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Insomnia Management in the Australian Primary Care Setting

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Background and Objective: Insomnia is one of the most prevalent and costly sleep disorders presenting in general practice, and when left untreated, has major health consequences. However, studies are limited on how general practitioners respond to this health issue, especially since the reconceptualization of insomnia in DSM 5. Therefore, the aim of this study was to explore how insomnia is diagnosed and treated in Australian general practices. *Participants:* Twenty-four (54% male) general practitioners were recruited throughout the greater Sydney metropolitan area in New South Wales using the professional network of research team members and snowballing technique. *Methods*: Participants were interviewed using a semi-structured interview guide. The audio-taped interviews were transcribed verbatim and a framework approach was used for analysis of transcribed data. *Results:* Participant's responses highlighted that despite being a frequent presentation, insomnia is often trivialized with a low recognition rate in general practices. Lack of support and clear and effective management guidelines for general practitioners are the perceived barriers to early recognition of insomnia in general practices. Treating the underlying causes and initiating the treatment with

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general practitioners to manage insomnia. Medications including off-label antidepressants are often prescribed based on perceived patient expectation for a prescription. *Conclusion:* Findings of this exploratory study suggest the need for clearly contextualized guidelines that include information about a patient's insomnia experience and treatment expectations. Another significant implication of this study is the need to develop and evaluate a model of collaborative sleep health services in general practice.

Insomnia disorder is a commonly reported complaint of dissatisfaction with sleep quality or duration; clinically defined by the *Diagnostic and Statistical Manual of Psychiatric Disorders* (DSM) 5th edition (2013) as – difficulty in falling asleep or staying asleep, or poor sleep quality that is associated with daytime consequences such as fatigue or low energy, mood disturbance, and daytime sleepiness (American Psychiatric Association, 2013). Epidemiological studies suggest that about 30% of the global population report general insomnia symptoms and 10% report insomnia disorder, that is, insomnia symptoms with daytime consequences (Mai & Buysse, 2008). In a survey of Australian adults, it was estimated that 33% of 3,300 participants reported experiencing regular difficulty either getting to sleep or staying asleep (Bartlett, Marshall, Williams, & Grunstein, 2008). Longitudinal cohort study indicates a rising prevalence of insomnia, coupled with increased sedative-hypnotic use over the last decade (Pallesen, Sivertsen, Nordhus, & Bjorvatn, 2014). Australian data also highlights the heavy and ongoing prescription of hypnotics by general practitioners (GPs; Charles, Harrison, & Britt, 2009). Current treatment guidelines, however, support the efficacy of cognitive behavioral therapy for insomnia (CBT-I) as first-line treatment based on robust data (Buysse, 2013). The considerable consequences of sedative-hypnotics in the form of tolerance, dependence, cognitive impairment, and rebound insomnia on cessation clearly necessitate cautious use (American Psychiatric Association, 2013; Williams, Roth, Vatthauer, & Mccrae, 2013).

Insomnia is associated with a wide range of health, economic, and societal consequences. There is an established bidirectional relationship between insomnia and psychiatric disorders, particularly depression and anxiety; insomnia patients have double the risk of developing depression (Baglioni et al., 2011; Sivertsen et al., 2012). Insomnia is also linked with other comorbidities such as myocardial infarction (Laugsand, Vatten, Platou, & Janszky, 2011), hypertension, dyslipidemia, and is now considered a potentially modifiable risk factor for cardiovascular disease and diabetes (Haaramo et al., 2013; Lee et al., 2016). Insomnia patients have a 45% higher chance of developing or dying from cardiovascular disease (Sofi et al., 2014). Published data indicate that a person with insomnia costs 12 times more than a healthy sleeper to the health system (Daley, Morin, Leblanc, Grégoire, & Savard, 2009). Insomnia costs the Australian Healthcare system about $10.9 billion annually attributable to both direct and indirect expenses (Sleep Health Foundation, 2011). This substantial financial burden and the consequential health factors prompt the need for optimal insomnia management in Australian health care settings.

Insomnia patients are notorious for not seeking or delaying seeking help (Morin, Leblanc, Daley, Gregoire, & Mérette, 2006). An Australian survey reported that 89% of adults with insomnia symptoms did not consider seeking any medical help (Bartlett et al., 2008). More recently, another survey on Australian adult population who either had insomnia symptoms or were searching for insomnia information online revealed that 46% of the 1,013 respondents

reported symptoms commensurate with clinical insomnia, but only 30% had consulted a health professional (Moghe, Cheung, Saini, Marshall, & Williams, 2014).

The primary care setting is a critical venue for identification and early intervention to effectively manage insomnia. Evidence suggests that GPs are the most common points of presentation where insomnia patients seek help actively (Morin et al., 2006). Recent Australian data also demonstrates that the rate of GP consultations for a sleep disorder is high and quite similar to the rate for chronic diseases such as diabetes (Britt et al., 2015). Despite being a prevalent disorder in general practices and having a deleterious effect on health and well-being, insomnia is typically under-recognized and underdiagnosed by health care professionals (Culpepper, 2005). Unrecognized or untreated insomnia can lead to the patient developing dysfunctional beliefs and behaviors which perpetuate the problem, as exemplified in Spielman's well-known 3Ps model (predisposition, precipitants, and perpetuation; Spielman, Saskin, & Thorpy, 1987). Literature, therefore, highlights the value of early recognition and treatment of insomnia to limit the chronicity and to facilitate better management (Morin & Benca, 2012).

Insomnia can pose a diagnostic challenge for GPs (or family physicians or primary care physicians) as it may be masked by other comorbid conditions such as depression and anxiety or physical problems, such as pain (Doghramji, 2001). Given that the diagnosis of insomnia includes assessing sleep history, clinical history, and also lifestyle factors (Cunnington, Junge, & Fernando, 2013), it may not be feasible for GPs to diagnose insomnia within an average consultation, given the mean consultation time of Australian GPs with patients is about 14.8 min (Britt, Valenti, & Miller, 2002). Many patients with insomnia symptoms are screened instead for a mental health problem (Ohayon, 2002). However, in a landmark change, described within the latest edition of DSM, there is a clear guideline to manage insomnia on its own right regardless and independent of other comorbid conditions (American Psychiatric Association, 2013). In an American academy of sleep medicine report, the need to ask patients for a history of any sleep difficulty was stressed during any routine visit to health care professionals (Chesson, Jr., et al., 2000).

In light of the recommendations and the DSM-5 guidelines, management challenges, and the detrimental consequences associated with insomnia, we aimed to explore the evaluation and management trends of insomnia in Australian general practices. Despite GPs being the key treatment providers for insomnia, there are to date few studies available about GP's recent strategies for identifying and managing this health issue, particularly since the revised guidelines came out in the DSM-5. Understanding how insomnia is perceived, diagnosed, and managed by GPs would help to inform strategies for improved quality of care and reduced health care cost in the context of insomnia.

METHOD

Participants

A convenience sample of GPs in the greater Sydney metropolitan area, New South Wales (NSW), was recruited to participate in semi-structured interviews. Twenty-four face-to-face interviews were conducted from October 2015 to February 2016 at their practice sites. Participants were identified through professional networks of the researchers. Further, using a passive snowballing approach (chain referral sampling), consenting participants were requested to pass on project information to any colleagues likely to be interested in the project, who could then contact researchers directly.

Materials and Procedure

A semi-structured interview guide was developed by reviewing the relevant literature (American Psychiatric Association, 2013; Bartlett et al., 2008; Charles et al., 2009; Cheung et al., 2014; Everitt et al., 2014; Haponik et al., 1996; Lamberg, 2008; Sorscher, 2008) and the questionnaire included questions related to GP's experiences, assessment approach, and treatment strategies for insomnia. Appendix 1 outlines the schedule of questions used in the study. A written consent form was obtained before starting the interview. The interviews were audio-recorded and transcribed verbatim for framework analysis (Srivastava & Thomson, 2009).

Participants' identifying information was removed from the transcripts and participants were assigned a code before initiating the analysis. The transcripts were entered into a software program, QSR NVivo 11 for analysis. Each interview transcript was read repeatedly and coded by the principal researcher (FTNS). A subset of randomly selected transcripts were read and coded independently by two other research team members (BS and KW). The coding was then reviewed and compared by the authors in a group meeting for the development of the thematic framework presented in this study. This thematic framework was then applied systematically to all transcripts and the indexed data was arranged in charts according to the themes. The charts were then used to illustrate the range and significance of participants' responses.

RESULTS

A sample of male and female GPs from a variety of different practices participated in the study. Table 1 summarizes the demographic profile of participants.

Participants reported on the profile of insomnia consultations they encounter in practice. The profile of insomnia presentation in general practices is qualitatively described in Table 2.

Key themes describing GP's approaches for diagnosis and management of insomnia were identified. These themes included: insomnia a nonpriority, recognition barriers, treatment approaches, patient expectations, and sleep as public health priority. A few quotes are provided below to illustrate thematic derivation. More quotes can be found in Appendix 2.

Insomnia a Nonpriority

Interviews demonstrated that diagnosis and management of insomnia are not a key priority for GPs. Eighty-three percent (n = 24) of the GP participants reported that they do not proactively assess patients for sleep complaints or insomnia, believing that if patients have a sleep issue they are likely to raise the issue by themselves. For most participants, insomnia was a low priority compared to other health conditions patients presented with: "I suppose there are so many things for screening; I don't think insomnia will be on my hot top list" (GP#6, Inner West, small practice).

Recognition Barriers

Seventy-nine percent (n = 24) of the GPs highlighted the lack of clear treatment guidelines in practice to support them in treatment-related issues. Given this lack of treatment clarity, many GPs alluded to avoidance around opening up discussions about insomnia or sleep health. Experience with prescription-seeking patients also added to this avoidance in insomnia

TABLE 1
Demographic Profile of Participants (n = 24)

Demographic variables	*Number (%)*
Male	13(54)
Length of time practicing (years)	
1–15	16(67)
16–31	8(33)
Sleep health training in last 3 years	4(17)
Practice size	
Small: Practice with 1–5 GPs	6(43)
Medium: Practice with 6–10 GPs	5(36)
Large: Practice with 11–15 GPs	3(21)
Practice with practice nurse	11(79)
Practice area (Greater Sydney)	
South Western Sydney[a]*	7(29)
Western Sydney[a]*	9(38)
Inner West*	6(25)
Northern suburbs*	2(8)

Note. [a]Represents areas with a highly culturally and linguistically diverse population (Australian Bureau of Statistics, 2014). *The suburbs located in these regions were socioeconomically diverse with The Index of Relative Socioeconomic Advantage and disadvantage (IRSAD), values ranging from moderate to high (895–1,121; Australian Bureau of Statistics, 2014).

TABLE 2
Insomnia Presentation Profile

Frequency of insomnia presentation	*Age of presentation*	*Underlying causes of insomnia*	*Reason for consultation*
Participants reported on average consulting 5 patients each week with sleep complaints, while some of them encountered around 20 patients each week.	GPs reported presentations for insomnia were uniformly distributed across the age spectrum	The interviewees suggested that mental disorders (anxiety and depression), physical health issues (chronic pain, nocturia, breathing problems), drug addiction, and shift work appeared to be the common precipitants for insomnia presentation in primary care	Nearly all participants perceived that fatigue and a diminished sense of working ability during the day were the main reason for patients to seek help.

discussion and management: “If there was something I could actively do about it that has no side effects, rather than just saying, you know, sleep hygiene, then maybe I would screen more. Because you know cervical cancer, something you can do about it. But insomnia is so difficult to treat, it’s kind of like, why do I want to open that while they usually have all these other things to worry about at first place” (GP#24, Western Sydney, small practice).

According to 29% (n = 24) of the participants interviewed, availability of simple reliable questionnaires that can assess the likelihood of insomnia would be a key clinical tool for improving how insomnia is handled in general practice. Seventeen percent (n = 24) of the participants recommended that using a system of introducing sleep assessment tools in the waiting room for patients to fill out prior to a consultation would be useful and time-saving for GPs.

Treatment Approaches

Analysis of the interview data demonstrates that 54% (n = 24) of participating GP's insomnia management approach was primarily focused on evaluating and treating underlying causes rather than insomnia itself. GPs described their approach to manage insomnia as a system of discussing basic information about healthy sleep (sleep hygiene) before considering a short course of medication. Eighty-three percent (n = 24) of the participants stated that they rarely prescribed benzodiazepines to new patients with insomnia, and if a prescription was thought necessary, they ensured that patients understood that these medications should only be used short term. Referring patients to a psychologist for specific advice and treatment was reported by 67% (n = 24) of the participants. None of the participants reported provision of behavioral therapies: "If the underlying problems are depression or anxiety then you treat that rather than insomnia. If it's primary insomnia then you are looking more sleep hygiene. I've used sleep psychologists that we have locally, very effective, and then drug treatment if you have to" (GP#13, South Western Sydney, large practice).

Seventeen percent (n = 24) of participating GPs highlighted that, given the serious adverse events related to sedative-hypnotics, they often resorted to prescribing antidepressants that had sedative side effects, as these drugs were "safer" than benzodiazepine type sedatives: "For insomnia, I use sometimes amitriptyline first line … only because it's not addictive and it is a good option I find" (GP#18, Inner West, medium practice).

Patient Expectations

GP's perceptions about patient's treatment expectations can be described by two subthemes: *concrete thinking* and *resistant to coming off sedatives*.

Concrete thinking

Ninety-six percent (n = 24) of the participants felt that patients with insomnia mostly visit the doctor for a prescription with the presumption that only pharmacotherapy would relieve their sleep complaints. According to 79% (n = 24) of the GPs interviewed, patients were not interested in changing their lifestyle and desired a quick-fix solution to their sleep problems through hypnotics. Eighty-three percent (n = 24) of the GPs had experienced reluctance from patients in being engaged in time-intensive nonpharmacological interventions. This prior experience made GPs hesitant in bringing up the possibility of behavioral treatment options: "I don't want to go to the gym; I don't want to go to the dietician. That's what their expectation is … give me a tablet; I'll get better in the next morning" (GP#3, Western Sydney, small practice). Also: "I think that patients have one expectation, they want a quick fix … most of the time it takes a lot of negotiation not to give the sleeping tablets" (GP#14, Western Sydney, small practice).

Resistant to coming off sedatives

Seventy-five percent (n = 24) of the participants described the difficulty in deprescribing hypnotic-sedatives such as benzodiazepines. The participants also reported that patients, who are already on sedatives, often were resistant to withdrawing their sleep medication, as they were psychologically dependent on the medications: "Most of the patient we see, they already on sedative hypnotics. So we try to bring them off from the hypnotics and sedatives. But it is difficult; because once they are used to it, they think that they can't sleep without it" (GP#12, South Western Sydney, medium practice).

Sleep as a Public Health Priority

Participants recommended that greater public health awareness was a precursor to improved insomnia recognition in their practices. Twenty-one percent (n = 24) of the participants believed that changing community behaviors toward sleep health might facilitate insomnia recognition in GP practices. Participating GPs suggested that the health and economic burden of insomnia could be diminished by increasing public awareness about the consequences of sleep loss and untreated insomnia: "I think we need to create more awareness about sleep, like sleep is important because people just consider that as a thing. You need to create more awareness that sleep is a very important part of being healthy. You know, how you create an awareness of diet and exercise, there should be a program of sleep as well and then once people know that sleep is very important then we can move out" (GP#19, Western Sydney, small practice).

DISCUSSION

The interviews provided in-depth descriptions of diagnostic and management approaches for insomnia in Australian general practices. The results of this exploratory study highlight the gap between current recommendations for insomnia management as referenced in the new DSM-5 guidelines and current practice in primary care. Addressing such gaps is imperative for the health and well-being of people frustratingly struggling with their poor quality of sleep, and at risk of the perpetuation of this problem with serious downstream consequences. Given the significance of sleep on individual's health and well-being, prioritizing sleep by improving public attitudes toward sleep and including adequate amounts of sleep health education in the medical curriculum, addressing patient-practitioner communication gaps, developing new assessment tools, upskilling health professionals to provide behavioral interventions, developing clear clinical guidelines for insomnia management, as well as introducing new service models that allow task-shifting from busy physicians to allied health professionals are some of the essential strategies that may be recommended for improving the quality of life of patients with sleep complaints. These strategies for improving the management of insomnia in general practice settings are summarized in Figure 1.

The health and socioeconomic burden of sleep loss, coupled with a limited awareness of both the general population and health care professionals about sleep health urge for policies to introduce sleep health as a public health issue. Nonprioritization of sleep health issues was a resounding theme in our interviews. This oversight about the importance of sleep health is

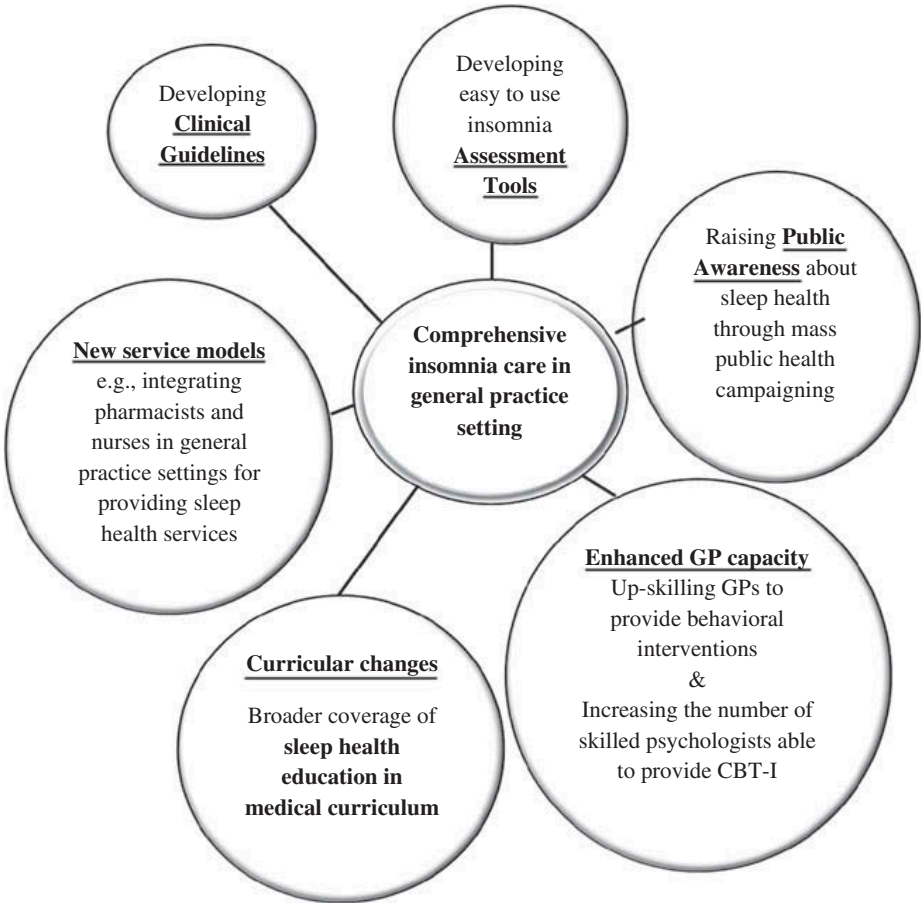

FIGURE 1 Strategies for improving the management of insomnia services in the general practice setting.

reported in other cases too. A survey of family medicine clinic databases reported that direct questions about sleep were not included in health history taking (Sorscher, 2008). Compounding this issue is how participants in our study assumed that patients would initiate the conversation about their sleep health themselves, while evidence clearly suggests that patients with insomnia are reluctant to discuss their sleep complaints with physicians (Chung, Kan, & Yeung, 2014). Patients, often trivializing their sleep disruption and delaying seeking help, remain undiagnosed and untreated, while evidence indicates that early recognition and prevention of sleep complaints may improve an individual's health, quality of life, and cognitive function, and also prevent deterioration to chronic issues (Saddichha, 2010). Routine queries about sleep should occur along with queries about other lifestyle habits that affect health (i.e., diet, exercise) in the primary care setting. Therefore, greater public awareness about the importance of healthy sleep, and health professional training on the importance of enquiring regarding sleep during medical history taking, are important steps.

Thematic analysis of interviews also indicated that addressing the underlying causes of insomnia (specifically, any physical complaint, anxiety, and depression) often took precedence by our sample

GPs, which undermines the treatment of insomnia, and is a distinct departure from revised DSM-5 guidelines (American Psychiatric Association, 2013). These guidelines clearly recommend that insomnia should be treated as a clinical disorder, rather than just a symptom of comorbid conditions. In fact, studies indicate that the treatment of insomnia may improve comorbid conditions, especially mental health issues. For example, a randomized controlled trial demonstrated that treatment of insomnia comorbid with anxiety led to better treatment outcomes for anxiety (Pollack et al., 2008). Another instance of suboptimal insomnia management suggested in our results is that some participants referred to preferentially using off-label antidepressants for the treatment of insomnia. Most guidelines do not recommend this practice, as the benefit of antidepressants in insomnia is not robustly established; in addition, side effects of these drugs such as vertigo, tremor, amnesia, and high blood pressure may worsen insomnia or health outcomes (Rizo, Deshpande, Ing, & Seeman, 2011; Wichniak, Wierzbicka, & Jernajczyk, 2012). On a positive note, our data also highlight that the sampled GPs described a negative attitude toward prescribing, suggesting that they often refrain from prescribing sedatives or hypnotics, and if prescribed, limited prescription repeats are offered to curtail patient's duration of use.

Adding to the mounting literature on physicians' perceptions of patient expectations around sedative prescriptions, many of the GPs interviewed felt that most patients with insomnia visit the doctor with a view to seeking medication. While this may be true in some cases, there is good evidence that many patients are willing to try and possibly prefer trying nonpharmacological therapy (Omvik et al., 2010). This perceptual mismatch may be due to the fact that some patients possibly attempt different strategies to cope with their sleep problem, and when these strategies prove ineffective they consult a physician. Therefore, when GPs initiate treatment with sleep hygiene type behavioral modifications, patients rebut this advice because of their ineffectual experience with sleep hygiene. This pattern, when repeated across consultations, leads doctors to the viewpoint that insomnia patients are usually after a prescription (Davy, Middlemass, & Siriwardena, 2015). Our sample also reiterated this problem, as GPs unanimously reported suggesting sleep hygiene to patients as a first-line approach. Sleep hygiene in isolation, though a part of CBT-I, is poorly supported by evidence in insomnia research (Bjorvatn, Fiske, & Pallesen, 2011). Therefore, practical guidelines around insomnia should include sleep hygiene only as a component of other more powerful behavioral strategies. Surprisingly, referring to the psychologist for behavioral therapies appeared to be a common practice among the participants, contrary to previous study demonstrating that onward referral from Australian GPs for specialized insomnia care is very low (Cheung et al., 2014).

In response to assessment of sleep health or insomnia in practice, there was a perceived need by the participants for a simple diagnostic tool. Particularly as the diagnosis of insomnia requires skilled clinical, lifestyle, and symptom history, a time-intensive process that GPs may find difficult. There are several such tools available in the literature. For example, the Insomnia Severity Index (ISI) is a brief, seven-item, validated and reliable instrument for detecting insomnia cases in primary care settings (Morin, Belleville, Bélanger, & Ivers, 2011). Although of course some level of clinical history would be required in diagnosing insomnia, perhaps disseminating instruments such as the ISI may facilitate diagnostic issues in primary care. Another tool could be developing a list of key clinical questions that primary care physicians could incorporate into their routine history taking.

Issues raised by the participants that impede the provision of insomnia or sleep health assessment services included lack of support, lack of clear national guidelines, and lack of effective and reliable management strategies. Study exploring GPs' perspective about insomnia

management in primary care also supports the insufficiency of expert recommendations (Cheung et al., 2014). Our results suggested that clear guidelines focusing on approaches to managing insomnia and patient expectation might help in proper recognition and treatment of insomnia. A recent systemic review on current understanding of insomnia conducted by Araújo, Jarrin, Leanza, Vallières, and Morin (2016) also highlighted the need to develop clinical guidelines including information about patients' perception and treatment expectation for improving GPs' diagnostic and therapeutic skills. Moreover, the review emphasized the need for increased capacity of GPs to provide the required components of nondrug insomnia management in general practice settings (Araújo et al., 2016).

Given the high incidence and consequences of undiagnosed and untreated insomnia, introducing sleep health services to assist GPs in reducing the disparities between the patient's expectation and the GP's perception, as well as in insomnia recognition and management may facilitate optimal insomnia management in general practices; and this area warrants future consideration. In Australia, emerging research suggests that other health professionals, such as pharmacists, could be trained to contribute to promoting public awareness as well as in the detection and management of patients with sleep complaints (Fuller, Wong, Hoyos, Krass, & Saini, 2016; Fuller, Wong, Krass, Grunstein, & Saini, 2011).

A diverse range of participants recruited throughout the metropolitan of greater Sydney, New South Wales, is a strength of this study, with the interviews presenting some of the key issues for further investigation. Moreover, the semi-structured interview guide used in this study rendered the flexibility for participants to comment in-depth. However, there is a possibility for a biased result as the responses are based on the self-reported behavior of the participants. Then again, as strict confidentiality was maintained for all information of the study, including participant identity and the results, the responses are unlikely to be impacted by external pressure. Interview bias may influence the manner in which the interviewer prompted participants or used their own experiences to probe issues. However, given the interviews were conducted by the same interviewer, these issues would have been uniform across all interviews. Further, prior to the conduct of interviews, the interviewer was trained in interviewing techniques, especially nonjudgmental listening and cued prompting using the interview guide.

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APPENDIX 1

Interview Guide Exploring GPs' Current Insomnia Management Strategies

Questions	*Prompts*	*Objectives*
From your experience, could you please describe the profile of insomnia presentations in your everyday practice?	• *Number of insomnia patients per day/week* • *Type of patients: Age, gender*	To identify the relative experience of GPs with insomnia, and demographic characteristics of patients with insomnia in Australian general practice setting (Cheung et al., 2014)
What do you feel makes patients visit the doctor about it (insomnia)?	• *Troublesome symptoms* • *Impact on lifestyles: e.g., medicine, lifestyle changes* • *Work; relationship; safety* • *Other people: Family and pharmacy recommendations* • *Expectations about sleep health*	To identify the help-seeking behavioral patterns of patients who seek medical help for insomnia. Given that it is known that only a small proportion of Australian people with insomnia seek medical help (Bartlett et al., 2008), it is important to identify what makes patients consult doctors for sleep complaints.
What approach would you generally use to assess your insomnia patient?	• Questionnaires (Epworth Sleepiness Scale, ISI) • Sleep diaries • Clinical symptoms	Given that insomnia needs to be treated as a clinical disorder rather than a symptom (American Psychiatric Association, 2013), this question aimed to identify how GPs identify and diagnose insomnia.
What would you suggest to improve insomnia recognition rate?		While studies show that sleep complaints receive minimal priority in GP consultation (Haponik et al., 1996; Sorscher, 2008), obtaining recommendations from GPs themselves might facilitate insomnia recognition rate in primary care consultations.
What would you normally choose as a first line treatment for insomnia?	• *Pharmacological treatment* • *Nonpharmacological treatments*	Studies show that a majority of insomnia cases are managed by prescribing medication in general practice settings (Charles et al., 2009; Everitt et al., 2014). This question aimed to explore current insomnia management strategies in Australian general practices.
What are some of the difficulties and challenges you feel you face in treating those with insomnia?	• *Lack of resources* • *Lack of clear guidelines* • *Safety issues in available medications* • *Patient's demand or need for medications* • *Patient's self-medication practices*	This question aimed to identify challenges and barriers to insomnia recognition and management in the general practice setting

(*Continued*)

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Questions	*Prompts*	*Objectives*

What would you say about behavioral therapies?	• *Resources needed to facilitate the provision of these behavioral therapies in practice*
	• *Reasons for practice choosing to provide or not provide*
	  • *Lack of time*
	  • *Lack of training and trained staff*
	  • *Expenses to practice/ feasibility*
		Despite evidence supporting the efficacy of behavioral interventions for managing insomnia, it is still underutilized in primary care settings (Lamberg, 2008). Therefore, this question aimed to explore how behavioral interventions are perceived by Australian GPs.

APPENDIX 2

Participant Quote

Theme: Insomnia a nonpriority

"Because insomnia is not something like that, people obviously know that they can't sleep. So it's not we have to find it out. It's not hidden" (GP#2, South Western Sydney, small practice).

"Now we have to screen for so many things, I think that's probably lower down on my priority. Because right now we have to screen for cervical cancer, we screen for hypertension, we screen for heart disease, diabetes, breast cancer, cholesterol, depression, mental health" (GP# 24, Western Sydney, small practice).

Theme: Recognition barriers

"Yeah, I think there is a bit of a fear from GPs to bring it up unless the patient wants to bring it up because of the fear of how they are going to manage that and whether there is looking for a prescription. So that's the kind of the way some of the GPs' thinking goes. But it might be useful if they could have some simple tools at hand to discuss insomnia; they won't feel so afraid to bring it up than they might be. It's a big issue, once you get into it, you can't get out of it" (GP#17, Inner West, medium practice).

"We could create a system with multiple questionnaires available on an electronic device which a patient could access and that information should be collected before the consultation and then the doctor or other appropriate health professional will be able to action that information" (GP#10, Western Sydney, small practice).

Theme: Treatment approaches

"First of all, we advise about the lifestyle change or sleep hygiene to maintain; we give them a week or two to do the sleep hygiene, healthy eating and exercise, shower before going to bed; and fixing any associated problem" (GP#22, South Western Sydney, medium practice).

"If the patient is actually going through depression or other psychological issues, obviously dealing with underlying issues" (GP#5, Northern Sydney, small practice).

"Yeah, it would be looking at I guess asking for sleep hygiene, asking about alcohol or caffeine use, making sure they don't do things that are overstimulating before their sleep. So, discussing that, some physical activity earlier on the day—all of that sleep hygiene is really important to look at first before thinking about a pharmacological measure" (GP#17, Inner West, medium practice).

Theme: Patient expectation

Subtheme: Concrete thinking. "I think that patients have one expectation: they want a quick fix, they want medications and sometimes that's the main reason that they are seeing you. It's very difficult to tell them that these medications are not necessarily going to do the thing that they want them to do" (GP#4, Inner West, medium practice).

Subtheme: Resistant to coming off sedatives. "I generally find that once patients have started the medication, whether from me or some other doctor, they often don't want to taper, they don't want to stop it. They find it helpful and they are quite scared of taking that away. They are quite worried about that. So generally patients once started on any kind of benzodiazepine are pretty resistant to coming off" (GP#1, Western Sydney, small practice).

Theme: Sleep as public health priority. "Look, we need to change the public perception about sleep and that will improve the recognition rate" (GP#3, Western Sydney, small practice).