

# Editorial

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## Obstructive Sleep Apnea: The ‘Noisy’ Killer

Obstructive sleep apnea (OSA) is an upper airway disorder characterized by multiple interruptions of breathing during sleep manifested mainly as apnea or hypopnea. It is a common disorder worldwide. Overall estimates of disease prevalence of adult OSA are in the range of 10%, with certain subgroups of the population bearing higher risk.<sup>1</sup> United States health authorities estimate that one in every five to ten American adults has some degree of OSA, with many in the population are still undiagnosed. In Malaysia, the prevalence of sleep-disordered breathing is ranged at about fifteen per cent in adults and seven to nine per cent in children.<sup>2</sup> Among the risk factors for OSA are obesity, being elderly, being male, smoking and having upper airway inflammatory diseases like rhinitis, asthma and pharyngeal reflux.

Snoring, with intermittent choking and gasping during sleep is the commonest presentation. The effect of poor quality sleep leads to daytime symptoms such as lethargy, sleepiness, early morning headache and poor concentration leading to increase in road traffic accidents and other potential mishaps. However, the most serious and fatal complication of OSA is its association with cardiovascular-related diseases, such as hypertension, diabetes, stroke and heart attack. Death from the cardiovascular cause is the most common cause of mortality from OSA, yet this is still not getting enough recognition from many. Studies have proven the causality association; that OSA can lead to cardiovascular diseases like coronary artery diseases, congestive heart failure and stroke.<sup>3</sup> Cardiovascular diseases are the biggest cause of death in the world population.

Recently, the death of a Hollywood actress during sleep has sparked the public debate on whether or not OSA is the cause of her death. She has long been diagnosed with OSA prior. We have been getting more evidence in the literature linking OSA with cardiovascular death during sleep. For example a Mayo Clinic study published in the *Journal of the American College of Cardiology*

found that the presence and severity of OSA are associated with a significantly increased risk of sudden cardiac death.<sup>4</sup> A specific link to sudden cardiac death was suggested by the finding that death is more likely to occur during usual sleep hours in individuals with OSA, which is the time when sudden cardiac death is least likely in individuals without OSA and in the general population.<sup>5</sup>

People over fifties are more likely to develop OSA, but the effect of the disease is more pronounced in the younger person. A study published in the *European Respiratory Journal* in 2005 showed increasing mortality rates, with younger age in persons with OSA.<sup>6</sup> The study showed that people with OSA in their twenties had 10 times the risk of death compared with people above fifties with OSA. The study also showed declining mortality rates with age. For example, those above sixties with OSA have the same risk of death with people of the same age without OSA. The effect is more significant with the increasing severity of OSA, determined by the increasing number of breathing obstructions that patients experience during sleep.

We studied the association between OSA and hypertension in young Malaysians below 40 years in 2012.<sup>7</sup> Our findings indicate that persons with mild OSA (five to fifteen obstructive episodes in one hour of sleep) were three times at risk of having hypertension than persons without OSA. Moreover, persons with severe OSA (more than 30 obstructions per hour of sleep) were eight times more likely to get hypertension than normal people. We noted that in people with more severe OSA, their hypertension will be more resistant to medication compared to the mild OSA. In another recent study published in *JAMA Otolaryngology Head and Neck Surgery*, we also found that in our OSA patients who underwent upper airway surgery, 8% gets perioperative cardiac complications.<sup>8</sup> This is a worrying statistics as the number of undiagnosed OSA in the population are high. Those with symptoms suggestive of OSA should be properly worked up prior to surgery as this can lead to perioperative cardiorespiratory complication.

There should be more awareness that OSA is a common disease, and the effect of the disease can be fatal if not diagnosed and treated early. The public need to be aware that OSA is part of cardiovascular diseases, and no longer a 'social' disease like it was thought to be before. The perception that OSA only kills when you were involved in road traffic accidents are no more valid, as cardiovascular death from OSA is the real and significant problem we face now. OSA is a cardiovascular disease and carries the same mortality rate as other cardiovascular disease like hypertension and stroke. The effect is more pronounced in young individuals, thus, it is essential that young patients with OSA are diagnosed and treated early.

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