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ARE ROAD TRAFFIC ACCIDENTS PREVENTABLE AMONG SLEEP APNOEA PATIENTS?

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Background Drowsiness and lack of concentration among obstructive sleep apnoea (OSA) patients may strongly contribute to road traffic accidents (RTAs).

Aims/Objectives/Purpose A meta-analysis was conducted in order to estimate whether RTAs can be prevented after treatment with continuous positive airway pressure (nCPAP) among (OSA) patients.

Methods Real accidents, near miss accidents and accident-related events in the driving simulator were used as the primary outcomes after nCPAP treatment. Pooled ORs, incidence rate ratios (IRRs), standardised mean differences (SMDs), risk differences (RDs) and numbers needed to treat (NNTs) were appropriately calculated.

Results/Outcome Concerning real accidents (10 studies, 1221 patients), a statistically significant reduction in RTAs was recorded (OR=0.21, 95% CI 0.12 to 0.35, random effects model; IRR=0.45, 95% CI 0.34 to 0.59, fixed effects model). A stronger reduction on near miss accidents (5 studies, 769 patients; OR=0.09, 95% CI 0.04 to 0.21, random effects model; IRR=0.23, 95% CI 0.08 to 0.67, random effects model) was also observed. With respect to the preventable fraction of RTAs, it was estimated that five (NNT=5, 95% CI 3 to 8) and two (NNT=2, 95% CI 1 to 4) OSA patients should be treated with nCPAP to prevent one patient reporting real and near miss road traffic accidents, respectively.

Significance/Contribution to the Field It seems that nCPAP treatment may offer a sizeable protective effect upon RTAs prevention. The clinical role of health professionals in accident prevention should include identification of accident risks or medical conditions conferring risk (OSA), treatment of accident-causing conditions (nCPAP treatment) and reinforcement of advocacy and policy making towards promoting accident prevention education and training (OSA patients).