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Experiences of Sleep and Benzodiazepine Use among Older Women

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Abstract

Sleep disturbances are common among older women; however, little is known about sleep experiences among chronic benzodiazepine users. The experience of sleep, sleep troubles, and management of sleep problems were explored through semi-structured interviews with 12 women aged 65 to 92 who had used a benzodiazepine for three months or longer to treat a sleep disturbance. Themes that emerged from an interpretive phenomenological analysis included multiple reasons for sleep disruptions (health problems, mental disturbances, and sleeping arrangements); opposing effects of benzodiazepines on sleep (helps or does not work); and several supplemental sleep strategies (modification of the environment, distraction, and consumption).

The restorative qualities offered by sleep are fundamental to functioning; research confirms that there are notable links between poor sleep and poor daytime cognitive and physical functioning in a variety of populations (Buysse, Strollo, Black, Zee, & Winkelman, 2008; Spira, Friedman, Beaudreau, Ancoli-Israel, Hernandez, Sheikh et al., 2010). Sleep disturbances are prevalent among older adults and normal age-related mental and physical changes can result in sleep problems. A National Sleep Foundation (2003) survey of community-dwelling adults age 55 to 84 found 67% of participants to report difficulty falling asleep, frequent waking during the night, waking too early and not getting back to sleep, waking up feeling unrefreshed, snoring, pauses in breathing, or unpleasant feelings in the legs at least a few nights a week. Age-related changes in sleep can also include earlier habitual waking and bedtimes; increases in sleep fragmentation, wake time after sleep onset, and time spent in non-rapid eye movement (REM) stages 1 and 2; and declines in total sleep time, sleep efficiency, and time spent in REM sleep (Carrier, Monk, Buysse, & Kupfer, 1997; Ohayon, Carskadon, Guilleminault, & Vitiello, 2004).

Sleep disturbances among older adults influence the use of prescription sleep aids, such as benzodiazepines. In the U.S., the older adult population receives 27% of all anxiolytic benzodiazepine prescriptions and 38% of all hypnotic benzodiazepine prescriptions

(Llorente, David, Golden, & Silverman, 2000). Despite risks associated with chronic benzodiazepine use, these medications have been found to be effective in treating acute sleep disorders in older adults (Longo & Johnson, 2000; National Institutes on Drug Abuse (NIDA), 2001; Simoni-Wastila, Zuckerman, Singhal, Briesacher, & Hsu, 2005; The Center for Substance Abuse Treatment (CSAT), 1998). Potential side effects of benzodiazepine use include increased memory and reasoning impairment, deficits in attention and visuospatial ability, drowsiness, sedation, uncoordinated motor actions, hallucinations, euphoria, irritability, disinhibition, and confusion, all of which can increase the likelihood of falls, fractures, institutionalization, and vehicle accidents (CSAT, 1998; Doweiko, 2011; Longo & Johnson, 2000; NIDA, 2001; Scott, & Popovich, 2001; Simoni-Wastila, Zuckerman, Singhal, Briesacher, & Hsu, 2005; The National Center on Addiction and Substance Abuse, 1998). Chronic benzodiazepine use is also linked to substance dependence (de las Cuevas, Sanz, & de la Fuente, 2003; Llorente, David, Golden, & Silverman, 2000); estimates suggest that 35% of those who take benzodiazepines for 4 weeks or longer will develop dependence; after 4 to 6 months of daily benzodiazepine use, the majority of users will develop dependence (Doweiko, 2011).

While prevalence studies of sleep problems in older adults and outcome studies of benzodiazepine use have contributed to our understanding of the public health implications of poor sleep and inappropriate benzodiazepine use, an increasing body of work has brought attention to the need to understand older adults' subjective experiences of sleep as being part of the larger social contexts in which they live; sleep cannot be understood solely as a physiological or psychological phenomenon (Taylor, 1993; Williams, 2002). Hislop and Arber (2003a) propose a framework to view the personalized, self-directed activities that middle and older aged women use on a night-to-night basis to manage sleep disruptions. These sleep strategies occur within the context of traditional and complementary healthcare and are affected by the media (also see Kroll-Smith, 2003), gender roles, relationships, constraints, and beliefs regarding health and well-being (Hislop & Arber, 2003a, 2004).

In spite of benzodiazepines being a common strategy used to improve sleep outcomes among older women, prior research has neglected investigation of the subjective experiences of and beliefs about sleep in a sample of women who use a benzodiazepine to treat sleep problems. Additionally, much of the previous work on the sociology of sleep has focused on general community populations, often in the United Kingdom or other European countries and one in Australia (Walker, Luszcz, Hislop, & Moore, 2012). Qualitative research helps uncover the personal meanings that phenomena have to people, is a well-documented approach in health research (Carlson, Siegal, & Falck, 1995; Woodhouse, 1992), and can reveal new insights into sleep research in later life (Hislop & Arber, 2003a; Johansson, Karlsson, Brodje, & Edell-Gustafsson, 2012; Venn & Arber, 2011). To some degree, the personal and collective culture within which an individual lives affects their experiences, including sleep, and this information is best gathered by means of open-ended semi-structured interviews (Clausen, 1998). The primary aim of this study was to investigate the subjective experiences of sleep problems and sleep management strategies in a small group of women age 65 and older, living in the United States, who use a benzodiazepine to treat sleep disturbances. Our focus was on the following research questions:

1. What is the experience of sleeping and sleep troubles for older women who have been prescribed a benzodiazepine for sleep problems?
2. How do women who have been prescribed a benzodiazepine for sleep disturbances manage their sleep problems?

Method

Design and sample

An interpretive phenomenological design was used to explore informants' understandings and experiences of sleep problems. Through semi-structured interviews, depth and richness of subjective accounts were elicited. This exploratory approach enabled us to focus on the phenomenology and the subjective knowledge, meanings, and experiences in the lives of informants and how these were situated within a larger social, cultural, and political context without supposing any preconceived hypotheses (Hycner, 1985; Lopez & Willis, 2004; Miles & Huberman, 1984). The University of Maryland, Baltimore County Institutional Review Board approved the data collection and analysis and informants' details and identifying information was removed from the transcripts. Each informant was assigned an identification code and pseudonym known only to the first author.

Women, age 65 and above, English-speaking, and self-identifying as using a benzodiazepine on a near daily to daily (5 or more days per week) basis over the previous three months at minimum for a sleep or anxiety problem were recruited. Informants were primarily recruited through newspaper advertisements and flyers distributed in independent and assisted living senior residences in a large metropolitan area. Interested women left their contact information on a voicemail and phone calls were promptly returned so potential informants could be screened and any questions or concerns could be addressed.

Forty-nine older women called with interest in the study. Of these, 29 were ineligible for participation because they a) did not take any medicine (n=3); b) reported using another medicine for sleep and anxiety problems, including over-the-counter non-benzodiazepine sleep hypnotics, narcotic pain medication, or antidepressants (n=24); or c) did not know what medications they took (n=2). Two calls were from women who reported benzodiazepine use but were ineligible. One had only used lorazepam for a week and the other reported using clonazepam for epilepsy rather than for a sleep problem. Three women who were eligible chose to not go through with the interviews for personal reasons they chose not to disclose. In total, 15 older women who reported using a benzodiazepine for a sleep or anxiety problem were eligible and willing to participate. The current sample consists of the 12 informants who reported benzodiazepine use for help with sleep difficulties (Table 1), and does not include the three women who reported benzodiazepine use for an anxiety problem.

Data collection

The first author scheduled and conducted all of the interviews with the informants at mutually agreeable times and in their homes or a private room in their residences. Multiple-visit interviews (2 or 3 interviews per informant) occurred approximately one week apart

and enabled the interviewer to develop rapport with informants, to collect detailed accounts, to reflect on the data, to follow-up with questions to further understand informants' reports, and to allot enough time for informants to take breaks. At the initial interview, informed consent was obtained to conduct digitally-recorded interviews, which each lasted 60 to 90 minutes.

Semi-structured interviews elicited descriptions of sleeping patterns; experiences with trouble sleeping; and personal strategies for managing sleep problems. The open-ended questions enabled informants to provide detailed narratives with great depth of meaning that was expressively rich and gave validity to the data (Barter & Cormack, 1996). Women's perceptions, feelings, meanings, and experiences were sought and, as appropriate, additional probing questions were asked. The structure of the interviews allowed conversations to naturally progress and to focus on the dimensions of sleep that were important to informants. These interviews were complemented by detailed memos, observations, and impressions maintained in a field notebook (Mischler, 1986). Upon completion of the full interview series, informants were paid a \$30 honorarium for their time and participation. Transcripts were professionally transcribed verbatim and managed in a text-base, Atlas.ti (Muhr, 1997).

Data analysis

An interpretative phenomenological approach was taken toward analysis of the data. This process began by an initial read-through of each transcript for general meaning. Those aspects of the data which concerned with an "insider's" perception of their sleep patterns and problems and their experience managing these problems were coded as such. Coding became an iterative process of reading and re-reading each transcript and making note of content that emerged from the patterns in conversations, vocabulary, actions, events, and meanings inherent in the data (Mischler, 1986). As codes emerged from the read-through of individual transcripts, these were then considered at the group level. This process of reading and questioning the data helped define and organize codes into core themes, which served as the units of analysis. Those themes that made the most analytic sense were applied to the rest of the data, as appropriate, and through this application of comparing and contrasting cases, sub-themes became apparent (Miles & Huberman, 1984). The results of this study are what developed from compiling a complete list of these themes and the reports relevant to these themes from each transcript.

Both authors worked independently to code and analyze several of the transcripts to ensure credibility of the findings and to reduce any bias of the researchers' preconceptions. The data was discussed in-depth over several meetings until the minor discrepancies in interpretation were resolved. This dialogue facilitated a productive exploration of the data and this process of reaching consensus on informants' meanings and ideas helps to validate the codes and themes each author arrived at independently, providing rigor and validity to the analyses (Hycner, 1985).

Results

Twelve women reported on their experiences of having a sleep problem and how they managed these problems with benzodiazepines or other sleep aids. Informants ranged in age

from 65 to 92; three women were currently married, five were widowed, three were divorced, and one woman had never married. Despite attempts to recruit a culturally and ethnically diverse older sample, our informants were all of white European origin. All informants lived in their own homes; five women lived in a continuing care retirement community, and seven lived independently in a 55+ adult community or subsidized housing setting where no services were provided. Alprazolam was the most commonly used medication (n=7) among our informants, followed by lorazepam (n=3), temazepam (n=2), and clonazepam (n=1). The length of time women reported having used their current benzodiazepine medication ranged from 3 months to more than 40 years (Table 1).

Four core themes (Table 2) surrounding the experience and beliefs about sleep emerged from the data: 'Self-reported reasons for sleep disruption', 'Benzodiazepines influence on improving sleep', 'Supplemental sleep strategies', and 'Benzodiazepines influence on daytime functioning'.

Self-reported reasons for sleep disruption

Within the core theme of self-reported reasons for sleep disruption, three sub-themes emerged: 'health problems'; 'mental disturbance'; and 'sleeping arrangements'. Additionally, several informants described the interconnectedness of these themes as the root of their sleep problems.

Health problems—For several informants, trouble attaining or maintaining sleep resulted from physical health symptoms. Evie, who had restless leg syndrome, cited pain in her legs as the cause of her sleep problems, "I have pain...when I roll over it wakes me up sometimes..."

The need to urinate in the middle of the night was also cited by several women as exemplified by statements from Rachel and Deborah:

Rachel: Well, I have trouble with my bladder like everybody else, older people do and...my [geriatric nurse practitioner] gave me something to take but it didn't work. I try not to drink anything.

Deborah: I don't sleep through the night; I'm up every hour and a half because I have to go to the bathroom. I have urinary incontinence...So I'm always in the bathroom.

Mental disturbance—Sleep difficulty also resulted from bothersome thoughts, concerns, or worries. For instance, Frances reported, "when [I go] to bed it's too many thoughts come in [my] head..." This is echoed by other informants:

Barbara: My mind just never stops thinking of what's going to happen to me, what am I going to do, what is it like to die...those kinds of things.

Anne: I hate to think that it's psychological, but it probably is. I probably have all these things going around in my head...

Health problems and mental disturbances did not always occur independently of one another, as Vicky reported:

I can't sleep at night...I got to put it [Lanacane] wherever it itches, on my legs, arms, my rear, all over. And it comes and goes, it's inconsistent, and...it's got the connection with the nerves, stress, worry over money...

Sleeping arrangements—Carolyn reported on this factor which caused her sleep disruption:

... sleeping in the bed with my husband was a big adjustment. For one thing, he moans *all night long* [emphasis] and he... would talk and he'd toss and so half the time when he would stay up at night ...but he disturbs my sleep...I came out here and I tried to lay down but I just wasn't sleepy. So that's the kind of sleep I have. I get up anywhere from 1:30 to 3:30 [a.m.] because I know he with his moaning and it disturbs me...

In addition to her poor sleeping arrangement, Carolyn also attributed her disturbed sleep to feeling overwhelmed with organizing personal items:

I think it's sleeping with my husband...I think it's the sleeping system here... Another thing, I'm sometimes overwhelmed with what I have to do. And I don't have the time to do what I want to do. So it's probably that, too. It's sort of psychological...

These findings of disturbed sleep build on prior literature on sleep disturbances. For instance, women in mid-life have reported sleep interruptions as a result of their partners; decisions and negotiations about sleep are made based on these experiences (Hislop & Arber, 2003b). Hislop and colleagues (2005) have described how sleep duration and quality can be influenced by physiological, environmental, or social factors that are intertwined. Mental disturbances, such as worry, have also been previously reported to interfere with sleep (Watts, Coyle, & East, 1994).

Benzodiazepines influence on improving sleep

The second core theme which emerged from the data revealed that benzodiazepines influenced women in two opposing ways: benzodiazepines either “help” informants sleep or they “don't work”.

Helps me sleep—Though it was not unanimously reported, benzodiazepines prescribed to ease sleep difficulties were helpful for some informants. When Patricia was asked what place alprazolam has in her life, she stated, “Lets me sleep.” Betty concurred, “... [clonazepam] seems to have helped me and it helped, I think it helps me sleep pretty good, too.”

Benzodiazepines don't work—In contrast, other informants reported that even with the use of a benzodiazepine, sleep eluded them. Anne stated, “I know what they're supposed to do, and that's make me sleep, and they don't always do this.” Lily similarly reported, “At nighttime there are some times that I take it [lorazepam] and it seems like it don't work.”

Informant's varying accounts of benzodiazepines' influence on improving their sleep is consistent with research suggesting older adults who use benzodiazepines have no better sleep quality than non-users (Béland, Prévile, Dubois, Lorrain, Grenier, Voyer et al. 2010) or that benzodiazepines are not effective over the long-term (National Institute of Health, 2005). Though our study did not examine the sleep experience of non-users, it was evident from our informants that benzodiazepines do not always "work"; supplemental sleep strategies are commonly used.

Supplemental sleep strategies

Among informants who reported benzodiazepines as ineffective, several supplemental strategies were used to improve sleep, which we considered as sub-themes. These include: 1) 'modification of the environment'; 2) 'distraction'; and 3) 'consumption'.

Modification of the environment—Modifying sleep environments involved getting a new mattress or light-resistant draperies; reducing room temperatures; or sleeping somewhere other than one's bed. Anne stated:

I just got...draperies to keep the sunshine out...and...some kind of a thermal drapery, so I pull them over at night so it's dark in there, and...my son just sent me up an article about keeping the temperature down at night and that should help, too. So, last night I woke up and felt a little warm, so I got up and put it down a little, nudged it down a little bit.

Vicky debated whether or not to invest in a new mattress that might help her sleep better:

I don't know whether I should put \$1,000 into another mattress. That was \$600 or \$700 for that mattress which I got two or three years ago, but it doesn't even have a box spring. It's supposed to be a Serta Perfect Sleeper and it was on sale for 5, 6, or 7 hundred dollars.

Compared to these semi-permanent changes to aspects of informants' environments, distraction and consumption strategies (described next) are more episodic actions based on an informant's daily decisions.

Distraction—Informants used the strategy of distraction by diverting their attention away from intrusive sleep-disrupting thoughts by focusing on the radio or television when going to bed, or by doing crossword puzzles, or reading. Vicky reported:

...every once in a while when it [alprazolam] doesn't work fast enough for me to get to sleep, I turn on the radio but, listen to call-in, people calling in, talk show people...I do that to turn off any thoughts of my own concerns. I can listen to them and think about their concerns whatever they're calling in about...

When unable to sleep, Anne reported:

I get up and I try to do crossword puzzles or read...And the last time it was, I just had a birthday, so I went and read all my birthday cards again...and do something, do my nails. I just don't do any...writing or finance; paying checks or anything like that...I don't bother doing that at night. I don't think I'm that clear...

Consumption—A third strategy reported to help manage sleep involved the consumption of substances (food, drink, and additional medications, both prescribed and over-the-counter). Two informants reported drinking hot cocoa at night to induce sleep:

Deborah: Sometimes a cup of cocoa at night. The amino acids in the milk make me sleepy a little bit.

Rachel: When I can't sleep, I drink some hot chocolate. I have some of those little packets of Swiss Miss and I try to drink a glass, cup of that.

Often, sleep disruptions caused by health problems (discussed previously) were relieved through consumption strategies:

Vicky: ...with the hip, I can't sleep on the right side because then...the whole area there starts to hurt. And then...I start to itch. ...if the itch gets very bad and the alprazolam doesn't work...I don't do it that often, I only take one Advil PM and that'll relieve the itch, relieve the anxiety, and I go to sleep.

Carolyn: I have allergies and tickling in my ear and my throat and I try to scratch my throat with my tongue in my sleep...and end up with a sore throat. Finally, I wake up and I have...children's Benadryl. I take half a teaspoon, I let it go into my throat, the doctor told me to do this, let it go into my throat and then I spit it out and that eases that tickling.

Consumption strategies were not just nighttime concerns, but were also considered throughout the daytime. Decisions on what, how much, and when to consume medications, food, and drink were made based, in part, on beliefs about how sleep would be affected. Vicky stated:

I've got to be very careful not to take anything with chocolate or caffeine in it after 4 o'clock...Because I know that that's what I'll say to myself as soon as I'm lying awake. ...I always get decaf tea with my dinner.

Others reported:

Rachel: I used to drink a cup of coffee but I don't want to drink coffee late at night. I drink that in the morning.

Lily: ...ideally it would be nice if I didn't have to drink anything...until after dinnertime or something like that and I could go to bed...it's not like I sit there and I drink a whole glass of water...I drink enough to take the pill...

Of note, our sample is made up of women who use prescribed medications to treat sleep problems, but still use and need supplemental sleep strategies. Prior sleep research has similarly reported the use of sleep management strategies in middle aged and older women (Hislop & Arber, 2003a) and male and female Swedish patients age 32–79 with coronary artery disease (Johansson, Karlsson, Brodje, & Edell-Gustafsson, 2012). Johansson and colleagues (2012) reported that their patients controlled bedroom light and temperature; used pillows and mattresses that met their needs for softness or support; and read, did crosswords, or listened to the TV or radio to take their attention off poor sleep (Johansson, Karlsson, Brodje, & Edell-Gustafsson, 2012). Hislop and Arber (2003b) also reported on a sample of

middle aged women who read or had a hot beverage in order to attain sleep. Our study offers new insight into these sleep strategies (modification of the environment, distraction, and consumption) being used in combination with benzodiazepines in a sample of older women.

Benzodiazepines influence on daytime functioning

A final core theme was benzodiazepines influence on daytime functioning, which had two sub-themes: 1) ‘groggy’ and ‘cranky’ from no sleep or 2) good sleep enables good daytime functioning.

‘Groggy’ and ‘cranky’ from no sleep—If a benzodiazepine was consumed too late in the night, or an informant decided to not use their medication, feelings of fatigue the next morning were reported to be common. Anne, who had not taken her benzodiazepine the night before an interview stated, “I really...feel groggy today.” Patricia reported:

...I have forgotten maybe once in a while, in a *great* [emphasis] while, and I didn’t sleep well. It took me hours to fall asleep and I’d wake up and [be] fretful and feel cranky the next morning. I just need that pill to make me sleep...

Andrea reported unsuccessful attempts to go without her temazepam and delaying her use of this medication until early hours of the morning:

When I’m stubborn and I’m not taking it, [until] 4 o’clock, 5 o’clock [a.m.], I’m in the shower and I’m like this [*makes a motion of being tired*] because I didn’t sleep. Everybody’s like this when they don’t sleep.

Good sleep enables good daytime functioning—In contrast to feeling drowsy in the morning, Andrea reported: “When I’m sleeping well, I get up like always in my life.” Frances described how alprazolam helps her cope with caregiving responsibilities:

...if I get a good night’s sleep I’m a better person the next day. I can cope...if I don’t sleep well, then I can’t function. And I have a lot of responsibility and I *have* [emphasis] to be alert and I have to be able to cope with what comes along and if you don’t get your sleep you can’t do that.

Informants revealed that in order to function at an optimal level during the daytime, a certain amount of sleep is needed, and for this reason benzodiazepines are considered a necessary means to an end. For instance, Anne stated, “Well, it’s sort of a necessity...I have to use it if I want to, as I say, function pretty well the next day.”

This third theme is noteworthy in revealing that benzodiazepine use affects informants’ sleep experiences as well as their daytime experiences and feelings. For many informants, using benzodiazepines at nighttime was considered a necessity for efficient daytime functioning; and if benzodiazepines were misused, it led to feeling ‘groggy’ or ‘cranky’ the following day. This resonates with previous research suggesting that daytime activity levels are affected by nighttime sleep (Venn & Arber, 2011), and that poorer sleep is associated with worse physical function (Goldman, Stone, Ancoli-Israel, Blackwell, Ewing, Boudreau et al., 2007). Though Zerubavel (2011) has suggested that life is ordered in perceived in “blocks of time” (daytime vs. nighttime, for example), our sample of older women

exemplified how distinctions between the experience of night and day can be arbitrary. Days and nights were experienced as extensions of one another, not distinct blocks of time that can be examined as discrete phenomena.

Discussion

This study sought to understand the experience of sleep problems in a sample of older community-dwelling women who had used a benzodiazepine for three months or longer. Informants, who were primarily very old (seven of the 12 informants were age 84 or over), described their sleep experiences and personal strategies for managing poor sleep, including benzodiazepine use. Informants reported that health problems, mental disturbances, and sleeping arrangements disturbed their sleep. Though all informants had been prescribed a benzodiazepine for sleep difficulties, and this medication helped in some cases, reports indicated that benzodiazepines were not always an effective sleep aid. Additional strategies reported to manage poor sleep included modification of sleep environments, distraction from sleep-disrupting thoughts, and thoughtful consumption decisions. This study also revealed how benzodiazepines influenced informants' daytime feelings of being either 'groggy' or 'cranky' from no sleep or rested as a result of good sleep.

Findings revealed that informants were active in the construction of their own health conditions and solutions and willing to take responsibility for their sleep problems and make negotiations and adjustments, as needed, over the course of their chronic drug treatment (Cohen, McCubbin, Collin, & Perodeau, 2001; Hislop & Arber, 2003a, 2004). The experience of using benzodiazepines and supplemental strategies to manage sleep exemplifies the self-directed nature of medication use involving personal decisions of when and how much of a medication to use. For instance, an informant's need to function the following day was an important consideration in individual consumption decisions. Just as the experience of sleep cannot be fully appreciated if removed from its sociocultural context, the use of prescription medications, too, is a socially-embedded phenomenon (Cohen, McCubbin, Collin, & Perodeau, 2001). Strikingly, informants reported multiple factors for their poor sleep and several sleep problem sub-themes emerged. As a result, multicomponent treatment considerations are likely needed to improve sleep experiences for older women (Epstein, Sidani, Bootzin, & Belyea, 2012).

Though the study findings are limited by the relatively small sample of women who were willing participants, to our knowledge, this is the first attempt to examine subjective experiences of sleep problems and management strategies in a sample of older benzodiazepine-using women. The experiences of women who were unwilling to participate in research such as this or of older men could offer additional knowledge not captured here. Additionally, as previous researchers (Hislop, Arber, Meadows, & Venn, 2005; Williams, 2002, 2004) have indicated, attempts at understanding sleep based on subjective, retrospective reports may be subject to recall bias. Researching sleep as we have done here can be complicated by the understanding that the sleeper had of her unconscious (sleeping) self. However, what was of most interest to this study was the inherent subjectivity of informant's reflections on the reasons for sleep disturbances and personal ways that sleep is understood; this goal was accomplished.

This study has provided valuable insight into everyday health problems, mental disturbances, and sleeping arrangements that cause sleep problems; strategies used to supplement benzodiazepine consumption in order to promote sleep; and the outcomes of using benzodiazepine medications in a sample of older women. Our findings from a sample of benzodiazepine-using women who are primarily very old builds on prior research that has suggested that everyday lives are organized, in part, around sleep (Williams, 2004). Though the use of sleep medications may be only considered in terms of their effect on sleep, we found that the experience of being awake is also greatly affected by the use of benzodiazepines. In light of the current research, clinicians and other healthcare providers should be attentive to comorbid health issues and underlying thoughts that add to the problematic sleep experiences of older adults, as well as to sleeping arrangements that can improve sleep. Working with older adults to balance the use of medications that have potentially harmful side effects with the use of complementary strategies to encourage sleep, is critical in the provision of care to older populations. Effective non-pharmacologic treatments for sleep problems, such as behavioral and cognitive-behavioral therapies (Montgomery & Dennis, 2003), are available and future research should explore how older adults interact with medical professionals to receive advice on improving sleep outcomes and which treatments are acceptable and accessible to older adults.

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Table 1

Summary of Informant Demographics and Benzodiazepine Use

Pseudonym	Age (yrs)	Marital status	Benzodiazepine medication (mg)	Length of benzodiazepine use
Anne	86	Widowed	Temazepam 7.5 + Alprazolam 0.25	12 years
Barbara	92	Divorced	Lorazepam 0.5	40 years
Carolyn	85	Married	Alprazolam 0.25	~15 years
Vicky	85	Never married	Alprazolam 0.25	4–5 years
Frances	77	Married	Alprazolam 0.5	5 years
Betty	75	Married	Clonazepam 5.0	3 months
Patricia	84	Widowed	Alprazolam 0.25	10–20 years
Andrea	85	Widowed	Temazepam 7.5	2+ years
Evie	66	Divorced	Alprazolam 0.5	9–10 months
Lily	65	Divorced	Lorazepam 1.0	~20 years
Deborah	67	Widowed	Lorazepam 1.0	1+ year
Rachel	89	Widowed	Alprazolam 0.5	40+ years

Table 2

Core Themes and Sub-themes

Core Themes	Sub-themes
Self-reported reasons for sleep disruption	<ol style="list-style-type: none"> 1 Health problems 2 Mental disturbance 3 Sleeping arrangements
Benzodiazepines influence on improving sleep	<ol style="list-style-type: none"> 1 Helps me sleep 2 Benzodiazepines don't work
Supplemental sleep strategies	<ol style="list-style-type: none"> 1 Modification of the environment 2 Distraction 3 Consumption
Benzodiazepines influence on daytime functioning	<ol style="list-style-type: none"> 1 'Groggy' and 'cranky' from no sleep 2 Good sleep enables good daytime functioning