The Utilization of Health Services and Self-Care by Older Women With Sleeping Problems: Results From a Nationally Representative Sample of 9,110 Women

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Abstract

Objective: This research aims to investigate the health service use—including complementary and alternative medicine (CAM)—and self-care by women aged 62 to 67 with sleeping problems. **Method:** In total, 9,110 participants (99.6%) responded to questions about sleeping problems, health service utilization and self-care (e.g., herbal medicines and vitamins), demographics, and chronic illnesses. **Results:** In all, 48.2% (n = 4,394) women indicated that they had a sleeping problem. Women with sleeping problems consulted a general practitioner (GP) more frequently (odds ratio [OR] = 1.72; 95% confidence interval [CI] = [1.36, 2.17]; p < .005) and were more likely to be using herbal medicines (OR = 1.24; 95% CI = [1.13, 1.36]; p < .005) than women without sleeping problems. **Discussion:** Health professionals, particularly GPs, may need to actively inquire with older patients in their care with sleeping problems about the use of herbal medicines, to ensure their

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sleeping problems are being directly and effectively treated, particularly in light of increased risks associated with sleeping problems for this age cohort.

Introduction

Across the globe, sleeping problems—a group of complaints indicated by symptoms of insomnia, including trouble with initiating sleep, trouble with maintaining sleep, and poor quality sleep (Ohayon, 2002)—are a burgeoning, modern encumbrance. Recent international studies among adult populations show an elevated prevalence of sleeping problems with one large international study reporting 56% of adults in the United States, 31% in Western Europe, and 23% in Japan (Léger, Poursain, Neubauer, & Uchiyama, 2007).

Research has found associations between the existence of sleeping problems and chronic illnesses, obesity, lower income, being separated/divorced/widowed, lower level of education, and being retired (Liu, Hay, & Faught, 2013; Ohayon, 2002). However, the clearest associations reported are with older age and being female (Leigh, Hudson, & Byles, 2015; Ohayon, 2002). One large-scale American study has shown 60% of women suffer from insomnia or trouble sleeping in contrast with just 39% of men (Pearson, Johnson, & Nahin, 2006) and large, nationally representative Australian studies have found between 50% and 72% of older women have trouble sleeping (Byles, Mishra, & Harris, 2005; Leigh et al., 2015). In contrast, only around 10% of younger women (Jackson, Sztendur, Diamond, Byles, & Bruck, 2015) suffer with sleeping problems. Although research suggests sleeping problems increase in mid-age women to 15% to 25% (Kline et al., 2014), before a sharp rise in women over 65 (Byles et al., 2005; Leigh et al., 2015), there is a gap in the literature at the cross-section between mid-age and older women.

Research indicates greater risks for older age cohorts with sleeping problems such as falls, injuries, and early aged-care (Stone et al., 2008). Although this cohort is a "younger" older age group (62-67 years), longitudinal research suggests sleeping problems persist and are even exacerbated with age (Leigh et al., 2015). Without successful intervention, it is possible that older adults with sleeping problems may be at increased risk of falls, injury, and early age-care. It is therefore important to understand the current health-seeking behaviors of women in their early to mid-60s to better determine appropriate treatments.

The frontline conventional medical response for sleeping problems is usually prescribed medications such as benzodiazepines which can have detrimental side effects (Wang, Bohn, Glynn, Mogun, & Avorn, 2014). Medications upheld as safer alternatives, such as zolpidem and zopiclone, have equally become associated with side effects such as headaches, dizziness, and falls (Leach & Page, 2015), particularly in older people (Wang et al., 2014).

Complementary and alternative medicine (CAM)—a diverse array of health care systems, products, and practices that exist outside of the dominant health care model (Adams, Andrews, Barnes, Broom, & Magin, 2012)—has been promoted as potentially providing a safer alternative to conventional treatments for insomnia, with fewer or no side effects (Fernández-San-Martín et al., 2010). CAM self-care products such as herbal medicines, especially chamomile and valerian, have attracted some evidence supporting their efficacy in the improvement of sleep quality (Fernández-San-Martín et al., 2010), although such evidence is still scarce (Leach & Page, 2015). Mind–body therapies (such as relaxation therapies, yoga and mindfulness) and cognitive-behavioral therapy (CBT) have also been recommended to improve sleep quality and to reduce sleep onset latency time (Halpern et al., 2014; Morin, 2010).

From the available evidence, CAM has been shown to be popular in the treatment of insomnia, with a recent study reporting that CAM is used by 45% of American adults who suffer from insomnia (Bertisch, Wells, Smith, & McCarthy, 2012). However, use of CAM for sleeping problems has been significantly lower among older populations (Bliwise & Ansari, 2007). No studies have investigated the prevalence of CAM use for sleeping problems in older women and there remains a significant absence of large studies in the research literature evaluating the use of health services—both conventional and CAM—and CAM self-care by women with sleeping problems (Sivertsen, Krokstad, Øverland, & Mykletun, 2009). This article aims to provide a first step toward filling this literature gap, by analyzing health service use (both conventional and CAM) and CAM self-care by women in their early to mid-60s with sleeping problems. We also seek to explore key drivers and characteristics for this use, reporting analyses from an examination of a large nationally representative sample of women aged 62 to 67 years.

Method

Sample

This research was conducted as part of the Australian Longitudinal Study on Women's Health (ALSWH): a prospective, population-based survey, funded by the Australian Government. The study assesses multiple factors of women's health and their use of health services. For the baseline survey in 1996,

women in three age cohorts aged 18 to 23 (born 1973-1978), 45 to 50 (1946-1951), and 70 to 75 (1921-1926) were randomly selected from the national Medicare database and invited to take part in the survey. (The Medicare database contains contact details of all Australian citizens and permanent residents.) Respondents were shown to be largely representative of Australian women in these target age groups (Brown, Dobson, Bryson, & Byles, 1999). Women in the three age cohorts completed surveys on a variety of health and social issues approximately every 3 years. More details of the recruitment and survey process were published in 1999 (Brown et al., 1999) and updated in 2015 (Dobson et al., 2015). This article reports on the analyses of the most recent survey (Survey 7) conducted in 2013, for the cohort born 1946 to 1951, when the women were aged 62 to 67 years. These women were originally selected to examine menopausal transitions and the social and personal changes associated with middle age. Now (from Survey 7), this cohort provides us with information on predictors of various health issues as women transition into older adult life. From Survey 7 ($n = 9,151$), 9,110 (99.6%) women responded to the question about sleeping problems.

Ethics

Ethics approval for the study was gained from the relevant ethics committees at the University of Newcastle (No. H-2010_0031), University of Queensland (No. 2010000411), and the University of Technology Sydney (No. 2011-174N).

Measure of Health Status

Women were asked whether they currently had any of the following sleeping problems: lying awake for most of the night, taking a long time to get to sleep, or sleeping badly at night. If they indicated that they had one or more of these problems, they were classified as having a sleeping problem.

Existence of Other Medical Conditions

Women were asked whether they had been diagnosed or treated for a series of chronic medical conditions over the last 3 years, including diabetes, osteoarthritis, rheumatoid arthritis, other arthritis, osteoporosis, heart disease (including heart attack and angina), hypertension, low iron level (iron deficiency or anemia), asthma, bronchitis/emphysema, cancer (not including skin cancer), depression, anxiety/nervous disorder, and chronic fatigue syndrome.

Demographic Characteristic Measures

Residential status (urban or nonurban) was classified using residential postcode (participants were asked, "what is your residential postcode?"). Codes were then classified as "urban," "rural," or "remote" defined according to Rural, Remote and Metropolitan Areas (RRMA) classification. Urban includes "Capital City" and "Other Metropolitan Areas"; rural captures "Large Rural Centers," "Small Rural Centers" and "Other Rural Areas"; and remote includes "Remote Centers" and "Other Remote Areas." We then collapsed the rural and remote variables leaving two groups: urban and rural/remote.

Women were asked questions relating to marital status: The question was "what is your present marital status? (mark one only)—married, de facto relationship (opposite sex), de facto relationship (same sex), separated, divorced, widowed, never married." Variables were collapsed to leave three groups: married/de facto, separated/divorced/widowed, and never married.

Participants were also asked about their ability to manage on their income: The survey asked, "How do you manage on the income you have available? (mark one only)—it is impossible, it is difficult all of the time, it is difficult some of the time, it is not too bad, it is easy." These variables were also collapsed into three groups: impossible/difficult all of the time, difficult some of the time, and not too bad/it is easy.

Self-reported measures of weight and height were used to calculate body mass index (BMI). Based on the World Health Organization (WHO) classification of BMI, responses were divided into four groups: BMI < 18.5 kg/m^2 (underweight), BMI $= 18.5$-24.99 kg/m^2 (healthy weight), BMI $= 25$-29.99 kg/m^2 (overweight), and BMI > 30 kg/m^2 (obese).

Health Service (Conventional and CAM Practitioner) and CAM Self-Care Use

The women were asked about their use of conventional medical and allied health care providers, that is, general practitioner (GP), specialist (specialization unspecified), counselor/psychologists/social worker, and dietician. In addition, women were asked whether they had consulted with a range of CAM practitioners (i.e., massage therapist, naturopath/herbalist, chiropractor, osteopath). They were also asked about their use of CAM self-care products and services such as vitamins/minerals, yoga/meditation, herbal medicines, aromatherapy oils, and Chinese medicines over the last 12 months.

Statistical Analysis

The associations between the characteristics of women with sleeping problems and their use of health services were examined using a chi-square test. All health service and CAM self-care variables were entered into a logistic regression model. The model was adjusted for the demographic measures listed in Table 1, and all 14 chronic health conditions listed in Table 3. The 14 chronic health conditions were combined into a single variable that represented the count of the number of chronic health conditions each individual woman had been diagnosed with. That is, women could have a minimum of zero or a maximum of 14 chronic health conditions. Then a backward stepwise elimination process—using all health service and CAM self-care variables—was undertaken applying a likelihood ratio test to determine the most parsimonious model. Statistical analyses were conducted using statistical software program STATA 13.1 (StataCorp LP, College Station, TX, USA). Due to the large sample size, a $p < .001$ was used for statistical significance.

Results

Of the 9,110 women who responded to the question regarding sleeping problems, 48% ($n = 4,394$) indicated that they had a sleeping problem. Specifically, 35% of respondents indicated that they slept badly at night, 33% reported taking a long time to get to sleep, and 16% had the problem of lying awake for most of the night. Associations between sleeping problems and demographic characteristics are presented in Table 1. Women were significantly more likely to be obese or have financial difficulties if they had sleeping problems compared with those without sleeping problems ($p < .001$).

Table 2 compares health service use and use of CAM self-care practices/products between women who had sleeping problems and those who did not. Women with sleeping problems consulted conventional health care providers more frequently than those without sleeping problems, including GP (75% vs. 63%), specialist doctor (38% vs. 30%), and counselor/psychologist (9% vs. 5%) (all ps < .001). Women with sleeping problems were also more likely to see a dietician, although this was not statistically significant (7% vs. 6%; $p < .022$). Women with sleeping problems in this sample were not significantly more likely to consult a CAM practitioner than those without sleeping problems. However, women with sleeping problems were significantly more likely ($p < .001$) to use CAM self-care products, including vitamins/minerals (83% vs. 80%) and/or herbal medicines (38% vs. 33%) than those without sleeping problems.

Table 1. Comparison of Sleeping Problems and Demographic Characteristics.

| Characteristics | Total (n = 9,110) % | Sleeping problems | | p value |
		Yes (n = 4,394) %	No (n = 4,716) %	
Income				
Difficult all of the time/ impossible to manage	10	13	7	<.001
Difficult some of the time	22	24	20	
Not too bad/easy	68	63	73	
Marital status				
Married/de facto	74	75	75	.519
Separated/divorced/widowed	23	23	22	
Never married	3	2	3	
Residential address				
Urban	39	39	39	.517
Rural/remote	61	61	61	
BMI				
Underweight: BMI < 18 kg/m^2	1	1	1	<.001
Healthy weight: BMI = 18-25 kg/m^2	35	33	36	
Overweight: BMI > 25 kg/m^2	34	33	35	
Obese: BMI > 30 kg/m^2	30	33	28	

Note. BMI = body mass index.

The associations between sleeping problems and comorbid chronic illnesses are presented in Table 3. Women with sleeping problems were more likely than those who did not experience sleeping problems to suffer from a number of specific chronic illnesses, including—in order of prevalence—hypertension, osteoarthritis, depression, asthma, other arthritis, anxiety/nervous disorder, diabetes, osteoporosis, bronchitis/emphysema, iron deficiency/anemia, heart disease, rheumatoid arthritis, and/or chronic fatigue syndrome (all $p < .001$).

When all health care variables were considered together, using a multiple logistic regression modeling (Table 4), the health service and CAM self-care options positively associated with sleeping problems were higher frequency of GP use and higher use of herbal medicines compared with women without sleeping problems. Specifically, GPs were considerably more likely to be consulted by women with sleeping problems 1 to 2 times (odds ratio [OR] = 1.20;

Table 2. Comparison of Sleeping Problems and Health Service Use and CAM Self-Care.

| Characteristics | Total (n = 9,110) % | Sleeping problems | | p value |
		Yes (n = 4,394) %	No (n = 4,716) %	
Health services				
GP consultations				
7+	5	7	4	<.001
3-6	30	36	25	
1-2	33	32	34	
0	32	25	37	
Specialist visits				
7+	1	2	1	<.001
3-6	11	12	9	
1-2	22	24	20	
0	66	62	70	
Counselor/psychologist				
Yes	7	9	5	<.001
No	93	91	95	
Dietician				
Yes	7	7	6	.022
No	93	93	94	
CAM practitioners				
Massage therapist				
Yes	25	26	24	.059
No	75	74	76	
Naturopath/herbalist				
Yes	7	7	7	.480
No	93	93	93	
Chiropractor				
Yes	14	14	14	.904
No	86	86	86	
Osteopath				
Yes	4.5	5	4	.017
No	95.5	95	96	
Acupuncturist				
Yes	6	6	7	.057
No	94	94	93	
CAM self-care				
Vitamins/minerals				
Yes	82	83	80	<.001
No	18	17	20	

(continued)

Table 2. (continued)

Characteristics	Total (n = 9,110) %	Sleeping problems Yes (n = 4,394) %	No (n = 4,716) %	p value
Yoga or meditation				
Yes	27	27	27	.977
No	73	73	73	
Herbal medicines				
Yes	35	38	33	<.001
No	65	62	67	
Aromatherapy oils				
Yes	23	25	22	.013
No	77	75	78	
Chinese medicines				
Yes	8	8	8	.641
No	92	92	92	

Note. CAM = complementary and alternative medicine; GP = general practitioner.

Table 3. Comparison of Sleeping Problems and Chronic Illnesses.

Health conditions—Diagnosed or treated in last 3 years	Total (n = 9,110) %	Sleeping problems Yes (n = 4,394) %	No (n = 4,716) %	p value
Hypertension				
Yes	35	38	32	<.001
No	65	62	68	
Osteoarthritis				
Yes	27	32	22	<.001
No	73	68	78	
Depression				
Yes	12	17	8	<.001
No	88	83	92	
Asthma				
Yes	12	15	10	<.001
No	88	85	90	

Table 3. (continued)

Characteristics	Total (n = 9,110)	Sleeping problems		
		Yes (n = 4,394)	No (n = 4,716)	
Health conditions—Diagnosed or treated in last 3 years	%	%	%	p value
Other arthritis				
Yes	12	14	9	<.001
No	88	86	91	
Anxiety/nervous disorder				
Yes	10	14	7	<.001
No	90	86	93	
Diabetes				
Yes	9	11	7	<.001
No	91	89	93	
Osteoporosis				
Yes	9	10	8	<.001
No	91	90	92	
Bronchitis/emphysema				
Yes	8	10	7	<.001
No	92	90	93	
Iron deficiency/anemia				
Yes	8	10	7	<.001
No	92	90	93	
Cancer[a]				
Yes	6	7	5	.014
No	94	93	95	
Heart disease[b]				
Yes	6	7	5	<.001
No	94	93	95	
Rheumatoid arthritis				
Yes	5	6	4	<.001
No	95	94	96	
CFS				
Yes	1	2	1	<.001
No	99	98	99	

Note. CFS = chronic fatigue syndrome.
[a]Not including skin cancer.
[b]Including heart attack/angina.

Table 4. Health Service Use and CAM Self-Care for Sleeping Problems.

Health service/CAM self-care use	Odds ratio	95% confidence interval	*p* value
GP consultations			
0	1		<.001
1-2	1.20	[1.08, 1.35]	
3-6	1.48	[1.31, 1.67]	
7+	1.70	[1.34, 2.15]	
Herbal medicines			
No	1		<.001
Yes	1.25	[1.14, 1.37]	

Note. CAM = complementary and alternative medicine; GP = general practitioner.

95% confidence interval [CI] = [1.08, 1.35]; $p < .0001$), 3 to 6 times (OR = 1.48; 95% CI = [1.31, 1.67]; $p < .0001$), or more than 7 times (OR = 1.70; 95% CI = [1.34, 2.15]; $p < .001$) than by women without sleeping problems. Women with sleeping problems were more likely to use herbal medicines (OR = 1.25; 95% CI = [1.14, 1.37]; $p < .001$) than women without sleeping problems. All results were statistically significant ($p < .001$).

Discussion

This large, nationally representative study of health service utilization and CAM self-care among women in their early to mid-60s with sleeping problems fills a gap in the sleep literature in the continuum between "mid-age" and "older women." While other studies have highlighted the magnitude of sleeping problems as an issue for women over 70 (Leigh et al., 2015), this study suggests that even from 62 years, nearly 50% of women will have sleeping problems.

While the prevalence of sleeping problems in our study is higher than many other large studies examining the general population (Bertisch et al., 2012; Bin, Marshall, & Glozier, 2012; Léger & Poursain, 2005; Pearson et al., 2006), these results are broadly in line with other studies on older adults (Roepke & Ancoli-Israel, 2010). They are further corroborated by Australian studies, which consistently find a higher prevalence (50%-72%) of sleeping problems among older women (Byles et al., 2005; Hasan, Byles, Mishra, & Harris, 2001; Leigh et al., 2015). Knowledge of important characteristics such health service use and CAM self-care in this large proportion of older women with sleeping problems is important to help health professionals improve health outcomes before

associated events occur such as early aged-care, injuries, and falls (Stone et al., 2008). Our analysis reveals a number of significant findings:

Comorbid Chronic Illnesses

This study shows a strong association between sleeping problems and chronic illnesses, consistent with other epidemiological studies (Ancoli-Israel, 2006; Foley, Ancoli-Israel, Britz, & Walsh, 2004; Pearson et al., 2006; Smagula, Stone, Fabio, & Cauley, 2016; Taylor et al., 2007). The chronic illnesses highlighted in this study are partly those affecting older women disproportionately such as osteoarthritis (Allen & Golightly, 2015) and other arthritis (Affleck et al., 1999; Theis, Helmick, & Hootman, 2007). It is likely that chronic pain associated with these complaints in part lead to, or result from, sleeping problems, contributing to an increased use of health services (Blyth, March, Brnabic, & Cousins, 2004).

Currently, conventional treatment tends to focus on the "primary" underlying chronic causes of insomnia symptoms (Billiard & Bentley, 2004; Léger & Poursain, 2005), assuming it will automatically resolve sleeping problems (Morin, 2010). However, sleeping problems can be both a prodromal symptom and a precursor to chronic conditions (Byles et al., 2005; Eaton, Badawi, & Melton, 1995). The treatment of sleeping problems as a specific condition therefore, rather than a secondary symptom or inevitable part of aging, could also be helpful in preventing, or alleviating symptoms of, other chronic illnesses. Health professionals should actively inquire as to the existence of sleeping problems in older women reporting chronic illnesses to make sure they are being effectively treated. Further clinical research is also required to ascertain the relationships between pain medication and treatments used for different chronic conditions and their effects on sleep.

Conventional Health Service Use

This study found sleeping problems were significantly associated with an increase in GP visits, in line with other recent studies (Byles et al., 2005; Sivertsen, Krokstad, Mykletun, & Øverland, 2009). Although it is likely some of the visits will have been for the treatment of other chronic conditions, studies from Australia have shown extra GP visits for older women with sleeping problems frequently result in prescribed medications (Byles et al., 2005), which are often limited to potentially harmful drugs such as benzodiazepines that have been associated—especially in older people—with harmful consequences despite short-term efficacy (Wang et al., 2014).

As this study shows, nearly 50% of women are suffering from sleeping problems; the consequent social and economic costs are likely significant (Moloney, Konrad, & Zimmer, 2011; Sarsour, Kalsekar, Swindle, Foley, & Walsh, 2011). Alternative, long-term frontline treatment options for sleeping problems could reduce the disproportionate health care costs ensuing from the increase in GP consultations by women with sleeping problems. Morin (2010) suggests, for example, despite an increase in initial time treatment (compared with drug prescription), CBT can provide long-term results in the treatment of sleeping problems, whereby reducing the long-term economic costs and associated public health burden that sleeping problems currently represent. After logistic regression modeling, women with sleeping problems in this study were not seeing a significantly greater number of medical specialists than women without sleeping problems. This could be because specialist sleep clinics tend to focus on noninsomnia-based sleeping problems such as sleep apnea (Morin, 2010). A widening of the specialization to effectively treat sleeping problems, such as insomnia, could also help reduce costs and suffering.

CAM Self-Care Product Use

This research found an association between sleeping problems and use of herbal medicines for self-care. While this is the first study focusing on CAM use for older women with sleeping problems, other mixed studies of adults have also found use of herbal medicines to be significant among those with sleeping problems (Bliwise & Ansari, 2007; Sánchez-Ortuño, Bélanger, Ivers, LeBlanc, & Morin, 2009). It is possible that women with sleeping problems are more likely to be using herbal medicines than women without sleeping problems because they are not finding long-term relief using current frontline medical solutions such as benzodiazepines which are only recommended for short-term use, especially in older patients (Wang et al., 2014). It may also be due to concerns related to the safety of treatments such as benzodiazepines which have been implicated in causing iatrogenic diseases such as Alzheimer's (de Gage et al., 2014) and injuries such as hip fractures, resulting from an increased likelihood of falls (Wang et al., 2014). Research has also found that women are frequently motivated to use "natural" CAM self-care products believing them to have minimal adverse effects compared with conventional medicines and frequently, then, do not disclose this use to health providers (Peng, Adams, Sibbritt, & Frawley, 2014). While this research was unable to determine what conventional medications were being utilized, further research is warranted to investigate concurrent use with conventional drugs and herbal medicines for sleeping problems.

While there is some evidence for the efficacy of herbal medicine alternatives such as valerian, chamomile, and kava, to mainstream frontline hypnotic approaches (Fernández-San-Martín et al., 2010), it is scant (Leach & Page, 2015). There are also concerns about the use of herbal medicines for sleeping problems both with regard to toxicity and safety without expert administration and with regard to concurrent use alongside conventional medical treatments (Leach & Page, 2015). Risks increase because patients (with and without sleeping problems) are unlikely to report using CAM self-care products to their conventional health practitioner (McCaffrey, Pugh, & O'Connor, 2007). The significant use of herbal medicines, in the context of only emerging and inconclusive evidence for their efficacy, prompts a need for further investigation into the motivations accompanying decisions to use herbal medications for people with sleeping problems and into the concurrent use of herbal medicines with hypnotic medications.

As these results indicate women with sleeping problems are likely to be seeing their GP more frequently, a greater communication role for GPs—particularly in regard to CAM self-care consumption—could reduce risks associated with CAM use. It could also help avoid unintended direct adverse effects on sleep from herbal medicines that present stimulant effects (Bliwise & Ansari, 2007) or herbal medicines that are used incidentally to treat a concurrent condition. Research has shown patient-centered communication, including a collaborative approach to treatment and respectful and open communication, can help improve the likelihood of patients disclosing their use of CAM to their health care professional (Sohl et al., 2015). This in turn has a positive effect for both GPs and patients alike, as harmful drug interactions can be identified and avoided. A patient-centered context can keep patients informed of up-to-date evidence of efficacy for herbal—and other relevant alternative—medicine, while monitoring possible contraindications. This approach reduces the risk of interactions occurring among multiple, concurrent treatments. This is particularly pertinent for older women with sleeping problems, whom, as the results of this study show, are likely to have other comorbid illnesses requiring attention. One obstacle in this approach for health professionals may be the scant and ambiguous literature on the efficacy and safety of herbal medicines for the treatment of sleeping problems. A limited number of studies have also shown certain CAM treatments have a directly detrimental effect on people's ability to sleep well (Lichstein et al., 2007). More detailed research to examine the prevalence of use of specific CAM treatments for persons with sleeping problems is required to identify safety concerns and to better arm health professionals with reliable information for patients.

Limitations

The limitations of our study should be noted. First, no operative definition of sleeping problems was employed in the data collection, and thus subjective interpretations of the terms indicated to denote sleeping problems might affect the reliability of the results. Second, potential for recall bias exists as findings are based on self-report; however, research suggests subjective sleep measures are highly correlated with objective measures of sleep, even in depressed individuals (Armitage, Trivedi, Hoffmann, & Rush, 1997). Third, in the ALSWH study, information on individual herbal medicines and vitamins was not collected and CAM self-care products were not specifically defined. It is thus possible that clearer correlates could emerge if more specific questions were asked. Fourth, although an increased number of GP visits was a stronger predictor of sleeping problems than chronic conditions, the ALSWH data did not reveal the specific reasons women with sleeping problems had for visiting health specialists and so we cannot know how many participants visited health professionals specifically for the treatment of sleeping problems. Fifth, the data were not collected on medications used to treat sleeping problems, or any of the other chronic health conditions. However, the limitations of our study are outweighed by the opportunity to draw upon a large nationally representative sample of Australian women aged 62 to 67 years.

Conclusion

A substantial percentage of women aged 62 to 67 with sleeping problems utilize herbal medicines and it is important for all health professionals to actively inquire with patients about such use to ensure safe patient outcomes and avoid potentially dangerous drug–herb interactions. Further research is needed to investigate the efficacy and safety of herbal medicines, including interactions with conventional medication. This will enable health professionals to advise patients about treatment options that expand beyond conventional medicine and maximize patient care and safety. This need is further underlined by the association of sleeping problems with comorbid chronic illnesses that may be being treated concurrently either by health professionals or by patients themselves. Further research is also needed on decision making that accompanies the use of herbal medicines for people with sleeping problems, especially given their high proportional use despite minimal evidence for efficacy. In light of research suggesting that women with sleeping problems in this cohort will become increasingly susceptible to falls, injury, and possible early age-care, successful intervention is crucial for this age group.

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