Identifying and managing sleep disorders in primary care

Poor sleep and daytime fatigue or sleepiness are common problems reported by patients to primary care physicians. The two most common sleep disorders affecting the adult population are obstructive sleep apnoea (10–25%) (OSA) and insomnia (6–10%),[1,2] which frequently coexist.

Snoring, obesity, older age, and male gender are well known risk factors for OSA. Men have a two-fold greater risk of OSA than premenopausal women but men and women are affected equally in the post-menopausal age range. Some patient groups (eg, those with type 2 diabetes, resistant hypertension, or ischaemic heart disease) have a very high prevalence of OSA. The Berlin questionnaire[3] and OSA50[4] are screening tools developed specifically to assist primary care professionals in identifying patients at risk of OSA. Although they have similar diagnostic utility, OSA50 is easier to use, taking a nurse or general practitioner approximately 5 minutes. Scores are given for obesity (3), snoring (3), witnessed apnoeas (2), and age more than 50 years (2). A total score of five or more out of ten should prompt the primary care physician to consider further investigation, particularly if the patient complains of excessive daytime sleepiness or has comorbid cardiovascular disease. The next diagnostic step is usually a sleep study, which involves continuous measurement of breathing patterns, oxygen saturation, electrocardiogram with or without electroencephalogram, oculograms, and an electromyogram to stage sleep. This investigation might be ordered directly by the primary care physician, although at this point the physician usually hands over further management to a respiratory or sleep medicine specialist in a tertiary care centre. The high prevalence of obstructive sleep apnoea has led to long waiting times to see a sleep specialist in some health care systems, and where specialist services are scarce investigation may be deferred indefinitely.

This has led our group and others to consider a greater role for primary care physicians, nurses, and other health professionals in the management of OSA. Ideally this uses a hub-and-spoke model, in which OSA is managed predominantly in the community, with support for patients with more complicated or treatment-resistant symptoms provided in a sleep medicine centre. In a randomised trial by our group,[5] primary care physicians identified patients with moderate to severe OSA using a validated, two-step diagnostic strategy of the OSA50 screen followed by home oximetry.[4] Patients who had at least moderate daytime sleepiness (Epworth Sleepiness Score [ESS] ≥8) were randomly assigned to either ambulatory management by the primary care physician and nurse, or to usual laboratory-based care by a sleep specialist. Prior to the study, primary care physicians and community-based nurses were provided with 6 hours of training in the management of OSA. Nurses undertook an additional intensive in-service week of training on continuous positive airway pressure (CPAP) treatment. After 6 months, primary care management was found to be non-inferior to specialist management in terms of improvement in ESS, and no differences in quality of life, OSA symptoms, CPAP adherence, or overall patient satisfaction were found between groups. Per patient costs were 38% less in the primary care arm of the study.

Other researchers[6-8] have investigated the reliability of a simple, automated, single-channel nasal pressure device to identify OSA cases requiring CPAP treatment, with a view to future deployment in primary care. Initial results indicate a high degree of diagnostic reliability for identifying moderate to severe symptomatic OSA, with substantial cost savings compared to traditional laboratory-based specialist centre diagnosis. In another study,[9] patients newly diagnosed with OSA in a specialist centre were randomised to primary care versus specialist sleep centre CPAP treatment. After 6 months, the primary care-managed group were not inferior to the specialist group in terms of CPAP compliance, although there appeared to be greater improvements in ESS and patient satisfaction in the specialist arm. Within-trial costs were lower in the primary care group.

Other researchers[10,11] have reported that the identification of OSA can be enhanced when community pharmacists screen for the disorder by questionnaire and simple home sleep monitoring, and send the results to patients' primary care physicians. Results from these research studies suggest that primary care physicians, practice nurses, and potentially pharmacists can assist in the diagnosis and management of OSA if they are adequately trained and resourced. We believe that a more active engagement of primary care professionals in the management of OSA is necessary to address the unmet burden of disease. New effectiveness studies are currently in progress (table). These and other studies will

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	Study title	Details	Primary outcomes	Secondary outcomes	Trial registration date and status
NCT02234765 Dr Ferran Barbe, Spain	GESAP	Both genders, >18 years, suspected obstructive sleep apnoea (snoring, witnessed apnoeas, excessive daytime sleepiness) or previous resistant hypertension; diagnosis and treatment of obstructive sleep apnoea syndrome in primary care versus specialist sleep centre; parallel groups; open label. (N=280)	Change in ESS at 6 months, cost effectiveness	CPAP compliance, Patient satisfaction, change in EuroQol (EQ5D), blood pressure, BMI at 6 months	September 2014; recruiting
NCT02141165 Dr Juan Masa, Spain	Home nasal pressure for sleep apnoea management in primary care	Both genders, 18–70 years, snoring or witnessed apnoeas and ESS ≥12 or previous cardiovascular disease; management of obstructive sleep apnoea syndrome in primary care versus hospital sleep centre; parallel groups; open label; diagnosis of obstructive sleep apnoea by nasal pressure in primary care, and polysomnography in hospital; treatment by autoCPAP. (N=280)	Change in ESS at 6 months	Cost-effectiveness of primary care versus hospital sleep centre management evaluated by Epworth scale and EuroQol 5D	February 2014; not yet recruiting

EuroQol(EQ5D) is standardised measure of health status developed by the EuroQol Group. ESS=Epworth Sleepiness Score. CPAP=continuous positive airway pressure. PSG= polysomnography.

Table: **Ongoing trials into obstructive sleep apnoea in Spain**

be needed to establish the overall cost benefit of primary-care OSA management and to identify the important facilitators and barriers to treatment of the disorder at the community level.

The diagnosis and management of insomnia is clearly in the domain of primary care physicians.[2] Patient history is the cornerstone of diagnosis, as chronic insomnia is often multifactorial in origin. Secondary causes, both medical (eg, heart failure, severe chronic obstructive pulmonary disease, chronic pain) and psychiatric (eg, anxiety disorder, depression), should be identified and treated, and patients counselled about any detrimental pre-sleep conditions (eg, excess caffeine intake, psychologically stressful activities prior to bed) and bedroom conditions (eg, watching television, pets in the room, excess light). At least one-third of patients with insomnia also have OSA, which may limit CPAP treatment adherence.[12,13] Restless legs syndrome and circadian rhythm disorders can also disturb or restrict sleep. Primary chronic insomnia is therefore a diagnosis of exclusion. Benzodiazepine receptor agonists and insomnia-specific cognitive behaviour therapy (CBTi) have similar levels of treatment effectiveness. CBTi, which seeks to correct false attitudes and beliefs about sleep, uses stimulus control techniques and bedtime restriction, has a high response rate (70–80%) and a sustained benefit. Because of drug tolerance and side-effects with hypnotic medication, CBTi by trained clinicians may be the preferred intervention.[2] However, CBTi is time consuming and beyond the scope of most primary care physicians' practice. Web-based, self-administered or clinician-supported CBTi programs, which are now available at relatively low cost and have been shown to be effective,[14] hold significant promise as an aid to the management of insomnia in primary care.

*Ching Li Chai-Coetzer, Nick A Antic, *R Doug McEvoy*
Adelaide Institute for Sleep Health, Repatriation General Hospital, Daw Park, SA 5041, Australia (NAA, RDM, CLC-C); and Faculty of Medicine, Nursing and Health Sciences, Flinders University, Bedford Park, Australia (NAA, RDM, CLC-C)
doug.mcevoy@health.sa.gov.au

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