, 103]. Activity monitors provide minimally invasive measures of the continuity and hence quality of sleep and they have the advantage of allowing recording continuously for 24-hours a day for extended periods [103]. However, to the current authors' knowledge, the SenseWear armband has not been properly validated to study sleep in COPD, even though its reliability has been shown in several sleep studies [68, 123].

In summary, sleep impairment in patients with COPD tends to be more pronounced in patients with severe airflow limitation and in those with worse exertional dyspnoea. Moreover, nocturnal sleep impairment appears to be an important factor associated with the capability to engage in physical activity on a day-to-day basis. In particular, nights of better sleep quality measures were followed by days of higher levels of physical activity. Further research is needed to identify the causal association between night-time sleep and the decline in daytime physical activity, as well as to assess whether the management of night-time symptoms and the reduction of sleep impairment can improve physical activity in COPD patients. Considering both our current understanding of the negative health consequences of sleep disturbance in COPD and the current limited efficacy of interventions in significantly improving and maintain physical activity enhancement, our data suggest that approaches to improve sleep need to be considered as additional targets for tailored interventions and may have a favourable impact on lifestyle in patients with COPD.