Older Adults' Perspectives on Behaviour Change Elements in Sleepwell, an Insomnia Management Intervention: an Interpretive Descriptive Study

by

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Submitted in partial fulfillment of the requirements
For the degree of Master of Science

at

Dalhousie University
Halifax, Nova Scotia

May 2023

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ABSTRACT

Background: Benzodiazepine receptor agonists (BZRA) are commonly used for insomnia in adults aged 65 years and older against current guidelines and evidence recommendations. The harms of these medications in older adults far outweigh any benefits which have shown to be negligible. Cognitive behavioural therapy for insomnia (CBTi) is an underutilized safe and effective treatment for insomnia.

Aim: This project aimed to identify older adults' perspectives on the embedded behavioural change techniques (BCT) used in Sleepwell resources (a repository of resources and evidence-based tools that have been used as a direct to consumer/patient approach for insomnia management) and explore their challenges and opportunities towards BZRA discontinuation and CBTi use.

Methods: This study used an interpretive description design. Data was collected using semi-structured interviews of older adults who had previous experience with Sleepwell resources. Reflexive thematic analysis was used and the Behaviour Change Wheel, along with the Theoretical Domains Framework, were the overarching and underpinning theories regarding influences on behaviour change.

Results: Two main themes were developed; 1) Sleep should not be this difficult. Participants prioritized the importance of sleep for overall health and identified the difficulty of BZRA discontinuation and the effort needed to implement CBTi. 2) Whether you know it, or learn it, drugs are bad. A dislike of medication was common among participants and was the fuel for their re-evaluation of BZRA use.

Conclusion: Certain embedded BCTs in the Sleepwell booklets were identified as helpful in the journey of BZRA discontinuation and CBTi use, while others were found to be ineffective. Suggestions for changes to improve the booklets were made based on older adults' experiences with Sleepwell, CBTi and BZRA discontinuation.

LIST OF ABBREVIATIONS USED

BZRA: Benzodiazepine Receptor Agonist

CBTi: Cognitive Behavioural Therapy for Insomnia

YAWNS NB: Your Answers When Needing Sleep in New Brunswick

TDF: Theoretical Domain Framework

BCW: Behavioural Change Wheel

BCT: Behavioural Change Techniques

ID: Interpretive Description

TA: Thematic Analysis

EMPOWER: Eliminating Medication Through Patient Ownership of End Results

COM-B: Capability Opportunity Motivation- Behaviour

TAU: Treatment as usual

SOL: Sleep Onset Latency

WASO: Wake After Sleep Onset

TST: Total Sleep Time

SE: Sleep Efficiency

ACKNOWLEDGEMENTS

I would not have been able to complete this degree without the support of my family, friends, committee, and patient partners. I would like to thank my family and friends for the continuous encouragement and support during this challenging experience. I would also like to thank my co-supervisors Drs. Andrea Murphy and David Gardner for their guidance and mentorship. Their passion and dedication to their work has taught me valuable skills and lessons that will immensely help me in my professional and personal life, and their strive for excellence for themselves and others will guide me in my future endeavors. I would like to thank my committee members, Drs. Niki Kiepek and Marilyn Macdonald, for the time they took to provide valuable insight to my learning. Lastly, I would like to thank the two patient partners involved in the study, I greatly appreciate their generosity to share their lived experience to guide and improve this research project.

CHAPTER 1: INTRODUCTION

1.1 Insomnia Overview

The third edition of the International Classification of Sleep Disorders (ICSD-3) characterizes insomnia as chronic, short-term, and other (1). Chronic insomnia disorder criteria include 1) problems initiating or maintaining sleep, 2) having sufficient opportunity and circumstances to sleep, and 3) experiencing daytime consequences. The duration criterion is experiencing symptoms at least three times per week for three months (1). Ten to 15% of people experience chronic insomnia regardless of age, and the prevalence of insomnia is higher in those over 65 years of age (2–4). Patients with insomnia may experience cognitive impairment and mood disturbances such as difficulty with attention, memory, and irritability (5,6). Insomnia has also been identified as a contributor to medical conditions such as hypertension and diabetes (7).

An economic burden accompanies the high prevalence of insomnia (8–11). The cost of insomnia is measured by direct costs, such as insomnia-motivated healthcare services and medication costs, and indirect costs, such as insomnia-related productivity losses and medical comorbidities (9). Limited studies investigate the economic burden of insomnia in Canada (10,11). In 2009 Daley et al. estimated the annual cost of insomnia in the province of Quebec to be 6.6 billion dollars, including direct and indirect costs (11). The annual per-person insomnia cost was $5,010 for those with insomnia syndrome compared to $1,431 and $422 annually for those with insomnia symptoms and good sleepers, respectively (11). This estimate is likely an overestimate of costs because it is based on a single province and a small sample size (11). In 2021 Chaput et al. set out to provide a national estimate of health care and health-related productivity costs associated with insomnia symptoms in Canadian adults (10). The total cost of insomnia symptoms in Canada in 2021 was 1.9 billion dollars, with type 2 diabetes and depression being the two most costly

chronic diseases attributable to insomnia symptoms (10). It is important to note that this estimate is of the economic burden of insomnia symptoms rather than insomnia disorder, which is of higher prevalence than insomnia disorder (10). Despite the lack of accurate quantification of the cost of insomnia disorder, the available literature suggests considerable expenses associated with this disorder. Cost-effective analysis in the United States and New Zealand suggests that treating insomnia is linked to an overall cost-benefit and improved quality of life (12,13). Therefore, it is worthwhile improving access to evidence-based treatments for insomnia.

1.2 Current Management of Insomnia

Leading insomnia management strategies can be classified as pharmacological and non-pharmacological. The most commonly prescribed pharmacological interventions are the benzodiazepine receptor agonists (BZRAs), a class of sedative-hypnotics that encompass benzodiazepines (e.g., lorazepam, clonazepam, oxazepam) and z-drugs (e.g., zopiclone, zolpidem) (14–17). Various non-pharmacological interventions have been investigated, including a spectrum of behavioural, cognitive, and education components. Extensively researched is a specific collection of these approaches known as cognitive behavioural therapy for insomnia (CBTi). CBTi is particularly well suited to treat persistent forms of insomnia by addressing habits and other perpetuating factors that interfere with sleep and replacing them with ones that promote sleep (18,19). The following sections explore the evidence of efficacy and safety for both treatment approaches.

1.2.1 Benzodiazepine Receptor Agonists

BZRAs enhance the activity of gamma-aminobutyric acid (GABA), an inhibitory neurotransmitter in the brain that promotes sleep (14,20). According to current treatment guidelines, BZRAs should not be used as a first-line agent for the treatment of insomnia and, if used, should be reserved for

short-term use only (15–17,21). However, these recommendations are not implemented in clinical practice (22). As a result, prescription rates of BZRAs for the treatment of insomnia remain high, with a prevalence of use in the general population in Canada at 10.7% (20). Older adults have the highest usage rate at 13.2%, and there is a higher prevalence in women than men (20). Despite a steady decrease in the percentage of older adults with long-term BZRA usage from 10.1% to 8% in Canada from 2014 to 2021, the rate remains high in Atlantic Canada, with New Brunswick having the highest usage rate of 22.6% (23). Those with inappropriate benzodiazepine prescriptions contribute to the economic burden on the healthcare system as they are more likely to visit the emergency department, have a higher hospitalization rate, and have higher healthcare costs of about $3076 per year than those with appropriate benzodiazepine prescriptions (24).

1.2.1.1 Benefits of BZRAs.

Even though head-to-head trials comparing agents are limited, systematic reviews and meta-analysis of available treatments have found pharmacological interventions to be more efficacious than placebo in the short-term treatment (i.e., ≤4 weeks) of insomnia (SMD 0.36-0.83) (25). Long-term (>3 months), eszopiclone was more effective than placebo (SMD 0.63 [0.16-1.10]) (25). Data for other BZRA agents were lacking in this review (25). This review included treatment options other than BZRAs, which may cause the results to not be reflective of the sole efficacy of BZRAs (25). The wide range of the standardized mean differences (SMD) in the presented data may be due to the differing efficacies among agents investigated as well as the quality of studies included (25). Another systematic review and meta-analysis recognized that eszopiclone prolonged total sleep time by 26.69 minutes (26). Zaleplon reduced objective and subjective sleep onset latency (SOL) by 21.63 minutes and 15.86 minutes, respectively, compared to control (26). Temazepam decreased objective and subjective wake after sleep onset (WASO) by 25.29 and 22.25 minutes (26). A meta-analysis specifically looking at benzodiazepines found that they significantly increase sleep duration

by 61.8 minutes (95% CI, 37.4-86.2) and patients reported a decrease in SOL by 14.3 minutes (95% CI, 10.6-18.0) (27). Although data on long-term efficacy of BZRAs in treating insomnia is scarce, available literature suggests some benefit in the use of BZRAs in the acute treatment of insomnia; however, these limited benefits must be weighed against the risks associated with BZRA use.

1.2.1.2 Risks of BZRAs.

The risks associated with BZRA use far outweigh their limited benefits in treating insomnia (25). BZRA use is related to a higher risk of falls, fractures, and hospitalizations (28–30). A systematic review assessing the relationship between the use of benzodiazepines and falls in older adults found that exposure to benzodiazepines was associated with a higher risk of falls in older adults (28). Benzodiazepine use was significantly associated with injuries due to falls in older adults over the age of 80 (OR 2.2 [95% CI, 1.4-3.4]) and under the age of 80 (OR 1.3 [95% CI, 0.9-1.9]) in a nested control study (29). A systematic review and meta-analysis on the association of BZRA and risk of hip fracture found that benzodiazepine use and Z-drugs use are associated with an increased risk of hip fractures (RR 1.52 [95% CI, 1.37-1.68]) and (RR 1.90 [95% CI, 1.68-2.13]) respectively (31). A nested case-control study in Taiwan identified that the risk of hospitalization due to fall-related injuries was significantly associated with benzodiazepine and z-drug use regardless of dose or type of medication (AOR 1.32 [95% CI, 1.17-1.5]) and (AOR 1.24 [95% CI, 1.05-1.48]) respectively (32). BZRA use not only leads to physical morbidity but cognitive morbidity as well.

When assessing the risk and benefits of sedative-hypnotic use in older adults with insomnia, a meta-analysis found that cognitive events, defined as memory loss, confusion, and disorientation, were 4.78 times more common with sedatives than with placebo (95% CI, 1.47-15.47) (33). Similarly, a literature review evaluating the efficacy and safety of sleep medicine in older adults identified BZRA use to be associated with cognitive events (34). An association between the use of benzodiazepines and increased risk of dementia has also been observed (35,36). A 2016 systematic

review and meta-analysis found that the odds of dementia were higher in benzodiazepine users compared to non-users (OR 1.78 [95% CI, 1.33-2.38]); and a 2018 systematic review and meta-analysis found a similar association (OR 1.38 [95%CI, 1.07-1.77]) (35,36). However, both studies agreed that the quality of available literature could not clarify a causal effect between benzodiazepines and dementia (35,36). The established association of BZRA use with cognitive events, and the potential association with dementia, warrants closer consideration of BZRA prescribing in older adults. Other risks associated with BZRA use include motor vehicle accidents.

A 2009 meta-analysis found that in 6 case-control studies, using BZRAs increased the likelihood of motor vehicle accidents (OR 1.61 [95% CI, 1.21-2.31]), and in 3 cohort studies similar results were found (OR1.60 [95% CI, 1.29-1.97]) (37). In more recent literature, a 2021 modified case-control study found a significant association between benzodiazepine use with motor vehicle accidents after controlling for confounders (AOR 2.29 [95% CI, 1.16-4.53]) (38). A systematic review and meta-analysis identified an association between BZRA use and the risk of pneumonia (39). Current and recent users had increased risk of pneumonia (OR =1.4, OR 1.38 respectively) but there was no increased risk in past users (39). Given the risks to older adults associated with using BZRAs, improving access to and promoting first-line behavioural interventions to treat insomnia would be worthwhile.

1.2.1.3 Patient's Perspectives on BZRAs.

Older adults' perceived effectiveness of BZRAs in treating insomnia and belief that they do not cause harm are reasons they continue to use them, as identified by a 2022 systematic review (40). Other factors promoting continued use included the perceived approval by physicians of the treatment through the lack of de-prescribing conversations and their encouragement not to worry about prolonged use due to the patient's age (40). These finding echo those of earlier qualitative studies not included in the review that identified important factors for prolonged use included strong

belief in the effectiveness of BZRAs, the limited knowledge and concern about side-effects of the medications, and physicians' role in perpetuating these beliefs (41–43).

1.2.2 Cognitive Behavioural Therapy for Insomnia (CBTi)

CBTi consists of behavioural interventions, including sleep restriction and stimulus control therapy, and various cognitive therapies provided through education and relaxation training (44). It is a multi-component approach targeting thoughts, feelings, and behaviours that may interfere with sleep (44,45).

Traditionally, CBTi is a time-limited program that involves in-person visits with a healthcare professional trained in this type of treatment (46). However, due to the high demand of people seeking treatment for insomnia and the limited trained professionals in this area, CBTi has evolved to facilitate delivery through various formats, including individual, group, or digitally-led CBTi and self-guided CBTi (47).

1.2.2.1 Efficacy of CBTi.

CBTi has shown statistically significant improvement in sleep onset latency (SOL) (19.03 minutes [95% CI, 14.12 to 23.93 minutes]), wake-after-sleep onset (WASO) (26 minutes [95% CI, 15.48 to 36.52 minutes]), and sleep efficiency (SE) (9.91% [95% CI, 8.09% to 11.73%]) (19). Positive effects of CBTi on insomnia treatment are maintained at 3, 6, and 12 months and improvement in daytime depressive mood was also observed at those times (19,48,49). It is effective for older and younger adults, and the benefits of CBTi have been demonstrated in patients with various medical and psychiatric conditions, including chronic pain, post-traumatic stress disorder, depression, cancer, fibromyalgia, and chronic obstructive pulmonary disease (50–52)

Group format CBTi has been found to be comparable to individual treatment in improving sleep efficiency, total sleep time, and waking-after-sleep onset (46,53–55). Telehealth CBTi provides the

benefit of individual treatment and has the advantage of reaching a larger population. A randomized controlled trial suggests that telehealth delivery of CBTi is non-inferior to in-person treatment; similar improvements in sleep onset latency, total sleep time, sleep efficiency, and waking after sleep onset were found in both groups (56). To further increase accessibility, online CBTi programs without therapist access were developed. A network meta-analysis comparing individual, group, guided self-help, digitally assisted, telephone, and unguided self-help CBTi found them all to be effective in improving sleep efficiency (7.81% to 12.45%), SOL (-22.42 to -13.81 min), WASO (-40.84 to -19.48 min), total sleep time (TST) (16.14 to 33.96 min) and insomnia severity (-6.40 to -3.93) compared to treatment as usual (47). Therapist-led options were more acceptable than guided and unguided self-help options because people were more engaged with individual or group formats of CBTi (47). The effectiveness of various CBTi treatment modalities was maintained at 4-weeks and 6-month follow-ups (47). This can help improve access to treatment and facilitate bridging the gap between research and clinical practice in treating insomnia (46,47).

Despite the evidence showcasing the effectiveness of CBTi in treating insomnia, it has been challenging to transition from pharmacological to behavioural insomnia treatment.

1.2.2.2 Risks of CBTi.

A systematic examination of reporting adverse events in CBTi identified an essential gap in CBTi literature (57). Of the 99 randomized controlled trials examined, 32 studies addressed adverse events in some way, and only 7 studies met all criteria for adequate reporting of adverse events (57). Studies report no difference in adverse events with CBTi treatment; however, the definitions and measurements were unclear, and it was sometimes uncertain if a statistical comparison between treatment groups was made (57). This systematic examination identified one study investigating the effect of sleep restriction therapy, a CBTi component, on daytime functioning and health-related quality of life (57,58). The within-subjects mixed-method study evaluating patients' experiences

with sleep restriction therapy found that during the first week of sleep restriction therapy, fatigue, extreme sleepiness, and reduced motivation/energy were the most commonly experienced difficulties (58). Due to the scarcity of available data, it is challenging to quantify possible adverse events related to CBTi treatment.

1.2.2.3 Patients' Perspectives on CBTi.

As noted by Cheung et al. in their narrative review, there are limited data on patients' perception of CBTi in treating insomnia despite its value to treatment adherence (59). However, three qualitative studies investigating patients' perspective on CBTi in the specific population of veterans, patients with chronic pain, and patients with rheumatoid arthritis were identified (60–62). A qualitative study investigating veterans and CBTi providers on increasing the use of CBTi for insomnia found that prior to referral, patients has little or no knowledge about CBTi (60). Patients identified an interest in health care providers proactively asking about sleep problems and providing education on available treatments (60). Patients also identified CBTi as a "rewarding challenge" because they found the sleep restriction aspect of CBTi to be challenging but noted that following treatment recommendations quickly improved their sleep (60). In terms of delivery formats, patients indicated that the relationship with their CBTi provider highly impacted their adherence to the treatment and recognized that self-help approaches might not sustain adherence without social support (60). Similarly, a study exploring the meaning of CBTi for patients with chronic pain identified the challenges of sleep restriction and the importance of social support to adherence (61). They also noted an improved quality of life associated with their improved sleep and believed that CBTi was valuable for patients with chronic pain (61). Lastly, a descriptive qualitative design exploring experiences of group based CBTi in patients with rheumatoid arthritis also identified sleep restriction to be the toughest aspect of CBTi but adhering to it was beneficial (62). Increased knowledge about insomnia and its treatments was helpful in sustaining motivation along with

having guidance and support from healthcare providers and peers (62).

1.2.3 BZRA vs CBTi

A Systematic review comparing the effectiveness of CBTi to BZRAs found similar results in sleep outcomes post-treatment, ranging from 3-8 weeks, for both treatment options (63). During follow-up, ranging from 6 to 24 months, CBTi was found to have sustained its clinical benefits while BZRAs treatment groups gradually declined (63). Despite the limited evidence comparing the two treatment options, the benefit of CBTi in long-term treatment and the associated risk with using BZRAs suggests an advantage in prioritizing CBTi for treating chronic insomnia.

1.3 Deprescribing BZRAs

When the use of a medication causes more harm than benefit, it is considered to be an inappropriate medication, primarily when alternative options exist (64). Deprescribing is the process of stopping or decreasing the dose of medications that might be causing harm or are no longer needed (65). In 2003 Woodward described the 5 principles of deprescribing as 1) review all current medications, 2) identify medications to be targeted for cessation, 3) plan a deprescribing regimen, 4) plan a partnership with patient and caretakers, and 5) frequent review and support (66). In addition, he identified that for deprescribing to be successful, it should be done as a partnership between the patient and their healthcare team (e.g., prescriber, pharmacist, and nursing staff) (66). In 2015, an interprofessional Canadian team of healthcare professionals created what is now known to be the Canadian Medication Appropriateness and Deprescribing Network (64). It is a multi-level approach targeting the different levels of the health system: 1) patients, 2) healthcare providers, 3) health-related organizations, and 4) governments (64). Their interventions include improving the capability of prescribers to deprescribe, improving the opportunity for deprescribing to occur, and increasing the motivation to engage in deprescribing (64). This group has taken the lead in Canadian based

research on deprescribing inappropriate medications such as BZRAs.

1.3.1 Approaches to Deprescribing

Various approaches to deprescribing BZRAs have been explored, including interventions targeting policy, prescribers, and patients directly and indirectly (67). A Canadian-led research team investigated barriers of various approaches to reducing prescribing and increasing the deprescribing of sedative-hypnotics and found the most effective interventions to be those that included the patient in the decision process (68). Policies implemented to decrease the use of benzodiazepines, such as prescription monitoring, financial incentivization for physicians, and decreasing drug coverage via insurance, showed an unsustainable slight decrease in benzodiazepine prescriptions and resulted in unforeseen consequences including an increase in the use of other sedatives and increase in street prices of similar medications (68–84). Other approaches to decrease BZRA use include pharmacist or physician-led interventions varying from suggesting discontinuation to a more guided step-by-step approach (85). Whether detailed or brief, any type of clinician-patient intervention led to discontinuation in therapy with statistical significance compared to usual care (86–90). Interventions targeting patient education on risks associated with chronic BZRA use led to dose reduction (10% to 62%) and discontinuation (13% to 80%) of sedative-hypnotics (68). Interventions directly targeting patients, also known as a direct-to-consumer or direct-to-patient approach, where an intervention such as educational material is sent directly to long-term BZRA users, effectively decreased BZRA use (91,92). A direct-to-consumer approach would address the limited resource of healthcare providers and allow improved access for patients wanting to reduce or stop their BZRAs. Available literature suggests numerous approaches to deprescribing BZRAs however those including patient education are more effective and are longer lasting (68).

The Eliminating Medication Through Patient Ownership of End Results (EMPOWER) study investigated a direct-to-consumer deprescribing intervention educating patients on the risks of

benzodiazepine and a tapering protocol (91). EMPOWER was a 2-arm, parallel-group, pragmatic cluster randomized clinical trial conducted in Quebec, Canada (91). It included adults 65 years of age and older receiving long-term benzodiazepine therapy (91). Using an intention-to-treat analysis, the study found that 27% of participants in the treatment group discontinued their benzodiazepine compared to 5% in the control group (91). In addition, they identified the potential value of the direct-to-consumer approach in helping patients initiate a conversation regarding harmful and unnecessary drugs with their healthcare providers. The intervention utilized social constructivist learning, social comparison, and cognitive dissonance to promote behaviour change by promoting active learning, providing peer champion stories, and adding a self-assessment component about potential misinformation or beliefs about benzodiazepine use (91,93). The same intervention was used in a quality improvement project determining the impact of direct-to-consumer education brochures on benzodiazepine use in older veterans in the Veterans Health Administration in the United States (92). This retrospective cohort analysis of veterans that are long-term benzodiazepine users and aged 65 years and older found that of the 3896 participants, 47.4% decreased their dose, 15.6% increased their dose, 11.7% tapered then discontinued, 11.7% discontinued immediately, and 13.6% did not change their dose (92). A second retrospective cohort analysis using propensity score matching was performed on a subgroup to determine the impact of the intervention at 6-9 months and 6-12 months after the index date (92). The analysis found that veterans exposed to the intervention were 6.6%-6.9% more likely to discontinue their benzodiazepine at 6-9 months and 6.5%-7.1% at 6-12 months (92).

1.3.2 Barriers to Deprescribing

A qualitative study assessing patients' perspectives on deprescribing BZRAs identified several barriers, including experiences of withdrawal symptoms and lacking confidence in their ability to discontinue their BZRAs (94). Concerns about memory problems associated with BZRAs

and the unintentional long-term use of BZRAs were enablers to deprescribing them (94). Having an alternative method to address the reason they were using BZRAs was identified to be helpful when stopping their medication (94). Another study focused on physicians' and patients' perspectives on deprescribing (95). It identified a dissonance between patients' and practitioners' perceptions of treatment approaches leading to patients opting to self-manage their insomnia and prescribers not having a complete picture of the patient's usage of BZRAs (95). It also identified that prescribers seldom recommend effective non-pharmacological treatment for insomnia such as CBTi to their patients (95). Finally, studies exploring patients' perspectives on the EMPOWER brochure utilized survey methods to gather qualitative data to understand the intervention better (96,97). Motivation to deprescribe was triggered in 64% of participants in the EMPOWER group; of those participants, 58.5% had improved knowledge, 56.03% had a lower perceived necessity score, 67.6% had increased concern, and 35.14% had a greater perception of risk about their benzodiazepine medication (97). Participants with a stable health status, a positive outlook on aging, and those not dealing with acute health issues were more receptive to discontinuing their benzodiazepines (97). Support from healthcare providers was associated with successful discontinuation (97). Barriers to deprescribing after receiving the EMPOWER brochure were associated with participants who reported poor health, those dealing with ongoing health issues and relying on their medication for coping, and those with physicians reassuring the efficacy and safety of benzodiazepines (97). Lastly, participants who lost interest to deprescribe after initial motivation lacked support from their healthcare providers, did not tolerate withdrawal symptoms, and did not sustain the confidence to live without sleeping pills (97).

In 2022, a systematic review of quantitative and qualitative data explored the barriers and enablers of deprescribing BZRAs in older adults using the theoretical domain framework (TDF) (98). The main domains of the TDF that were identified as barriers for patients were: belief about

capability related to their belief in the effectiveness of BZRAs; belief about consequences related to the lack of perceived risk with using BZRAs; environmental context and resources related to other things that might be going on in their lives that take precedence to deprescribing; intention related to the lack thereof to stop BZRAs or the use of other methods for treating insomnia; goals related to the priority of stopping BZRAs compared to sleep; social influences related to prescribers providing prescriptions and not inquiring about BZRA use which they viewed as a guarantee of safety and efficacy; memory, attention and decision process related to them viewing BZRAs as a normal habit (98). Identifying the barriers to deprescribing in terms of the TDF domains provided a guide to the development of interventions.

There is limited research exploring older adults' experiences with specific deprescribing interventions. Exploring their perspective will guide the improvement of deprescribing tools that can be implemented in practice.

1.4 Sleepwell

1.4.1 What is Sleepwell?

Sleepwell is a non-profit initiative developed by Dr. David Gardner and Dr. Andrea Murphy from Dalhousie University and contributed to by various stakeholders and received seed funding from the Department of Health and Wellness' Drug Evaluation Alliance of Nova Scotia (99). Sleepwell has two main goals: to help people with insomnia get their sleep back without medication and to help people stop taking BZRAs effectively. Sleepwell has also reached older adults across Canada through knowledge translation activities with national organizations such as the Canadian Medication Appropriateness and Deprescribing Network. Since launching its website in May 2018, there have been 200,000 website users, with approximately 7,000 new users per month currently.

The content from the Sleepwell website was transformed into booklets aimed at older adults

with long-term BZRA use. The design and content of the Sleepwell print materials, as a direct-to-consumer intervention, were embedded with various behaviour change techniques informed by the Theoretical Domains Framework (TDF) and the Behaviour Change Wheel (BCW) (see section 1.5) (100). Sleepwell consists of two booklets: How to Stop Sleeping Pills, which informs patients of the risks associated with BZRA use and how to stop them safely and gradually; and How to Get Your Sleep Back, which introduces patients to CBTi and recommends specific techniques and resources as first-line treatment for managing insomnia (100). Compared to the EMPOWER booklets, the Sleepwell booklets more overtly introduce, describe, facilitate access to and directly promote CBTi.

1.4.2 YAWNS NB Study

The Your Answers When Needing Sleep in New Brunswick (YAWNS NB) study was a randomized controlled trial comparing Sleepwell booklets, EMPOWER brochures, and treatment-as-usual (TAU) to evaluate the impact on BZRA use and the adoption of CBTi techniques to improve sleep in older adults living in the community (100). Participants in the Sleepwell and EMPOWER arms of the study received the intervention immediately after the completion of the first interview. The TAU group did not receive an intervention during the study period but was provided with the Sleepwell booklets after completing the study's exit interview at six months (100).

The primary outcome measure was BZRA discontinuation within six months without switching to an alternative sedative (prescription or non-prescription). A preliminary analysis indicated higher rates of BZRA discontinuation with both Sleepwell (35%) and EMPOWER (33%) compared to TAU (11%). However, more people in the EMPOWER group switched to other sedatives. Rates of the primary outcome were 30%, 23%, and 8%, respectively. There were also improvements in some sleep outcomes, including reduced sleep onset latency and improved sleep efficiency, for Sleepwell that were not observed with EMPOWER. These encouraging findings

warrant a further investigation into the Sleepwell materials to better understand the active ingredients embedded within the booklets.

1.5 The Behaviour Change Framework Used in Sleepwell

Transforming insomnia management from a pharmacological to a behavioural treatment paradigm requires changing the behaviour of healthcare professionals and people living with insomnia. Sleepwell is an intervention that was designed to support this transition, with a focus on patient behaviour. Underlying the design of Sleepwell are the Behaviour Change Wheel and the Theoretical Domain Framework with embedded Behavioural Change Techniques (BCT).

The BCW is a framework of behaviour change developed from 19 different frameworks (101). This framework was developed broadly and applies to any behaviour in any setting (102). The BCW consists of three layers: the source of the behaviour, possible targets for interventions, potential intervention functions that can be implemented, and the identified types of policies for the intervention delivery (102).

The Capability Opportunity Motivation-Behaviour (COM-B) Model, used in the BCW to identify determinants of behaviour, claim that for a behaviour to occur a person must have the capability (physical and psychological) and opportunity (social and physical) to do the behaviour and have the motivation (automatic and reflective) to do said behaviour more than any other behaviour (103). Another approach to identifying determinants of behaviour is the theoretical domain framework (104). The validated TDF has 14 theoretical domains: Knowledge; Skills; Memory, Attention and Decision Processes; Behavioural Regulation; Social Identity; Environmental Context and Resources; Social/Professional Role and Identity; Beliefs about Capabilities; Optimism; Beliefs about Consequences; Intentions; Goals; Reinforcement; Emotion (94,105,106). The domains of the TDF helps in the evaluation of facilitators and barriers of an

intervention targeting behaviour change (94,105,106). The TDF domains expand on the COM-B components leading to a more precise identification of the cognitive, affective, social, and environmental influences on behaviour (Table 1) (102,104). The TDF was developed to simplify and facilitate evidence-based practice involving behavioural interventions by creating domains that summarize relevant constructs identified in various behaviour change theories (102,105,107). Possible intervention functions from the BCW can be determined using the identified target TDF domain and the corresponding COM-B component (Table 2) (105).

After determining the intervention function, an appropriate BCT can be chosen to inform its design using the BCT taxonomy (Table 3) (108). As defined by Michie et al., a BCT is "an observable, replicable and irreducible component of an intervention designed to alter or redirect causal processes that regulate behaviour" and is considered to be the "active ingredient" in behaviour change interventions (108).

The TDF has been validated for use in behaviour change and implementation research (105). Using closed and open sort, behavioural experts sorted 112 unique theoretical constructs, Discriminant Content Validation and Fuzzy Cluster Analysis was used to test the extent of replication(105). The resulting refined theoretical domains framework provides a method for theoretically assessing implementation problems as a basis of intervention development(105). The Delphi process was used to validate the BCT taxonomy resulting in 93 consensually agreed distinct BCTs providing an evidence-based method for specifying interventions (108). During the development of the BCW, its reliability was tested by having two authors independently use the framework to classify components in two documents that cover a wide spectrum of behaviour change approaches (101). Differences were resolved through discussion and results were then established as 'gold standard'(101). To test the reliability of use by practitioners, two policy experts used the framework to independently classify components of one of the above-mentioned

documents and the results were compared with the 'gold standard'(101). The percentage of agreement between each policy expert and the 'gold-standard' were 85% and 75% (101). Moreover, interventions completely informed by the BCW were found to be more effective than interventions that are partially or not informed by the BCW in interventions to optimize pro-environmental behaviours (109).

Since the Sleepwell booklets were developed using the BCW and TDF, this framework can appropriately identify mediators to BZRA discontinuation and CBTi use related to the BCTs embedded in the booklets and older adults' overall experiences.

Table 1: Mapping of the TDF to the BCW's COM-B (105)

COM-B component		**TDF Domain**	**Definition of the Domain**
Capability	Psychological	Knowledge	An awareness of the existence of something
		Skills	An ability or proficiency acquired through practice
		Memory, Attention and Decision Processes	The ability to retain information, focus selectively on aspects of the environment and choose between two or more alternative
		Behavioural Regulation	Anything aimed at managing or changing objectively observed or measured actions
	Physical	Skills	An ability or proficiency acquired through practice
Opportunity	Social	Social Influences	Those interpersonal processes that can cause individuals to change their thoughts, feelings or behaviours
	Physical	Environmental Context and Resources	Any circumstance of a person's situation or environment that discourages the development of skills and abilities, independence, social competence, and adaptive behaviour
Motivation	Reflective	Social/Professional Role & Identity	A coherent set of behaviours and displayed personal qualities of an individual in a social or work setting
		Beliefs about Capabilities	Acceptance of the truth, reality, or validity about an ability, talent, or facility that a person can put to constructive use
		Optimism	The confidence that things will happen for the best or that desired goals will be attained
		Beliefs about Consequences	Acceptance of the truth, reality, or validity about outcomes of a behaviour in a given situation
		Intentions	A conscious decision to perform a behaviour or a resolve to act in a certain way

		Goals	Mental representations of outcomes or end states that an individual wants to achieve
	Automatic	Social/Professional Role & Identity	A coherent set of behaviours and displayed personal qualities of an individual in a social or work setting
		Optimism	The confidence that things will happen for the best or that desired goals will be attained
		Reinforcement	Increasing the probability of a response by arranging a dependent relationship, or contingency between the response and a given stimulus
		Emotion	A complex reaction pattern, involving experiential, behavioural, and physiological elements, by which the individual attempts to deal with a personally significant matter or event

Table 2: Mapping of COM-B to Intervention Functions of the BCW (102)

Intervention functions	**COM-B components**					
	Capability - physical	Capability-psychological	Motivation-reflexive	Motivation-automatic	Opportunity - physical	Opportunity -social
Education		**X**	**X**			
Persuasion			**X**	**X**		
Incentivization			**X**	**X**		
Coercion			**X**	**X**		
Training	**X**	**X**				
Restriction					**X**	**X**
Environmental restructuring				**X**	**X**	**X**
Modelling				**X**		
Enablement	**X**	**X**		**X**	**X**	**X**

Table 3: Mapping of the Intervention Functions of the BCW to BCTs (108)

Intervention functions	**Corresponding BCTs**
Education	2.2 Feedback on behaviour 2.3 Self-monitoring of behaviour 2.7 Feedback on outcome(s) of behaviour 5.1 Information about health consequences 5.3 Information about social and environmental consequences 7.1 Prompts/cues
Persuasion	2.2 Feedback on behaviour 2.7 Feedback on outcome(s) of behaviour 5.1 Information about health consequences

	5.3 Information about social and environmental consequences 9.1 Credible source
Incentivization	2.1 Monitoring of behaviour by others without feedback 2.2 Feedback on behaviour 2.3 Self-monitoring of behaviour 2.5 Monitoring of outcome(s) of behaviour without feedback 2.7 Feedback on outcome(s) of behaviour
Coercion	2.1 Monitoring of behaviour by others without feedback 2.2 Feedback on behaviour 2.3 Self-monitoring of behaviour 2.5 Monitoring of outcome(s) of behaviour without feedback 2.7 Feedback on outcome(s) of behaviour
Training	2.1 Monitoring of behaviour by others without feedback 2.2 Feedback on behaviour 2.3 Self-monitoring of behaviour 2.5 Monitoring of outcome(s) of behaviour without feedback 2.7 Feedback on outcome(s) of behaviour 4.1 Instruction on how to perform the behaviour 6.1 Demonstration of the behaviour
Restriction	All BCTs could be considered
Environmental restructuring	7.1 Prompts/cues 12.1 Restructuring of the physical environment 12.5 Adding objects to the environment
Modelling	6.1 Demonstration of the behaviour
Enablement	1.1 Goal setting (behaviour) 1.2 Problem solving 1.3 Goal setting (outcome) 1.4 Action planning 1.5 Review behaviour goals(s) 1.7 Review outcome goal(s) 2.3 Self-monitoring of behaviour 3.1 Social support (unspecified) 3.2 Social support (practical) 6.1 Demonstration of the behaviour 12.1 Restructuring of the physical environment 12.5 Adding objects to the environment

Note: All BCTs could be considered for any intervention function. Identified BCTs are ones that are most frequently used with the corresponding intervention function.

1.6 Study Objectives

The purpose of this qualitative study was to improve the Sleepwell booklets by investigating two key objectives:

1. To explore older adults' perspectives on behaviour change techniques embedded in Sleepwell resources that promote BZRA discontinuation and CBTi use.

2. To recognize older adults' experiences with BZRA use to build a better understanding of challenges and opportunities towards BZRA discontinuation and CBTi use.

CHAPTER 2: METHODS

2.1 Research Paradigm

The paradigm used in this study is a constructionist paradigm. In a constructionist paradigm, evidence is created, rather than revealed, through research (110). The reality that matters is constructed through human practices and experiences (110). Wanting to understand the experiences of older adults with BZRA discontinuation and CBTi use and their perception of Sleepwell resources, applying a constructionist paradigm through semi-structured interviews appropriately created knowledge relevant to the target population because it was constructed through their practices and experiences.

2.2 Interpretive description

The choice of methodology was guided by the need to explore older adults' perspectives and experiences with the Sleepwell booklets and BZRA use. Interpretive description (ID) is a qualitative methodology that utilizes the perceptions and experiences of the target population to develop a deep understanding and use that understanding to inform practice (111). ID addresses the rigid methodological criteria of other qualitative designs created for the social sciences' needs by providing a flexible inductive approach that goes beyond understanding the problem by applying that understanding to clinical practice (111,112). It does not offer a step-by-step approach to study design but encourages borrowing from established designs deemed appropriate to answer the research question (112). With the research question focusing on how older adults' experiences can inform the Sleepwell booklets so they can be widely used in practice, using interpretive description was the appropriate choice.

2.3 Reflexive thematic analysis

The data analysis method used was Braun and Clarke's reflexive thematic analysis (110). The flexibility of reflexive TA allowed for the use of a deductive as well as an inductive approach to

theme generation. The deductive approach to theme generation targeted older adults' perspectives on the embedded behavioural change techniques in the Sleepwell booklets. The inductive approach to theme generation targeted older adults' experiences with BZRA use and discontinuation. Reflexive TA allowed me to capture the complexity of older adults' experiences with BZRAs and identify the role of the Sleepwell booklets in those experiences. Although ID provides guidance for data analysis that includes, familiarizing oneself with the data, coding the data, making sense of patterns in the data, and capturing analytic insights, reflexive TA outlines this in a more detailed manner (110,112). The desire for a more structured and robust approach to data analysis resulted in a decision to use reflexive TA for data analysis (110,112).

2.4 Reflexivity

In accordance with ID and reflexive TA, a reflexive journal entry was kept throughout the study. The journal reflected my thought process, feelings and assumptions during data collection and analysis. The journal assisted me with understanding the impact I had as the researcher, on all aspects of the research process including the study results. Both ID and reflexive TA emphasize the importance of reflexivity in generating accurate and credible study results. Reflexive journaling created an audit trail of how the data was constructed and how the analysis unfolded. The journaling helped maintain the same standard and definition of codes throughout all interviews. It helped consider how the thought process and understanding of the data evolved throughout the analysis process, allowing for appropriate re-coding and theme generation.

Thompson Burdine et al. indicated that an ID study's rigor is in the hands of the researcher's ability to justify their choices and consider their bias when analyzing and interpreting the data (111). Braun and Clarke's reflexive TA methods helped address this limitation through their structured outline of reflexive journaling, coding, and analyzing the collected data (110). Combining ID and reflexive TA allowed for a true representation of older adults' experiences.

2.5 Patient Partner Inclusion

Two older adults were recruited from the YAWNS NB study population to serve as patient partners who were charged with providing perspectives based on their lived experiences. The activities of the patient partners were to aid in interview guide development and provide feedback and guidance on the interim analysis knowledge translation.

The YAWNS NB research team provided a list of potential candidates based on their direct experience with participants during the six months exit interview. Candidates were contacted via telephone to gauge interest in participating, and two patient partners were recruited. One patient partner was from the Sleepwell arm of the YAWNS NB study and the other was from the EMPOWER arm. A letter outlining the purpose of the study, the patient partner role in the study, commitment needed and expected compensation was sent to patient partners prior to the first meeting (Appendix E).

After agreeing to be a patient partner, both were sent the Sleepwell booklets for review. An initial meeting was held separately with each patient partner to understand their journey with BZRAs and the YAWNS NB study. Then, a joint meeting was held to discuss the Sleepwell booklets in detail. Results from this meeting offered insights in the development of the interview guide. The meeting highlighted their experiences and impressions of the Sleepwell booklets. Patient partner feedback was incorporated into the interview guide. After completion of the interview guide revisions, another meeting was held to discuss phrasing and completeness of the interview guide and feedback was used to finalize the guide. Finally, before starting data collection, a practice interview was arranged with each patient partner for feedback on interview skills and etiquette and to address potential technical issues.

Patient partners were involved in two data analysis meetings. The first meeting was held after

coding 12 out of 15 interviews and the second after initial themes were generated. The meetings took place with patient partners to get feedback on data analysis and theme generation and ensure the interpretation of the data was an adequate representation of the older adults' experiences. During the first meeting, patient partners were presented with clusters formed at the theme generation phase of data analysis along with raw data illustrating each cluster. Patient partners were asked for feedback on the presented analysis. After the first meeting, patient partners' feedback on the importance of sleep and the need for support informed initial theme generation. During the second meeting, patient partners were presented with the developed themes seen in the initial thematic map (see appendix D) along with corresponding data illustrations. The positive responses received in the second meeting helped solidify the final themes. Overall, the feedback from patient partners was used as a verification tool to ensure that the analysis accurately represented the patients' experiences. Ideas or concepts identified by patient partners, that were not in the analysis presented to them, were only included if they were supported by the data as not to supersede the interview data from participants.

In total, patient partners were involved in six meetings over the course of 8 months. Outcomes of the meetings helped inform the study at its various stages as outlined above. At three separate occasions, each patient partner was compensated with $100 gift card to a grocery store of their choosing.

2.6 Recruitment

The sample for this study was recruited from the Sleepwell group of the YAWNS NB study population. Inclusion criteria of the YAWNS NB study were: 1) community-dwelling resident of New Brunswick, Canada, with no anticipated change of address for the next six months; 2) aged 65 years of age or older; 3) current (minimum use: 3 bedtime doses per week) and long-term (≥3 months) user of BZRAs; 4) initial indication for BZRA is or was insomnia (with or without mild to

moderate anxiety) (100). Excluded from participating in the YAWNS NB study were people who: 1) resided in long-term care facilities; 2) used non-BZRA prescription sedative-hypnotic for treating insomnia or related sleep problems; 3) had evidence of moderate-to-severe cognitive impairment assessed by telephone using the mini MoCA-T (with a score <10); 4) the following self-disclosed diagnosis: any of the following health conditions: anxiety disorder with severe symptoms, dementia, seizure disorder, spasticity from a spinal injury, psychotic disorder, bipolar disorder, or obsessive-compulsive disorder; or 5) were receiving cancer chemotherapy or palliative care (100). During the 6-month exit interview, participants were asked if they would like to be contacted regarding future research about insomnia and sleep medications. Those agreeing to be contacted and were part of the Sleepwell group were eligible to be contacted for this investigation.

Purposive sampling was used to recruit patients to be interviewed. At the time of recruitment, there were 166 potential participants eligible based on the above-mentioned criteria. I decided to recruit participants who most recently completed the YAWNS NB study to help minimize recall bias; therefore, participants with an ID number of 300 or greater were initially contacted. Potential participants were also identified by suggestions from other YAWNS NB study team members, based on their direct interactions with participants during the six months exit interview, who also fit the purposive sampling characteristics. Participant demographics or BZRA use outcomes in the YAWNS NB study were not reviewed prior to reaching out with invitations to participate in interviews. 76 potential participants were contacted via telephone to gauge interest in participating in this study. They were contacted chronologically starting with the most recent participant to complete the YAWNS NB study. Interested participants were sent the consent form, and an interview date was scheduled. At the beginning of the interview, questions about the consent form were addressed, and verbal consent was obtained and recorded.

2.7 Ethics Approval

This research was approved as part of the YAWNS NB study by the Dalhousie Research Ethics Board (REB file number 2020-5184).

2.8 Data Collection

Data were collected using semi-structured interviews that were conducted over the phone. No interviews were conducted in person or by video link to ensure equitable access to being interviewed. Open-ended questions were used to generate interviewee content that allowed for them to share their whole experience. This approach was used to ensure consistency across interviews in terms of structure and relevance of data collection. Participants consented to one interview with the possibility of follow-up if there were follow-up questions or the need for clarification regarding the interview content.

The interview guide (Appendix A) was designed to establish context regarding past and current BZRA use and included general questions about the booklets. More specific questions about each booklet were also included to analyze participants' responses regarding the BCTs and their motivations, feelings, thoughts, and understanding of the booklets. The interview guide was pilot tested with two patient partners (see section 2.5). Participants were asked to review the booklets before the interview, and a new copy was sent if the original was unavailable. All interviews were scheduled for one hour and audio recorded using two separate devices. Participants were allowed to ask questions, stop, or pause the interview anytime during the conversation. Audio recordings were used to transcribe interviews verbatim using the methods outlined by Braun and Clarke (114). Transcripts were then checked for accuracy by listening to the recordings in full a second time while reviewing the transcript. During transcription, all identifying data were removed to ensure participant anonymity, and their participant identification number, used in the YAWNS NB study, was used to identify them. Reflexive journal entries were made before and after most interviews and transcribing sessions. Notes were also made during the interviews and reviewed during the

familiarization phase of the analysis.

2.9 Data Coding and Analysis

2.9.1 Coding the Sleepwell Booklets

Both project supervisors and I reviewed each Sleepwell booklet to identify the embedded BCTs, which were the deductive codes used in the analysis. Identification of BCTs was first completed individually and then confirmed through group consensus before the interview process began. The identified BCTs for Booklets 1 and 2 are collated in Tables 4 and 5.

Table 4: BCTs embedded in Booklet 1- How to Stop Sleeping Pills (108)

Page	Technique	BCT Taxonomy
Outside front cover	Cover pictures	5.1 Information about health consequences *Provide information (e.g., written, verbal, visual) about health consequences of performing the behaviour*
Inside front cover	About Sleepwell	9.1 Credible source *Present verbal or visual communication from a credible source in favour of or against the behaviour*
1	The quiz	5.1 Information about health consequences
2	The quiz/ Check your knowledge	9.2 Pros and cons *Advise the person to identify and compare reasons for wanting (pros) and not wanting to (cons) change the behaviour*
4&5	The dangers of sleeping pills	5.1 Information about health consequences
4	Injuries from fall	5.2 Salience of consequences *Use methods specifically designed to emphasise the consequences of performing the behaviour with the aim of making them more memorable (goes beyond informing about consequences)*
4	Injuries from fall	5.3 Information about social and environmental consequences *Provide information (e.g., written, verbal, visual) about social and environmental consequences of performing the behaviour*
4	Injuries from fall	5.5 Anticipated regret *Induce or raise awareness of expectations of future regret about performance of the unwanted behaviour*
5	Memory Problems	5.2 Salience of consequences
5	Dependence and withdrawal effects	5.2 Salience of consequences
5	Dependence and withdrawal effects	5.6 Information about emotional consequences *Provide information (e.g., written, verbal, visual) about emotional consequences of performing the behaviour*
6	Pneumonia	9.3 Comparative imaging

Page	Technique	BCT Taxonomy
		Prompt or advise the imagining and comparing of future outcomes of changes verses unchanged behaviour
7	Impaired driving	5.3 Information about social and environmental consequences
7	Impaired driving	5.5 Anticipated regret
7	Impaired driving	9.3 Comparative imaging
7	Loss of confidence and isolation	5.5 Anticipated regret
7	Loss of confidence and isolation	5.6 Information about emotional consequences
8	The sleeping pill vicious cycle	5.1 Information about health consequences
8	The sleeping pill vicious cycle	4.3 Re-attribution *Elicit perceived causes of behaviour and suggest alternative explanations (e.g., external or internal and stable or unstable)*
8	CBTi- there is a better way	10.8 Incentive *Inform that a reward will be delivered if and only if there has been effort and/or progress in achieving the behavioural outcome (includes 'Positive reinforcement')*
9	Withdrawal effect	4.3 Re-attribution
9	Reference to booklet 2	11.3 Conserving mental resources *Advise on ways of minimising demands on mental resources to facilitate behaviour change*
10	How to get your sleep back without sleeping pills	4.1 Instruction on how to perform a behaviour *Advise or agree on how to perform the behaviour (includes "Skills training')*
11	Jerry's story	6.2 Social comparison *Draw attention to others' performance to allow comparison with the person's own performance*
11	Jerry's story	6.3 Information about others' approval *Provide information about what other people think about the behaviour. The information clarifies whether others will like, approve, or disapprove of what the person is doing or will do*
12	Jerry's gradual dose reduction plan	6.1 Demonstration of the behaviour *Provide an observable sample of the behaviour, directly in person or indirectly e.g., via film, pictures, for the person to aspire to or imitate (includes 'Modelling')*
13	Jerry's gradual dose reduction schedule	6.1 Demonstration of the behaviour
14	5 Key Resources to help you stop sleeping pills	4.1 Instruction on how to perform a behaviour
15	Stop Sleeping Pills guide	12.5 Adding Objects to the Environment *Add objects to the environment in order to facilitate performance of the behaviour*
15	Stop Sleeping Pills guide	1.4 Action Planning *Prompt detailed planning of performance of the behaviour (must include at least one of context, frequency, duration and intensity). Context may be environmental (physical or social) or internal (physical, emotional or cognitive) (includes 'Implementation Intentions')*

Page	Technique	BCT Taxonomy
15	Estimate the duration of your dose reduction schedule	1.2 Problem-solving *Analyse, or prompt the person to analyse, factors influencing the behaviour and generate or select strategies that include overcoming barriers and/or increasing facilitators (includes 'Relapse Prevention" and 'Coping Planning')*
16	Stop sleeping pills planner	1.4 Action Planning *Prompt detailed planning or performance of the behaviour (must include at least one of context, frequency, duration and intensity). Context may be environmental (physical or social) or internal (physical, emotional or cognitive) (includes 'Implementation Intentions')*
16	Stop sleeping pills planner	1.8 Behavioural contract *Create a written specification of the behaviour to be performed, agreed on by the person, and witnessed by another*
16	Stop sleeping pills planner	2.3 Self-monitoring of behaviour *Establish a method for the person to monitor and record their behaviour(s) as part of a behaviour change strategy*
16	Stop sleeping pills planner	2.4 Self-monitoring of the outcome of behaviour *Establish a method for the person to monitor and record the outcome(s) of their behavior as part of a behavior change strategy*
Inside back cover	My plans	1.1 Goal setting (behaviour) *Set or agree on a goal defined in terms of the behavior to be achieved*
Inside back cover	I'm ready to	1.9 Commitment *Ask the person to affirm or reaffirm statements indicating commitment to change the behavior*

Table 5: BCTs embedded in Booklet 2- How to Get Your Sleep Back (108)

Page	Technique	BCT Taxonomy
Inside front cover	About Sleepwell	9.1 Credible source
1	The quiz	5.1 Information about health consequences
2	The quiz/ Check your knowledge	9.2 Pros and cons
5	Laura's Story	6.1 Demonstration of the behaviour
5	Laura's Story	6.2 Social comparison
6	Sleep diary	4.1 Instruction on how to perform the behaviour
6	Sleep diary	6.1 Demonstration of the behaviour
7	Practice	8.1 Behavioural practice/rehearsal *Prompt practice or rehearsal of the performance of the behavior one or more times in a context or at a time when the performance may not be necessary, in order to increase habit and skill*
8	Sleep hygiene	12.1 Restructuring the physical environment *Change, or advise to change the physical environment in order to facilitate performance of the wanted behavior or create barriers to the unwanted behavior (other than prompts/cues, rewards and punishments)*
9	Hygiene of sleep checklist	1.4 Action planning

Page	Technique	BCT Taxonomy
9	Hygiene of sleep checklist	2.3 Self-monitoring of behaviour
10	Control	8.2 Stimulus substitution *Prompt substitution of the unwanted behavior with a wanted or neutral behavior*
11	Sleep Drive	6.1 Demonstration of the behaviour
12	Relax	12.4 Distraction *Advise or arrange to use an alternative focus for attention to avoid triggers for unwanted behaviour*
13	Thinking traps and realistic thinking	9.3 Comparative imaging of future outcomes
13	Worry time	11.3 Conserving mental resources
13	The power of distraction	12.4 Distraction
13	Realistic thinking	13.2 Framing/reframing *Suggest the deliberate adoption of a perspective or new perspective on behavior (e.g., its purpose) in order to change cognitions or emotions about performing the behavior (includes 'Cognitive structuring')*
13	Realistic thinking	16.2 Imaginary reward *Advise to imagine performing the wanted behavior in a real-life situation followed by imagining a pleasant consequence (includes 'Covert conditioning')*
14	The CBTi treatment course	4.1 Instruction on how to perform the behaviour
15	Sleepwell recommends	9.1 Credible source
17	Additional tools and resources	9.1 Credible source
18	Stop sleeping pills while using CBTi	4.1 Instruction on how to perform the behaviour
19	Sleep diary	1.4 Action planning
19	Sleep diary	2.3 Self-monitoring of behaviour
Inside back cover	My plans	1.1 Goal setting (behaviour)
Inside back cover	My plans	1.8 Behavioural contract
Inside back cover	I'm ready to	1.9 Commitment

2.9.2 Data Analysis

In the second edition of her book on ID, Thorne highlights the variety of techniques and methods available in qualitative research and recommends borrowing from them to help conduct a robust data analysis plan (112). For this analysis, reflexive thematic analysis was used, and it

followed the six stages outlined by Braun and Clarke (110):

Familiarization: To maximize familiarization, I manually transcribed all interviews and then listened to them once or more times thereafter to ensure transcription accuracy while making margin notes regarding the initial impression of the data. Reflexive journal entries were done following transcription and familiarization sessions of most interviews.

Coding: Transcripts were printed and coded manually, and a reflexive journal entry was done before and after each coding session. Notes were taken during the coding process to ensure an adequate audit trail was being kept. Coding was done deductively and inductively, and each transcript was reviewed multiple times. The first review was used to identify any information related to the research questions. The second review of the transcript was focused on deductively coding the data. When the participant mentioned a particular section in the booklet, it was coded with its corresponding BCT using the coded Sleepwell booklets (Tables 4 and 5). During the third review of the transcripts, data were inductively coded by first identifying concepts that I interpreted as relevant to the participants' journey of BZRA discontinuation and CBTi use. Then after coding a few transcripts, concepts that were repeatedly identified by multiple people were coded using the same label. Once all transcripts were coded, a table was created with rows for each code and its' respective data illustrations (Appendix F and G). A total of 30 codes were initially developed, including 10 deductive and 20 inductive codes. A thorough review of the definition of the codes against their respective data illustrations was carried out with thesis supervisors to identify mislabeled data, and some data illustrations were re-coded accordingly. A meeting was held with all thesis committee members to review the analysis process and their feedback was used to improve the codes developed and was incorporated into the generation of initial themes.

Generating initial themes: In the theme development stage, codes were examined and clustered into groups based on interpretation of meaning similarities. To avoid committing to themes too early in

the process, the cluster of codes was labeled as clusters #1 and #2, etc. Initial clusters generated were discussed with supervisors, and changes were made based on feedback. Originally 6 clusters were made from the codes. Data illustrations were reviewed against transcripts to ensure accuracy and ellipses were used when irrelevant content was excluded from the quoted content. At this stage, a meeting with patient partners was held to ensure the analysis accurately captured and portrayed the patient's perspective and their feedback was incorporated into theme development.

Developing and reviewing themes: At this stage, the aim was to ensure the relevance and completeness of the initial themes developed. A review of the coded data set against the themes developed was completed to ensure that the themes reflected the story of the coded data. Then a review of the complete data set was carried out to ensure that the themes reflected the content of the data set and allowed the researcher to identify any critical data pieces that might have been missed. As a result, out of the 30 codes initially developed only 21 were used in the final themes, 9 of the codes were not found to be representative of the data set after the review process.

Refining, defining, and naming themes: Definitions of each theme were developed. If a clear definition was challenging to develop, it signaled the need to go back and refine the theme generated to ensure its robustness. Through this process, the initial themes developed were refined to a smaller number of overarching themes with sub-themes used to better represent the data's most important and relevant elements in relation to the research questions. Naming the themes also took place at this stage, and they were developed keeping in mind their relevance for participants and to engage the reader’s attention. Codes used for each theme and their corresponding data illustrations were clustered together (Appendix H). An initial thematic map representing the overarching themes and sub themes along with their corresponding codes was created (Appendix D). Another meeting with patient partners was held to present the developed themes, they acknowledged that the themes developed truly represented their experiences with Sleepwell, CBTi, and BZRA discontinuation.

Write-up: Analysis and writing were simultaneous. The initial thematic map was used to aid in the development of the outline for the findings and analysis section. During the write-up process, theme names were further developed, and two sub-themes were combined to better represent the data. The deductive codes were mapped back to the corresponding domains of the TDF to identify barriers and enablers of behaviour change which helped in evaluating the impact of the intervention. For concepts identified using inductive codes, potential domains of the TDF relating to them were identified as barriers or facilitators in behaviour change and potential BCTs were suggested for future intervention design.

2.10 Research Positionality

I am completing a Masters in Psychiatry Research at Dalhousie University under the supervision of Drs. David Gardner and Andrea Murphy. During my undergraduate degree in pharmacy (2017-2019), I took part in creating and organizing the content of the Sleepwell website. This provided me with a good understanding of the intervention being investigated. In addition, I am a practicing community pharmacist in Halifax, Nova Scotia where I regularly provide care for community dwelling older adults, many of which use BZRAs to treat insomnia. I routinely recommend CBTi to patients newly prescribed BZRAs or increasing their dose when it is no longer effective. My experience has been that patients tend to be skeptical with recommended non-pharmacological interventions for sleep.

My initial motivation to pursue this study was my desire to better understand patient hesitancy to utilize non-pharmacological treatment for insomnia. In addition, review of the available literature guided me to focus on the patient perspective of the intervention through qualitative research to allow the results to be more relatable to the target population.

It is important to note the potential impact my training and experience may have on data interpretation and theme generation. As a pharmacist, intrinsic biases around the use of controlled

substances such as patient's low desire to discontinue their medications and the assumption that they are aware of the risks associated with their use may affect my analysis. I have been involved with Sleepwell almost since its inception and need to recognize its potential impact on my analysis. Efforts will be made to minimize these effects via regular reflexive journaling and feedback from committee members and patient partners to uphold the sincerity of the study.

I participated in the conduct of the YAWNS NB study by completing approximately 16 telephone interviews. It allowed me to collect and record data from participants and learn about their experiences with the Sleepwell and EMPOWER materials. Additionally, I helped develop items for the ongoing pan-Canadian online survey, Stopping Insomnia Medications in Older Adults (SIMOA). The overall goal of this survey is to identify factors associated with BZRA discontinuation in older adults to inform the development of interventions, including Sleepwell, that support improved insomnia management and patient outcomes.

In November 2021, I completed the Foundations in Patient-oriented Research training through the Maritime SPOR SUPPORT Unit (MSSU). This training helped me appropriately include patient partners in the research process. My knowledge along with the program of research by my supervisors and their established networks, regionally and nationally, provided a strong foundation and the necessary building blocks to complete this study successfully.

CHAPTER 3: FINDINGS

3.1 Participants and Interviews

A total of 76 participants were contacted to participate in the study and 43 participants were reached. Twenty-two were interested and were sent the consent form via email. Seven invited participants indicated that they were not interested after receiving the consent form. A total of 15 participants were interviewed and their demographics are shown in Table 6. Interview lengths ranged from twenty to sixty minutes with an average duration of 30 minutes. Consent was obtained and recorded at the beginning of each interview. Participants were reminded of the audio recording and were informed when the recording started. Participants included in the study varied from those who reduced, stopped, or did not change their use of sleep medications during and after their participation in the study.

Table 6: Demographics

		N	%
Age			
	65-70	6	40
	71-75	1	7
	76-80	8	53
Self-identified Gender			
	Male	8	53
	Female	7	47
Currently using medication to help with sleep?			
	Stopped	2	13
	Reduced	4	27
	No change	9	60
Able to stop or reduce sleeping pills during the YAWNS NB study?			

Stopped	9	60
Reduced	2	13
No change	4	27

3.2 Coding and theme development

A total of twenty-one codes were included in the developed themes, including 8 deductive and 13 inductive codes (Table 7). Two overarching themes and two subthemes were developed.

Table 7: Codes Included in the Developed Themes

Deductive Codes	**Inductive Codes**
5.1 Information about health consequences	Awareness and understanding
5.5 Anticipated regret	Beliefs about sleep- importance of sleep for heath
5.2 Salience of consequences	Priority/ severity of issue
12.4 Distraction	Belief about medication effectiveness
2.3 Self-monitoring of behaviour	Push and pull- motivation
8.2 Stimulus substitution	Stuck-trapped- helpless-lost
6.1 Demonstration of behaviour	Skepticism around the booklet
6.2 Social comparison	Setting proper expectations- timeline
	Support from others- the value of help and belonging
	Booklets were an answer/ a guide- hope
	Endorsing of the booklets
	Joining the study with the intention to stop
	Attitude about medication

3.3 Themes

Two main themes represented older adults' perspective and experiences with the Sleepwell booklets, BZRA discontinuation, and CBTi use: (1) achieving sleep goals should not be this

difficult; and (2) whether you know it, or learn it, drugs are bad. The findings reveal the dilemma faced by participants in deciding what would cause more harm, BZRAs or lack of sleep.

3.3.1 Achieving sleep goals should not be this difficult

The interpretation of the data underscored the perceived importance of sleep for overall health and what participants are willing to do to achieve this sleep.

> AS0378: I have to go to sleep again or I'm not gonna be able to function… I became quite aware of that, how I was thinking, how muddled my thoughts were, how much I needed my, you know, a decent night sleep.

Two important sub-themes were created to represent this theme: (1) justification of BZRA use to achieve sleep goals; and (2) the effort of committing to CBTi.

3.3.1.1 Justification of BZRA use to achieve sleep goals.

Regardless of the journey with BZRAs and insomnia, participants commonly emphasized their strong desire to get a good night's sleep as a justification for their BZRA use. This concept is strongly related to the belief that BZRAs effectively provide a good night's sleep.

> AS0378: When you have a sleeping disorder like this it is a physical pain. It really is, so you would do anything to stop the pain, even when they say it [the sleeping pill] is addictive. So, I understand that they are addictive now.

> AS0539: I had to get my sleep with this [transplant] and the medication I was on, it was important that I get sleep and you know that kind of hooked me on [sleeping pills].

Describing insomnia as physical pain indicated the magnitude of suffering this participant was experiencing and their firmly held belief that BZRAs could resolve it. Similarly, people

experiencing other health concerns such as organ transplant or surgery identified that not sleeping would do more harm than good for their overall health. When weighing the cost of not being able to sleep to the cost of using BZRAs not sleeping was a greater concern.

Another attempt by participants to explain their use of BZRAs was revealed by devaluing the alternative methods for treating insomnia. Skepticism about the legitimacy of the booklet and its contents offer examples.

> BS0527: I felt Booklet 2 pushed cognitive behavioural therapy and I felt it was flogging, promoting somebody's book… I saw that there was a couple of references to the book and then I think there was a discount available if I got the book and I'm just looking and thinking "this is kind of they are promoting that book."
>
> AS0419: If you tell me to buy something it feels like an ad rather than a help… why is it telling me to buy this book… I think I did see the disclaimer but that doesn't really change the flavour.
>
> AS0171: No, see I don't, I don't, you know what, I don't believe in that kind of thing [CBTi]. So it might be fine for some people, but my brain box is not set up for that. It just, its either yes or no and if it doesn't work then I'm not wasting time on it… you know behavioural thing. And analyzing that, no I can't be bothered…. It's nothing that I would get involved in. To me, it is like, I don't want to say hocus pocus, but I don't know, no I can't be bothered.

In the presented data, the domain of the TDF that hindered behaviour change was knowledge, specifically knowledge about BZRA effectiveness. This was evident in this data set with participants who described lack of sleep as detrimental to other aspects of their lives. A possible

explanation for this phenomenon is the simplicity of BZRAs compared to its discontinuation or other treatment approaches for insomnia.

The complexity of BZRA discontinuation due to withdrawal effects reinforces BZRA use, a concept described as "the viscous cycle" in the Sleepwell booklets. It overpowered the desire to discontinue them as expressed by the following:

> BS0527: I knew I shouldn't be taking them and the few times I said the hell with it I'm going to stop taking them I found it difficult. I stopped for a month or so, but it was just easier to continue taking them.

> [BS0301]: It seems when I was off of it I was feeling better when I wake up in the morning because now when I wake up in the morning it is kind of, I don't know blurry and like it is unnatural…. I tell myself it is only for a few nights. If I could get a good sleep, but then after that, I have to do it, it is like in my mind I couldn't sleep and I had to take half of it.

In participants with the desire to stop their BZRAs, continuing to take them was more feasible than dealing with withdrawal. This was also true for participants who personally experienced the benefits of stopping their BZRAs.

3.3.1.2 The effort of committing to CBTi.

The simplicity of BZRAs may be preferable to the commitment required to implement effective CBTi methods for insomnia treatment. Participants identified sections of the booklet as being helpful with improving their sleep, the corresponding BCTs are 2.3 self-monitoring of behaviour, 12.4 distraction, and 8.2 stimulus substitution:

> AS0419: Relaxation therapy I found really good. So, I do yoga, but just reinforcing my progressive muscle relaxation rather than just saying "oh ok, I won't do anything before bed

for an hour and see if I sleep." But to actually physically do something to help your body relax – that was good.

AS0378: That planner… it helped me do the fight [to discontinue sleeping pills]. So never once in the time I got the program to the time I stopped it did I miss that little planner. I was printing out blanks left right and center. … That was the best tool for me. … I could see my hits and misses, and it helped me set goals.

AS0240: … I found probably the most beneficial thing I got out of that were the things inducing you to sleep. The breathing exercises, and not lying in bed there trying to get to sleep but get up and do something then come back to bed. I found that quite useful actually.

The two domains of the TDF corresponding to the BCTs that enabled behaviour change and improved sleep were skills and motivation and goals. However, there was a clear pattern that for CBTi to be effective, commitment to employing the various interventions was needed:

AS0539: Well, it's a course. It's like a university course or something you know. You've gotta schedule yourself. You've got to do what the book suggests you do. You gotta follow it just like you were going to make a final exam or something you know. … The book instilled that commitment in me.

BS0377: I felt, probably, a sense of relief. … Reading it is one thing. doing it of course is absolutely another thing. But reading it was a sense of relief this would work, and I had to do it. And so I had to pull up my socks more and so I did set those heavy-duty guidelines…It [stopping sleeping pills] is a slow process. it doesn't happen overnight it takes a while.

The need for commitment was also portrayed when participants would express the lack of interest or ability to take part in CBTi activities, or the quick disregard of the method when results were not

seen immediately:

> AS0171: No, I don't do goals., I don't do that stuff. My life is too busy I don't have time to think about a whole whack of things. So I don't do that stuff. It either works or it doesn't work. And if it doesn't work, then out the door you go. It's that simple to me.

> AS0528: I couldn't do the sleep study thing [filling out the sleep diary] because when I get up at night, I don't want to write nothing down and I forget.

> AS0413: A series of things happened in my life. Just couldn't keep up the schedule.

> AS0419: I had a lot of difficult family issues going on that outweighed anything else that I was trying to do.

In one way or another, participants identified the demanding process of effectively implementing CBTi and how without commitment it can be challenging to benefit from its components.

Participants identified a critical component needed in committing to CBTi: various forms of support and guidance. The Sleepwell booklets were valuable in guiding participants to available self-help CBTi resources.

> AS0539: They sort of peak your interest and point you into a direction and they give you a quick look at certain concepts so that you begin to realize that there is more to this than "oh I think I'm going to taper off and stop" you know… introduces you to various procedures and various things you can do in a pretty straight forward and practical way and then when I got through booklet 2 I really had to get the book [Sink into Sleep]…this cognitive behavioural therapy business was really interesting and it put me into an area that I didn't have a name for and so I found it really quite helpful.

The BCT 6.2 social comparison embedded in the stories in the booklets validated participants' experiences and gave them a sense of belonging.

> AS0413: I was reading that [the booklets' stories] and I saw myself in their stories. I thought "these are real people. They've gone through it., I am going through the same thing", and I could identify with someone else. You know, it is not just me. Stories of people with the same problems and that there is a lot of people with the same problem.

> AS0378: I didn't have much before I had this book. … In fact, all I was doing was suffering and so I was cutting my pills down and then suffering. … There wasn't a reasonable thought in my head of how I could actually do this other than get off the drugs. So, it was an enlightenment, the book was an enlightenment.

The consensus among participants was that having support made the task of taking on CBTi more manageable. This was seen with people showcasing the support they had, or desired to have, from other people such as spouses or healthcare providers.

> AS0378: I had been looking for help. I couldn't keep doing this on my own and I couldn't be running to my doctor about it because nobody seems to understand.

> BS0377: I have a new doctor and I know she's trying. She wants me to stop them [sleeping pills]. She knows they're not good for me. She was the one who said let's reduce the dosage which I haven't thought of before.

> AS0413: My wife sometimes would read to me a part of it, and we would go through it together. On my own it was a little bit difficult, but it was nice to have companionship.

Participants' primary concern was achieving their sleep goal. The belief in BZRA effectiveness, the

difficulty of withdrawal and the challenges of implementing CBTi further encouraged their use of medications.

3.3.2 Whether you know it, or learn it, drugs are bad.

A negative attitude related to BZRA use is due to participant's desire to avoid harms associated with their use. General dislike of this class of medication was present in this data set and was expressed in their intentions around joining the YAWNS NB study:

> AS0413: Oh absolutely, I wanted to stay away from them [sleeping pills] as much as possible and this was a great opportunity to help me do that.

> BS0301: I was determined to stop and that is why I was reading it [the booklet].

These negative attitudes about BZRAs were present with or without the Sleepwell booklets. Participants expressed an overall dislike for medications:

> AS0240: Well, I have a bit of an aversion to pills to start with. I try to take as few as I can and so I saw the ad for the sleep study [I thought] well "why not". I'll see if I can, if it will help me [stop the sleeping pills].

Others described the difficulty of stopping BZRAs and the trapped feeling that accompanies their use further emphasizing the negative experience associated with their use:

> BS0377: Once you got into it [taking sleeping pills], boy it's hard to get out without some kind of help.

> AS0539: If you are into stopping sleeping pills it is not an easy thing to do. There is no question about that. I think that is agreed on by everybody.

> BS0301: I felt that I needed to stop but I don't have any, like, it's like I don't have any confidence in myself and self-esteem. … I'm still anxious and still scared. It is like trying to do new things.

Generally, participants had a negative association with BZRAs and felt under informed about the consequences of taking them. Frustration due to the lack of knowledge implied their desire to avoid harms associated with BZRA use and implied that they did not make an informed decision about their use.

> AS0240: Well, I guess I found out I didn't know as much about sleeping pills as I thought I did and the issue of pneumonia. ... The fact that, you know, really, they're not a cure for insomnia. Once your body adjusts to the pill you probably have as much insomnia as you did without the pill.

The content in Booklet 1 related to the BCT 5.1 information about health consequences enabled conversation around safe medication use in the older population. The knowledge domain of the TDF aligns with this BCT and was therefore an enabler of behaviour change. Participants seeking more information about their BZRAs after reading the booklets further shows the desire of participants to make a well-informed decision about their health.

> BS0301: The doctors who prescribed those [sleeping pills] without telling us the danger of it… I mean they don't give you instructions or answers.

> AS0378: Most of us, we just take drugs based on what our doctor tells us. … There is not enough research that goes into everything. The drugs I was trying to go off… only one of those drugs were on your list however in my withdrawing from these drugs I went through terrible, terrible withdrawal… so I did the research.

Along with BCT 5.1, booklet contents embedding BCTs 5.2 salience of consequences and 5.5 anticipated regret were an integral influence on participants desire to stop or reduce BZRAs.

> AS0413: I just read it and I was glued to it because these people were falling and having accidents and stuff like that, and I didn't want to go there. I wanted to keep on driving a car as long as possible.

> AS0378: I saw that woman on the floor, and she's either dead or in a coma. You know, that had an emotional impact on me because I don't ever want to put myself in that light. … The woman laying down and having fallen and I live 47 stairs up. I live in a flat on the top of a building with no elevators. Oh yeah, so that had great impact on me.

Through the written information and images used, participants better understood the potential harmful consequences that continuing to take BZRAs could have on their future health and well-being. In some cases, this increased their commitment to reduce and stop BZRA use:

> AS0539: What the study did for me was it put me in a place where I am always conscious of the fact that I can't go back to that level of sleeping pills and that I have to, you know, really get off of them, but it's been difficult to do.

> BS0527: When I finished Booklet 1, I realized I really had to stop taking them. … If I hadn't read Book 1, I probably wouldn't have said "well hell, I'm going to stop this". It kicked me into doing it so that is very positive.

However, one participant did not find the information provided to be sufficiently motivating to discontinue their BZRAs:

> AS0171: I understood a little more [about problems caused by sleeping pills after reading the booklet] but I mean I'm not going to change my habit of taking my pills. It is not enough

to change, not enough to change my idea… no not enough to apply any solutions.

Whether participants came into the study with an aversion to BZRAs or developed it after reading the booklets, it ignited a re-evaluation of their use. As a result, an informed decision was made, some found the benefits outweigh the risks while others took this opportunity to reduce or discontinue their BZRAs.

CHAPTER 4: DISCUSSION AND CONCLUSION

4.1 Discussion

This study utilized interpretive description and reflexive thematic analysis to explore older adults' perspectives of the embedded BCTs in the Sleepwell booklets and their experiences with BZRAs with the aim to understand the challenges and opportunities of BZRA discontinuation and CBTi use.

4.1.1 Older Adults' Perspectives on BCTs embedded in the Sleepwell Booklets

Older adults' perceptions of the Sleepwell booklets were insightful. The BCTs 5.1 information about health consequences, 5.2 salience of consequences, and 5.5 anticipated regret, related to the domains of the TDF knowledge and beliefs about consequences, were identified as possible enablers of behavior change in this data set. It related to the second theme, whether you know it, or learn it, drugs are bad, and underscored the participants' desire to understand the risks and benefits of their BZRAs and make an informed decision about their medication use. A 2022 systematic review identified the knowledge and belief about consequences domains of the TDF as barriers to deprescribing BZRAs, results from this analysis demonstrated the positive effect of targeting these domains using the mentioned BCTs (98). Improving the understanding of, and demonstrating the risks associated with, BZRA use prompted older adults to re-evaluate their BZRA use, similarly in the EMPOWER study improved knowledge and an increase in perception of risk about BZRAs triggered motivation in their study population (97). The Sleepwell content embedded with those BCTs was a combination of images and text. Some data points clearly portray the importance of images used in the booklet section The Dangers of Sleeping Pills while others don't specify; therefore, it cannot be determined whether the text, the use of images to represent the harms, or a combination was most effective in eliciting a response.

Relating to the subtheme the effort of committing to CBTi, Sleepwell successfully created

tools that facilitated behaviour change using the following BCTs: 6.1 demonstration of behaviour, 6.2 social comparison, 2.3 self-monitoring of behaviour, 12.4 distraction, and 8.2 stimulus substitution. Participants identified these BCTs as helpful and supportive in the difficult journey of committing to CBTi. However, they found that the stringency of the recommendations in the booklets contradicted the portrayed simplicity of implementing CBTi. Previous studies have reported patients' perception of CBTi to be challenging, particularly the sleep restriction component, and highlighted the importance of communicating that challenge to prospective CBTi users (60–62). Changes are needed to enable CBTi skill acquisition while, simultaneously, disclosing the commitment required to achieve improved sleep outcomes. Doing so will help users identify the appropriate skills and effort needed to partake in CBTi and decrease the likelihood of dismissing it outright. Utilizing a BCT such as 1.4 action planning, to address the TDF domain behavioural regulation, can set better expectations and address this barrier. Moreover, individualizing the implementation of various components of CBTi based on each person's needs are thought to improve access to treatment (44,45). Therefore, another method to tackle this barrier would be to portray more leniency in the booklets' recommendations on the implementation of CBTi.

4.1.2 Older Adults' Experiences with BZRA Use

4.1.2.1 Challenges to BZRA Discontinuation and CBTi Use.

An inner conflict between the perceived benefits and risks of BZRA use was commonly seen across this data set. PRIME theory of motivation and the BCW represent this internal conflict with reflective and automatic motivation (102,103). Reflective motivation involves conscious thought processes and automatic motivation involves wants, needs, impulses, and reflex responses (103). Understanding harms of BZRAs and wanting to discontinue them is the reflexive motivation, but the belief in their effectiveness and the ease of taking them is the overpowering automatic

motivation. Both types of motivation can be a target for behaviour change. Improving the knowledge surrounding the risks associated with BZRA use targets reflective motivation and is discussed in section 4.1.2.2. However, there is an opportunity for the Sleepwell booklets to target automatic motivation, which in this context refers to beliefs about BZRA effectiveness and ease of taking them. Irrespective of the research on the limited effectiveness of BZRAs for chronic insomnia treatment, participants in this study believed that BZRAs will help with sleep (115–117). Older adults' and prescribers' comfort in, and belief that, BZRAs are effective has been reported in previous literature as a barrier to deprescribing them (40,43,97,118–120). There is a gap between evidence and patient understanding of the effectiveness of BZRAs. An attempt to bridge this gap through education, using a BCT such as 5.1 information about health consequences, about the lack of long-term effectiveness of using BZRAs may be helpful. A contributor to this barrier is older adults' perceived efficacy and safety of BZRAs due to prescribers providing prescriptions and not inquiring about BZRA use, interventions directly targeting prescribers may be warranted but is beyond the scope of this thesis (40–43,98). To address the ease of taking BZRAs, Sleepwell can target the reinforcement domain of the TDF using corresponding BCTs such as 12.1 restructuring of the physical environment and 12.5 adding objects to the environment.

The first theme of the strong belief about the importance of sleep for overall health might be an important concept to address in the Sleepwell resources. Dysfunctional Beliefs About Sleep scale (DBAS-16) is a self-reported measure used to evaluate sleep related cognitive distortions that may be contributing to insomnia (121). Higher scores on the DBAS-16 indicate insomnia and can predict lower adherence to behavioural insomnia treatment (122–124). DBAS-score improvement has been associated with improved sleep quality, insomnia severity, daytime sleepiness, overall fatigue and WASO in a randomized control trial (125). However, others found that CBTi may improve DBAS-16 score but was not associated with improvement in insomnia severity (126). The established

relationship between dysfunctional beliefs and attitudes about sleep and insomnia warrants further investigation by the Sleepwell researchers to determine if changes are needed to Booklet 2 to address the contribution these beliefs may have on insomnia.

4.1.2.2 Opportunities towards BZRA Discontinuation and CBTi use.

As discussed above, reflective motivation described as understanding the risks associated with BZRAs and wanting to stop them can be a target for behaviour change. In section 4.1.1 older adults' positive perception of the BCTs used to improve knowledge on risks associated with BZRAs is discussed. Participants either joined the study due to their dislike of BZRAs or developed an aversion to them after reading the booklets, in both cases a re-evaluation of their medication use was triggered but did not always lead to discontinuation. Therefore, capitalizing on this opportunity by further educating participants about BZRA discontinuation and CBTi effectiveness could be beneficial. Investigations of physicians' and patients' perspective on deprescribing medications describe anticipated patient resistance as a barrier for physician deprescribing medications (43,127,128). However, this dataset describes a desire from patients to avoid unnecessary harms due to medication use and is an opportunity for BZRA discontinuation. Others have also identified the lack of knowledge of CBTi to be a barrier for its use, taking this opportunity to discuss CBTi may lead to an increased utilization of this treatment (60). Therefore, there may be a place for Sleepwell resources to be introduced to older adults in primary care settings to help trigger the re-evaluation of medication use and educate them on CBTi and effective BZRA discontinuation methods. Clinician-patient interventions, detailed or brief, have previously led to significant discontinuation in therapy, however, the effectiveness of Sleepwell resources in such setting is beyond the scope of this thesis (86–90).

Highlighted in the sub-theme the effort of committing to CBTi is the value of having support on making the task of taking on CBTi more manageable. It has been previously identified by

patients the critical role social support had on their adherence to CBTi treatment (60–62). The domain of the TDF that mediated the commitment to CBTi was social influences. Sleepwell's use of the BCTs 6.1 demonstration of behaviour and 6.2 social comparison were found to help engage participants. While the lack of the BCTs encompassed under social support was hindering to the commitment of CBTi. There may be potential for Sleepwell to provide a support resource that users can seek. A network meta-analysis investigating the various forms of CBTi delivery methods found that having support through guided self-help, individual, or group CBTi was better than unsupported self-help formats of CBTi (47). Given the importance of support highlighted by this data set, future research on Sleepwell's role in supporting patients would be beneficial and is underway.

4.1.3 Suggested changes to Sleepwell

To improve adherence to CBTi, communicating the efforts needed to effectively implement it may be beneficial. Participants identified the difficulty in implementing CBTi, especially when their use was confounded by life commitments or other health related concerns. Targeting the behavioural regulation domain of the TDF using a BCT such as 1.4 action planning can improve adherence to CBTI by setting appropriate expectations for its implementation.

Participants identified the convenience of using BZRAs for managing their insomnia compared to other interventions. Utilizing BCTs such as 12.1 restructuring of the physical environment and 12.5 adding objects to the environment to target the reinforcement domain of the TDF can address this barrier to deprescribing.

A driving force for the continuous use of BZRAs for chronic insomnia management was the belief in its effectiveness. Targeting the knowledge domain of the TDF to bridge the gap between participants' understanding of BZRA effectiveness and the available evidence of its effectiveness can further improve deprescribing.

It is important to note that suggestions regarding improvements of the Sleepwell resources using specific BCTs are merely suggestions based on theoretical overlap between the identified TDF domain and the corresponding BCTs. Further research is needed to accurately identify evidence based effective BCTs for the identified TDF domains in the context of Sleepwell resources.

4.2 Limitations

The sample of this study was recruited from the YAWNS NB study, that had specific inclusion and exclusion criteria, limiting the transferability of the results to wider community settings. Findings do not apply to older adults living in long term care, those with advanced cognitive decline and those with severe and persistent mental illness. Findings cannot be transferred to younger adults or people using other pharmacological interventions for insomnia treatment. Moreover, the sample of this study was recruited from the participants that agreed to be contacted regarding future research projects. Participants who did not agree to be contacted regarding future studies may be more likely to have had an unpleasant or unsuccessful experience with the Sleepwell resources. Therefore, the pool of participants that I recruited from may not accurately represent older adults' experiences with the Sleepwell booklets.

Reflexivity of the study may have been hindered since only one person analyzed the raw data collected from the interviews. Efforts were made to keep a detailed reflexive journal to maintain an audit trail for the development of the analysis. In addition, weekly meetings with co-supervisors and periodic meetings with patient partners were done to minimize the bias of a single person reviewing the raw data. These efforts were intended to reduce the influence of having a single person review the raw data, but it does not eliminate the bias of a single person reviewing the raw data.

During transcription of the early interviews, I noted asking leading questions and making leading statements that might have impacted the participant's answers. This was noted in the

reflexive journal and corrected for later interviews; however, some data may not accurately represent the participant's experiences affecting the credibility and confirmability of the data. Furthermore, two interviews were relatively short (20 minutes), and it was difficult to get these two participants to elaborate on their experiences beyond superficial answers which may affect the richness of the data set. When the short interviews were identified during transcription, a decision was made to recruit and interview more older adults and provide opportunity to create richer data.

4.3 Conclusion

Despite the diverse experiences of older adults had with BZRAs, commonality with the firm belief of the importance of sleep to overall health and the desire to avoid harms associated with BZRAs was seen across the data set.

Older adults' identified booklet contents embedding the BCTs 2.3 self-monitoring of behaviour, 8.2 stimulus substitution, and 12.4 distraction as motivators for CBTi use and BZRA discontinuation. Contents embedding the BCTs 6.1 demonstration of behaviour, and 6.2 social comparison were identified as supportive in the implementation of CBTi. Additionally, an enabler for BZRA discontinuation was The Dangers of Sleeping Pills which embeds the BCTs 5.1 information about health consequences, 5.2 salience of consequences, and 5.5 anticipated regret.

The desire to avoid harms associated with BZRAs was an opportunity for a conversation about safe medication use and potential discontinuation. Challenges to BZRA discontinuation included the strong belief of BZRA effectiveness and its ease of use. Improving the Sleepwell booklets to include BCTs such as 5.1 information about health consequences and 12.1 restructuring the physical environment can improve the awareness of BZRA effectiveness and impede its use. The lack of social support from others was found to be a challenge to CBTi use and Sleepwell has a potential role in addressing this barrier through future research.

Findings of this study can aid in applying evidence-based therapy into clinical practice by

addressing the enablers and barriers found in the Sleepwell booklets and considering the challenges and opportunities experienced by older adults with BZRA use and discontinuation. While there is rich data to address mediators of CBTi use and BZRA discontinuation in older adults, exploring this topic in a more diverse population is vital to improve transferability to broader community settings.

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APPENDIX A INTERVIEW GUIDE

Semi-structured interview guide
REB# 2020-5184

Interview procedures and guide

Interviewer duties:

- Take time to do introductions (introduce research team member and role, confirm participant's name).
- Engage in informal conversation (e.g., ask the participant how their day is) to "break the ice" and begin to establish rapport/make the interviewee feel comfortable.
- Thank the participant. (e.g., "Thank you for consenting to participate in this interview.")
- Explain that it is expected that the interview will take approximately 60 minutes, but that breaks, and pauses can be used if desired/needed.
- Tell the participant that there is a list of questions to discuss, and if some questions are covered by other responses, the question may still be asked to give an opportunity for any additional comments.
- Discuss with the participant that there are no right or wrong answers and that it is based on their opinion/experience.
- Confirm the participant has the copies of the Cover Letter and Sleepwell Booklets x 2.
- Indicate that the recording is starting.
- Ask the participant if they have any questions before starting: "Do you have any questions before we begin?"

If yes, document questions and discussions and any actions taken to address questions:

Phone number:

Participant phone number if unexpectedly disconnected.

Semi-structured interview guide
REB# 2020-5184

First, I have general questions related to the YAWNS NB study and how you are doing now. Once we finish these questions, I have some questions about the Sleepwell booklets.

QUESTIONS TO ESTABLISH CONTEXT

1. Were you able to reduce or stop your sleeping pills during the YAWNS NB study?
2. Are you currently taking a sleeping pill to help you sleep?
3. Did you learn new ways to help you sleep better during the YAWNS NB study?
    a) If yes: Did they work for you? Are you still using these techniques?

Now, we are going to talk about the Sleepwell booklets. [Interviewer: These questions will be individualized based on above responses]

GENERAL QUESTIONS ABOUT SLEEPWELL BOOKLETS

4. What were your thoughts and feelings about the covering letter to the Sleepwell booklets?

    Probes may include:

    a) What stood out for you in the letter?

FOR PARTICIPANTS WHO DID REDUCE OR STOP SLEEPING PILLS DURING THE STUDY

5. What was it about the Sleepwell booklets that encouraged you to reduce or stop your sleeping pills?

    Probes *may include:*

    a) What parts of the booklets stood out the most for getting you started with reducing or stopping your sleeping pill?
    b) What was most important for helping you to stop your sleeping pills?

6. What did you find engaging about the Sleepwell booklets?

    Probes *may* include:

    a) What did you like about the booklets?
    b) What could be changed to make the booklets more engaging for you?

FOR PARTICIPANTS WHO DID NOT REDUCE OR STOP SLEEPING PILLS DURING THE STUDY

7. Tell me about your thoughts on why you didn't reduce or stop your sleeping pills after receiving the Sleepwell booklets?

   Probes *may include:*

   a) What makes sleeping pills the right choice for you?
   b) What components of the Sleepwell booklets encouraged you to continue your sleeping pills?

8. What parts of the Sleepwell booklets did you find engaging?

   Probes *may include*

   a) What did you like about the booklets?
   b) What could be changed to make the booklets more engaging for you?

FOR ALL INTERVIEWS

Let's spend some time talking about Booklet 1 - How to Stop Sleeping Pills. This Booklet has content that includes a quiz, information about pills that make you drowsy, the dangers of sleeping pills, a brief introduction to cognitive behavioural therapy for insomnia (CBTi), and some information on how to stop sleeping pills.

9. What is your understanding of the purpose of the Booklet 1: How to Stop Sleeping Pills?

   Probes may include:

   a) Who is the Booklet for?
   b) What is the Booklet about?
   c) What do you think about the reading level (Too simple? Too complicated?)?

10. What did you learn about the **benefits** of sleeping pills from Booklet 1?

    Probes may *include:*

    a) Did your understanding of sleeping pill benefits change from before you had the Booklet?
    b) What benefits have sleeping pills offered to you?
    c) How did what you learned of the benefits of sleeping pills make you feel?

11. What did you learn from Booklet 1 about the **problems** that sleeping pills can cause?

    Probes *may include:*

a) Did your understanding of sleeping pill problems change from before you had the Booklet?
b) What problems have you experienced because of sleeping pills?
c) How did learning about the problems caused by sleeping pills make you feel?

12. What section or sections of Booklet 1 did **you use most often**?

Probes *may include:*

a) How often did you look at these sections?
b) What was the main reason or reasons you referred back to these sections?

13. What written information or the images used (photos, diagrams) in Booklet 1 influenced your **intentions** for reducing or stopping your sleeping pills?

Probes *may include:*

a) What parts of the Booklet made you think differently about sleeping pill use?

14. Tell me about any changes to your **confidence** around sleeping pill use that occurred because of Booklet 1?

Probes may include:

a) If your confidence didn't change, why not? OR If your confidence did change, why do you think that occurred?
b) What skills did you gain from reading Booklet 1?

15. What goals did you set for yourself about reducing or stopping your sleeping pills because of Booklet 1?

Probes may include:

a) What kinds of plans for reducing or stopping your sleeping pills did you make while using Booklet 1?
b) When thinking about barriers to reducing or stopping sleeping pills that you experience(d), how can setting goals help to overcome those barriers?

16. Overall, what did you feel when reading and looking at Booklet 1?

Probes *may include:*

a) Describe how the content made you feel in general?
b) How did your feelings impact the use of the booklets?

Let's spend some time talking about Booklet 2 - How to Get Your Sleep Back. This Booklet has content about cognitive behavioural therapy for insomnia (CBTi), and some information on how to stop sleeping pills.

17. What is your understanding of the purpose of the Booklet 2: How to Get Your Sleep Back?

    Probes *may include:*

    a) Who is the Booklet for?
    b) What is the Booklet about?
    c) What do you think about the reading level (Too simple? Too complicated?)?

18. What did you learn about the **benefits** of CBTi from Booklet 2?

    Probes *may include:*

    a) What did you know about ways to treat insomnia/improve your sleep (without sleeping pills) before you had Booklet 2?
    b) How did what you learned about the benefits of CBTi make you feel?
    c) What benefits have the techniques of CBTi offered you?

19. What are the problems with using CBTi?

    Probes may include:

    a) How did you learn about these problems? [Booklet 2, experience, assumption, etc.]
    b) How did the recommendation to use CBTi make you feel?
    c) What did you think about the recommendation in Booklet 2 to buy the book Sink Into Sleep?

20. What section or sections of Booklet 2 did **you use most often**?

    Probes *may include:*

    a) How often did you look at these sections?
    b) What was the main reason or reasons you referred back to these sections?

21. What written information or images (photos, diagrams) in Booklet 2 influenced your **intentions** for using CBTi?

    Probes *may include:*

    a) What parts of the Booklet made you think differently about improving your sleep without sleeping pills/with sleep therapy techniques described in booklet 2?

22. Tell me about any changes in your **confidence** around managing your sleep because of Booklet 2?

Probes *may include:*

a) If your confidence didn't change, why not? OR If your confidence did change, why do you think that occurred?
b) What skills did you gain from reading Booklet 2?

23. What goals did you set for yourself because of Booklet 2?

Probes *may include:*

a) What kinds of plans did you make for using CBTi while using Booklet 2?
b) In what way did the recommendation to use the book Sink Into Sleep influence your plans for using CBTi to improve your sleep?
c) When thinking about barriers to using CBTi, how can setting goals help to overcome those barriers?

24. Overall, what did you feel when reading and looking at Booklet 2?

Probes *may include:*

a) Describe how the content made you feel in general?
b) What impact did your feelings have on the use of the booklet?

Lastly, here are two general questions about your use of the booklets:

25. Overall, what changes would you make to improve the booklets?

Probes *may include:*

a) Are there any specific words, pictures, etc., that should be changed?

26. Overall, tell me who you would share these booklets with and why?

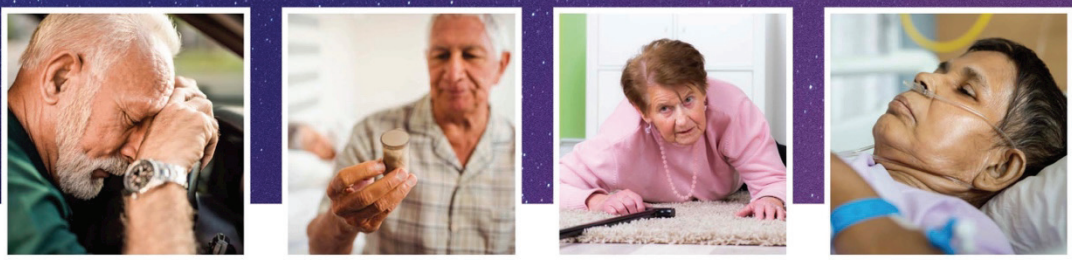
Probes *may include:*

a) How could sharing the booklets with others help you?

APPENDIX B BOOKLET 1 HOW TO STOP SLEEPING PILLS

Booklet 1

How To Stop Sleeping Pills



Sleepwell
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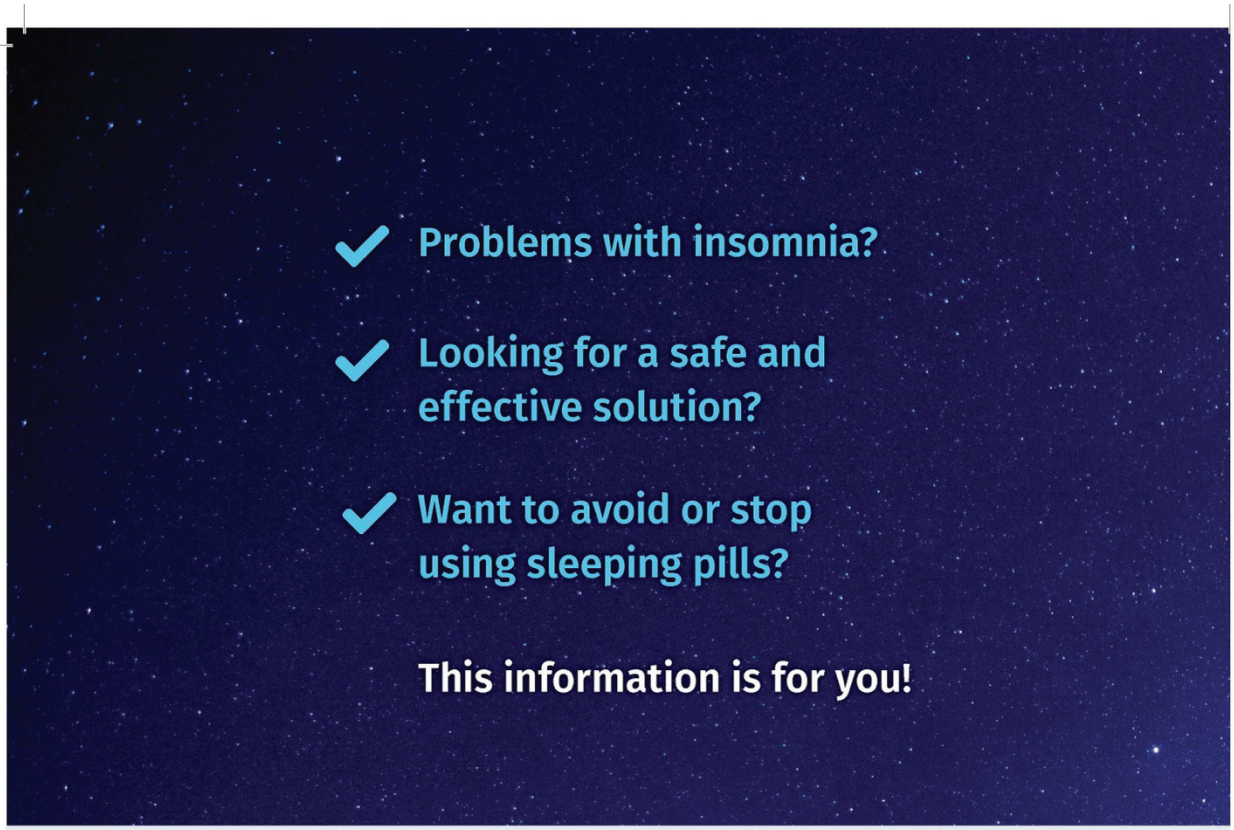
CBTi



ABOUT SLEEPWELL

The purpose of Sleepwell is to inform people about effective, non-medication approaches to managing insomnia. Sleepwell also shares information about the dangers of sleeping pills and how to safely stop them. Sleepwell recommends specific programs, tools, and resources for treating insomnia. All recommendations have been closely scrutinized and are chosen based on their quality, research base, and accessibility. The developers of Sleepwell are Dr. David Gardner (Professor, Department of Psychiatry) and Dr. Andrea Murphy (Associate Professor, College of Pharmacy), Dalhousie University, Halifax, Nova Scotia, Canada. In developing and updating Sleepwell, Drs. Gardner and Murphy regularly collaborate with sleep experts, psychologists, psychiatrists, family doctors, pharmacists, and people who live with insomnia.

Note: Specific features in this booklet were created specifically for the YAWNS NB study.

DISCLAIMER

Sleepwell is an information sharing initiative. It is not designed to diagnose sleep problems and it is not intended to replace the care or advice of your health care provider. Speak to your health care provider if you have questions or concerns about sleep problems and how to manage them.

Canadian English Edition 04.2022

Take the Quiz

What do you know about sleeping pills?

1. Sleeping pills are not to be used regularly at bedtime for more than 1 month.

☐ TRUE ☐ FALSE

2. Sleeping pills cause insomnia.

☐ TRUE ☐ FALSE

3. The safest sleeping pills are zopiclone and zolpidem, known as the Z-drugs.

☐ TRUE ☐ FALSE

4. Cognitive behaviour therapy for insomnia (CBTi) can be used while still using sleeping pills.

☐ TRUE ☐ FALSE

5. Sleeping pills reduce the average time to fall asleep by 5-10 minutes.

☐ TRUE ☐ FALSE

Answers are on the next page.

1

Check Your Knowledge

1 Sleeping pills are not to be used regularly at bedtime for more than 1 month.

True

Health Canada has approved sleeping pill use to be limited to 1 month or less for treating insomnia.

2 Sleeping pills cause insomnia.

True

A leading cause of insomnia is the sleeping pill withdrawal syndrome. This syndrome is characterized by a number of different symptoms, depending on the type of sleeping pill that is stopped. The leading symptom of the syndrome is insomnia. Learn more about the vicious cylce of sleeping pills on p. 8-9.

3 The safest sleeping pills are zopiclone and zolpidem, known as the Z- drugs.

False

Zopiclone (Imovane) is Canada's leading sleeping pill. It and other Z-drugs are not safer than benzodiazepines. All are associated with falls, serious injuries, car accidents, dependence, abuse, and withdrawal. Learn more about the dangers of sleeping pills on p. 4-7.

4 CBTi can be used while still using sleeping pills.

True

Cognitive behavioural therapy for insomnia (CBTi) can be used when taking sleeping pills. Use CBTi to help you sleep when gradually stopping sleeping pills taken for months or years. Learn more starting on p. 11.

5 Sleeping pills reduce the average time to fall asleep by 5-10 minutes.

True

Clinical studies show that the typical person with insomnia finds that they get to sleep only 7 minutes faster and sleep for 15 minutes longer with a sleeping pill compared to taking a placebo pill.

Your score: ____ /5

Find more sleeping pill quiz questions at **mysleepwell.ca**

Pills that make you drowsy

Are you taking any of these medications?

Zopiclone **Imovane**	Zolpidem **Sublinox**	Eszopiclone **Lunesta**	Zaleplon **Starnoc**	***Z-drugs***
Lorazepam **Ativan**	Oxazepam **Serax**	Bromazepam **Lectopam**	Flurazepam **Dalmane**	***Benzodiazepines "Benzos"***
Clonazepam **Rivotril**	Alprazolam **Xanax**	Triazolam **Halcion**	Nitrazepam **Mogadon**	
Diazepam **Valium**	Temazepam **Restoril**	Chlordiazepoxide **Librium**	Clorazepate **Tranxene**	
Trazodone **Desyrel**	Amitriptyline **Elavil**	Doxepin **Sinequan**	Quetiapine **Seroquel**	***Sedating antidepressants & antipsychotics***
Diphenhydramine **Benadryl**	Dimenhydrinate **Gravol**			***Sedating antihistamines***
Melatonin	Valerian root	Cannabis	Alcohol	***Natural sedatives***
Chloral hydrate	Barbiturates			***Other sedatives***

Regular text: drug name. Bold text: original brand name.

Each of these medications can be considered to be a sleeping pill because they cause you to feel drowsy when you take them. Beyond treating insomnia, most have other uses depending on the type of medication, for example treating anxiety ("nerves"), depression, or allergies. You should read this booklet if you are taking any of these medications to help you sleep, even if you are using them to help you in other ways.

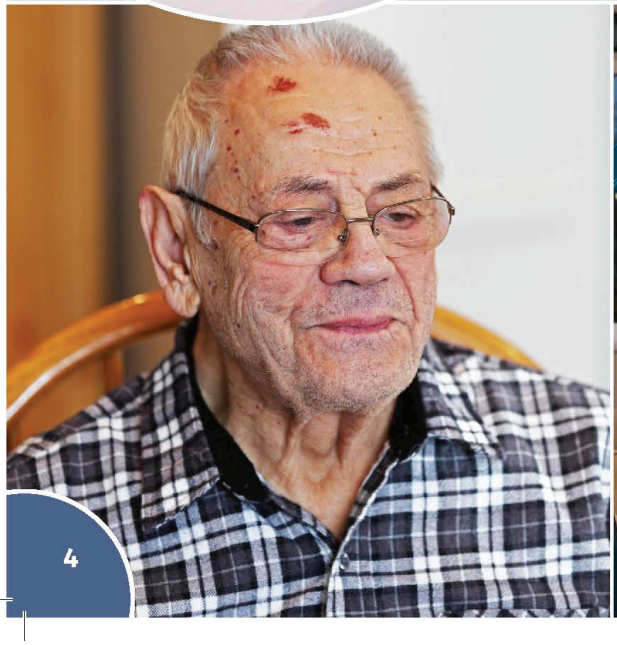
The Dangers of Sleeping Pills

Injuries from falls

Sleeping pills are a leading cause of **injuries from falls** in older adults.

- **Broken hip**
- Fractured wrist, spine, cheek bone, etc.
- Head injury
- Death

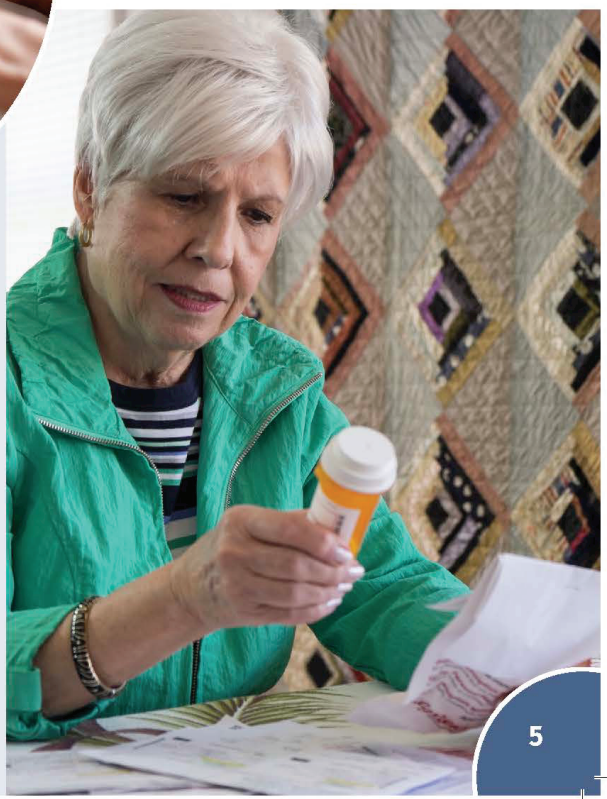
"I lost my independence after my fall. I had to go to a nursing home."



Memory problems

Sleeping pills aren't good for your **memory**. They make it hard to learn something new or remember something you should know.

Studies show a link between sleeping pill use and **dementia**.



Dependence and withdrawal effects

The most commonly used sleeping pills lead to **dependence** and **withdrawal** effects (see p. 8-9), especially those classified as benzodiazepines and Z-drugs.

"I feel like I'm addicted to my sleeping pill."

The Dangers of Sleeping Pills

Drug interactions and overdosage

Sleeping pills cause **intoxication** when combined with alcohol and other sedating medications.

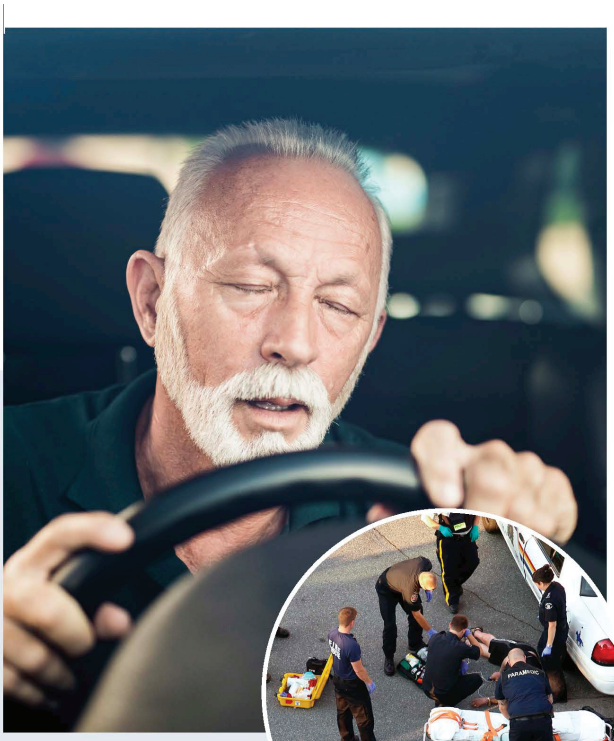
They are involved in 2 of every 3 **overdose deaths** with opioids.

Pneumonia

WARNING! People who get the flu (or other respiratory viral infections) while taking sleeping pills are at very high risk for serious complications.

RISK FOR PNEUMONIA **4X** HIGHER

RISK FOR FLU-RELATED DEATH **20X** HIGHER



Impaired driving

FACT 1: People who drive the morning after taking **zopiclone (Imovane)** are as impaired as someone with a blood alcohol content **above** the legal limit.

FACT 2: **1 in 9** drivers in fatal accidents have recently taken sleeping pills

FACT 3: People who take sleeping pills are **4-6 times** more likely to be in a serious traffic accident.

Loss of confidence and social isolation

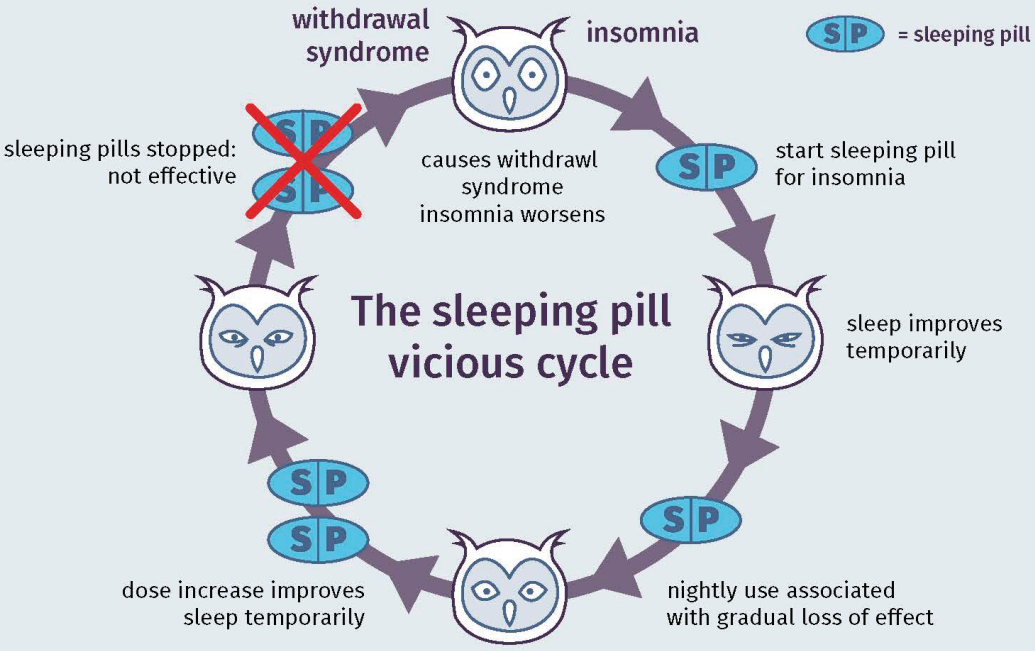
You may not notice the subtle **hangover** effects of your sleeping pill. Slowed thinking and physical reflexes can lead to forgetfulness, unsteadiness, and a fear of going out.

Other dangers

- Dangerous if you have severe sleep apnea
- Impaired breathing when combined with other sedatives
- Blackouts, sleepwalking
- Sometimes taken with drugs of abuse for getting “high”

7

The Sleeping Pill Vicious Cycle

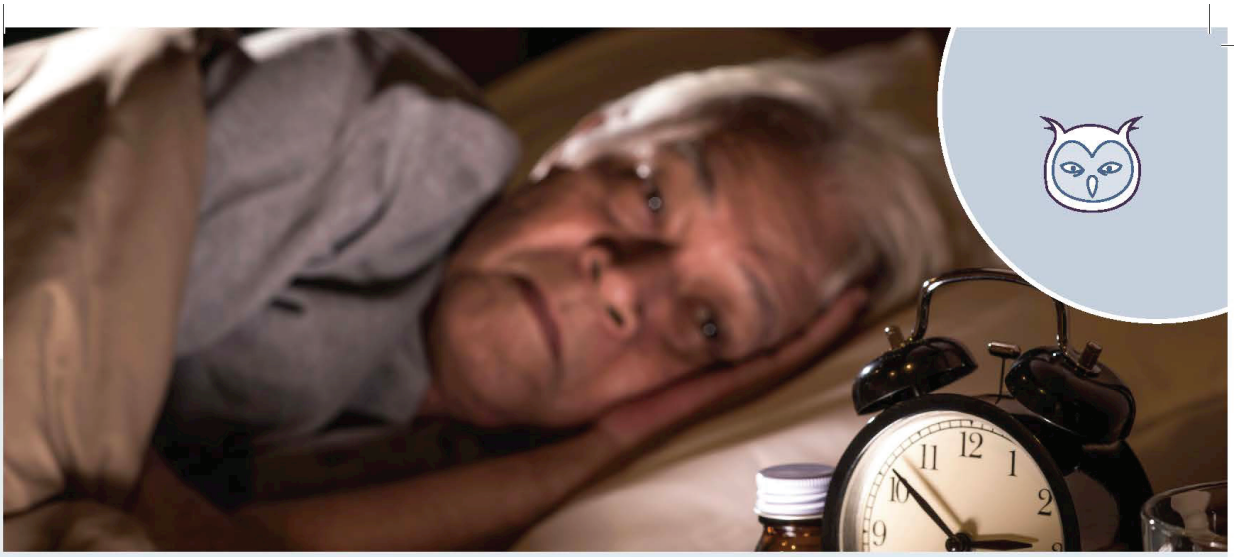


CBTi

There is a better way.

Stopping your sleeping pill AND getting a good night's sleep are possible.

This is **the purpose of Sleepwell** – to help people with insomnia get their sleep back and to help them reduce and safely stop taking their sleeping pill.



Regular nightly use of sleeping pills is associated with a gradual loss of their sedating effect. Many cause dependence (especially benzodiazepines and z-drugs). It is common to experience difficulty sleeping when stopping them due to the medication's withdrawal effects. **This can lead you to falsely believe that you still need the sleeping pill.** Other withdrawal effects can be very uncomfortable and possibly dangerous. Learn how to safely stop sleeping pills starting on p. 11.

Withdrawal effects when stopping z-drugs and benzodiazepines:

- **insomnia**
- **anxiety**
- **irritability**
- nausea
- unsteadiness
- headaches
- sweating
- shaking/tremors
- difficulty concentrating
- sensitivity to noise & light
- pounding heart
- confusion/delirium
- depression
- seizures

Sleepwell recommends cognitive behavioural therapy for insomnia (CBTi). Learn about CBTi and how to get started using Sleepwell's **Booklet 2: How to Get Your Sleep Back** or by visiting **mysleepwell.ca**.

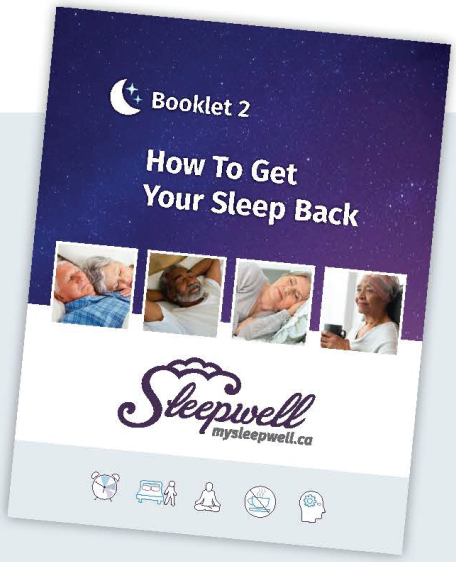
How to Get Your Sleep Back Without Sleeping Pills

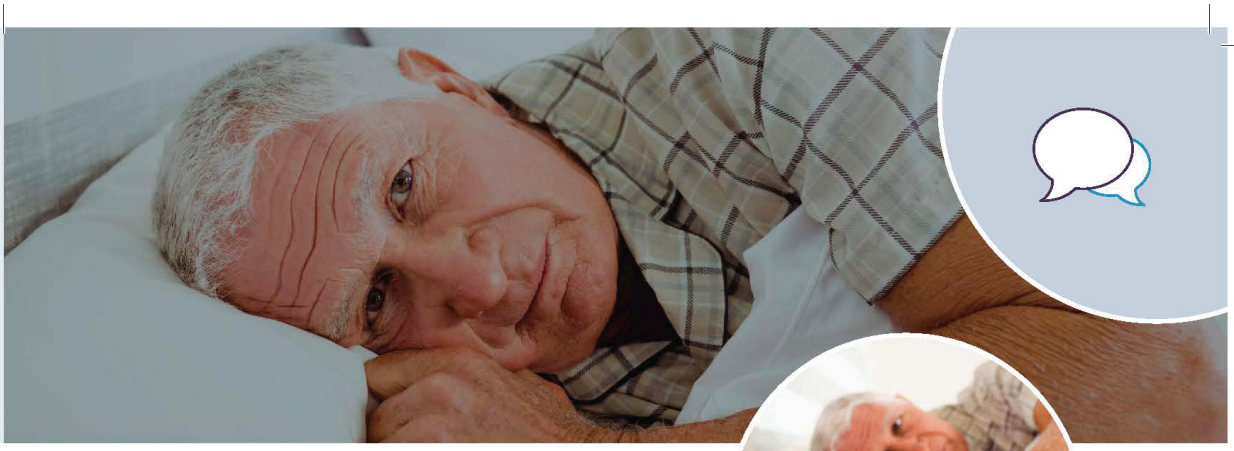
CBTi

Unlike sleeping pills, CBTi is safe and the benefits of a short 4-8 week treatment program can persist for many years. Importantly, CBTi can be used to help you with your sleep while gradually reducing and stopping sleeping pills.

To get started:

1. Read Sleepwell's **booklets 1 and 2**.
2. Make a **dose reduction plan** with your prescriber and pharmacist.
3. Use the **Sleepwell Sleep Diary** each night to record your sleep.





Jerry's Story

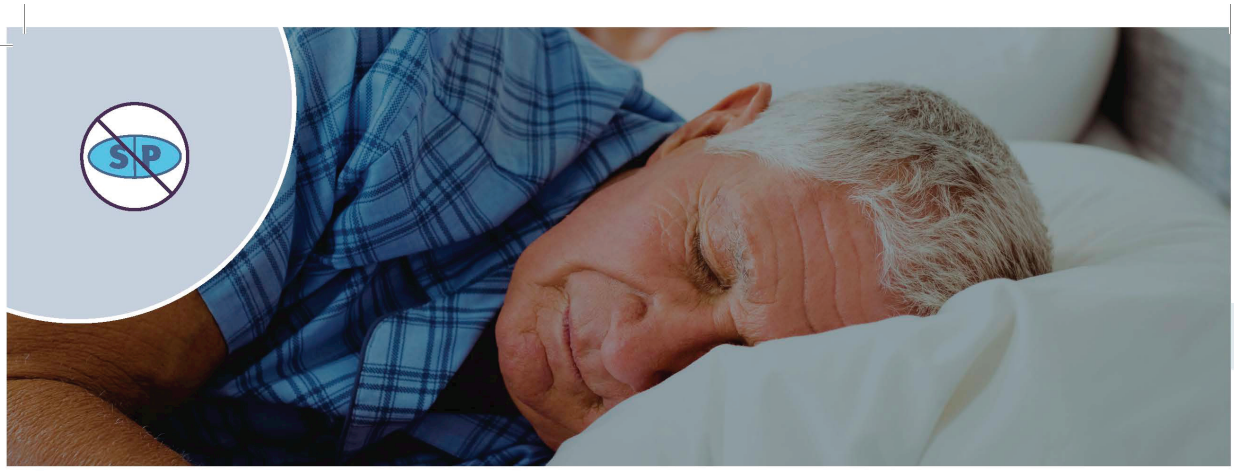
I used different sleeping pills for many years. They all worked at the start but none of them really fixed the problem. My dose went up and down over the years. I felt terrible whenever I stopped taking them – unsteady, shaky, and couldn't focus or sleep. I felt stuck, like I was in a **vicious cycle**. Sleeping pills weren't fixing my sleep problem but I felt worse without them.

Looking back, I didn't realize that I was in a fog every morning and I napped a lot. One morning on my way to visit my daughter, I drove right through a stop sign and almost hit a little girl riding her bicycle. That was the moment I knew I needed to make a change.

I met with my doctor and I also spoke with my pharmacist. They both said that a **gradual dose reduction** is the best way for safely stopping sleeping pills. They also suggested that I monitor my sleep with a **sleep diary** and recommended I start a **CBTi** sleep therapy program during the gradual dose reduction plan.

My pharmacist and I came up with a very cautious dose reduction schedule using the **Stop Sleeping Pills Guide** and **Planner**. I gave it to my doctor, and we started the plan right away. I recorded my sleep each morning in my sleep diary and after a week or two I started to apply the sleep therapy techniques that I learned from the CBTi book recommended by Sleepwell. To my relief, my sleep improved even when I was reducing my dose. I had broken the vicious cycle.

I've been sleeping much better ever since stopping my sleeping pills and using CBTi.



Jerry's Gradual Dose Reduction Plan

Jerry learned that, after years of taking sleeping pills, the best way to stop taking them was to reduce the dose very gradually. In the past, Jerry had stopped them too quickly and he experienced very uncomfortable withdrawal effects. He felt stuck. He felt addicted.

The longer the use, the slower the dose reduction plan.

Jerry worked with his doctor and pharmacist to come up with a plan.

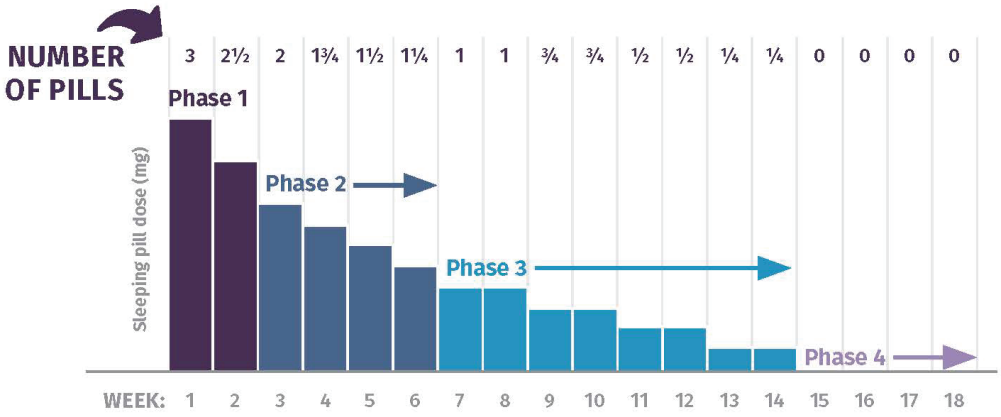
They gave him the following advice:

1. Reduce the dose every 1-2 weeks by about 20%.
2. Make a plan and allow for some flexibility.
3. Manage your insomnia with CBTi so you don't need sleeping pills.
4. Check in with your health providers regularly.

Be sure to consult with your doctor or pharmacist before stopping any medication.

Jerry's Gradual Dose Reduction Schedule

Plan: Jerry developed the following **plan** with his doctor and pharmacist.



Phase 1 The fastest part of the dosing taper. Larger dose reductions. Start a sleep diary (**Booklet 2, p. 6-7 and 19-20**).

Phase 2 If going well, continue with dose reductions every week and reduce the size of the dose reductions. Start your CBTi program (**Booklet 2, p. 15**).

Phase 3 Slow things down. Smaller dose reductions every 2 weeks.

Phase 4 Keep in regular contact with your health care providers after stopping the sleeping pill. Apply CBTi techniques for a good night's sleep.

Reality: Jerry reduced the dose a little faster than planned in the first few weeks. At the midway point, he didn't make any changes for a few weeks because his doctor was away. Near the end, he slowed the plan down because he felt a little jittery. He took his last dose 4 ½ months after starting the dose reduction plan. Jerry kept in touch with his doctor and pharmacist regularly for several weeks after stopping his sleeping pill. He has been feeling more stable on his feet, more energetic, and he hasn't needed a sleeping pill since.

13

5 key resources to help you stop sleeping pills

1. **Prescriber and Pharmacist**
   Help you put a gradual dose reduction plan into action.

2. **Stop Sleeping Pills Guide**
   see p. 15

3. **Stop Sleeping Pills Planner**
   see p. 16

4. **Sleep Diary**
   see Booklet 2 p. 6-7 & 19-20

5. Optional:
   Use CBTi as your sleep therapy
   see Booklet 2

Visit **mysleepwell.ca** for quick access to these resources.

Stop Sleeping Pills Guide

Advice

1. Estimate how long it will take to reduce your dose based on how long you have been using sleeping pills.
2. Using the **Stop Sleeping Pills Planner**, develop your dose reduction plan with your doctor and pharmacist.
3. Aim to reduce your dose on the same day of the week, every 1 or 2 weeks.
4. Your plan should be flexible. Make adjustments based on how you are feeling.
5. Reduce your dose the same amount each time or slow things down by making smaller dose reductions, lengthening the time between dose reductions, or both.
6. Monitor your sleep with a sleep diary. Use CBTi to help you sleep as you lower your dose.

Estimate the duration of your dose reduction schedule

How long have you been taking sleeping pills?

- 2 weeks → No gradual dose reduction required. Rise 15-30 minutes earlier than usual the morning after your last dose to increase your **sleep drive**.
- 3-4 weeks → Your stopping plan can be brief → Reduce your dose by half for 2-5 days before stopping it. Rise 15-30 minutes earlier than usual the morning after your last dose to increase your **sleep drive**.
- 2-3 months → Reduce your dose by half for 1-2 weeks. Optional: then reduce to ¼ dose for 1 week. Rise 15-30 minutes earlier than usual the morning after your last dose to increase your **sleep drive**.
- 4-24 months → Reduce the dose slowly* → Plan to gradually reduce your dose over 6 - 12 weeks. Use CBTi to treat insomnia. See **Booklet 2**.
- Over 2 years → Reduce the dose slowly* → Plan to gradually reduce your dose over 6 - 52 weeks. Use CBTi to treat insomnia. See **Booklet 2**.

** A slow dose reduction is especially important for long-term use of z-drugs and benzodiazepines. See list on p. 3.*

Sleeping pill

Name	Duration of use	Daily Dose	Estimated dose reduction duration

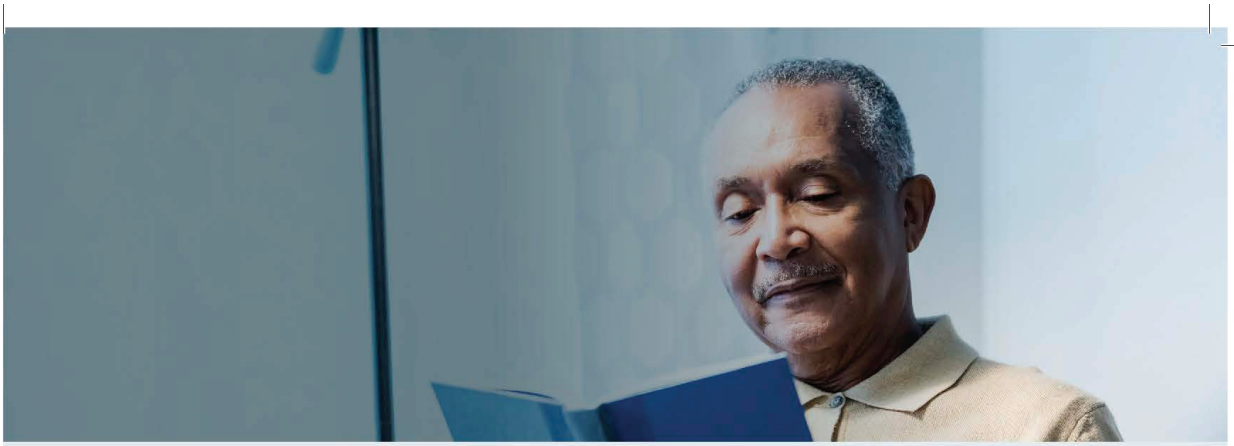
Stop Sleeping Pills Planner

Instructions: Plan the dose reduction schedule by filling in the week number, date, and planned dose before getting started. You can ask your doctor or pharmacist to do this for you. As each week starts, fill in the actual dose and write a note about how the previous week went.

Sleeping pill name

WEEK	DATE	PLANNED DOSE (mg/day)	ACTUAL DOSE (mg/day)	END OF WEEK COMMENTS

Visit **mysleepwell.ca** to print more copies.



My Plans

As a result of reading this booklet

I learned

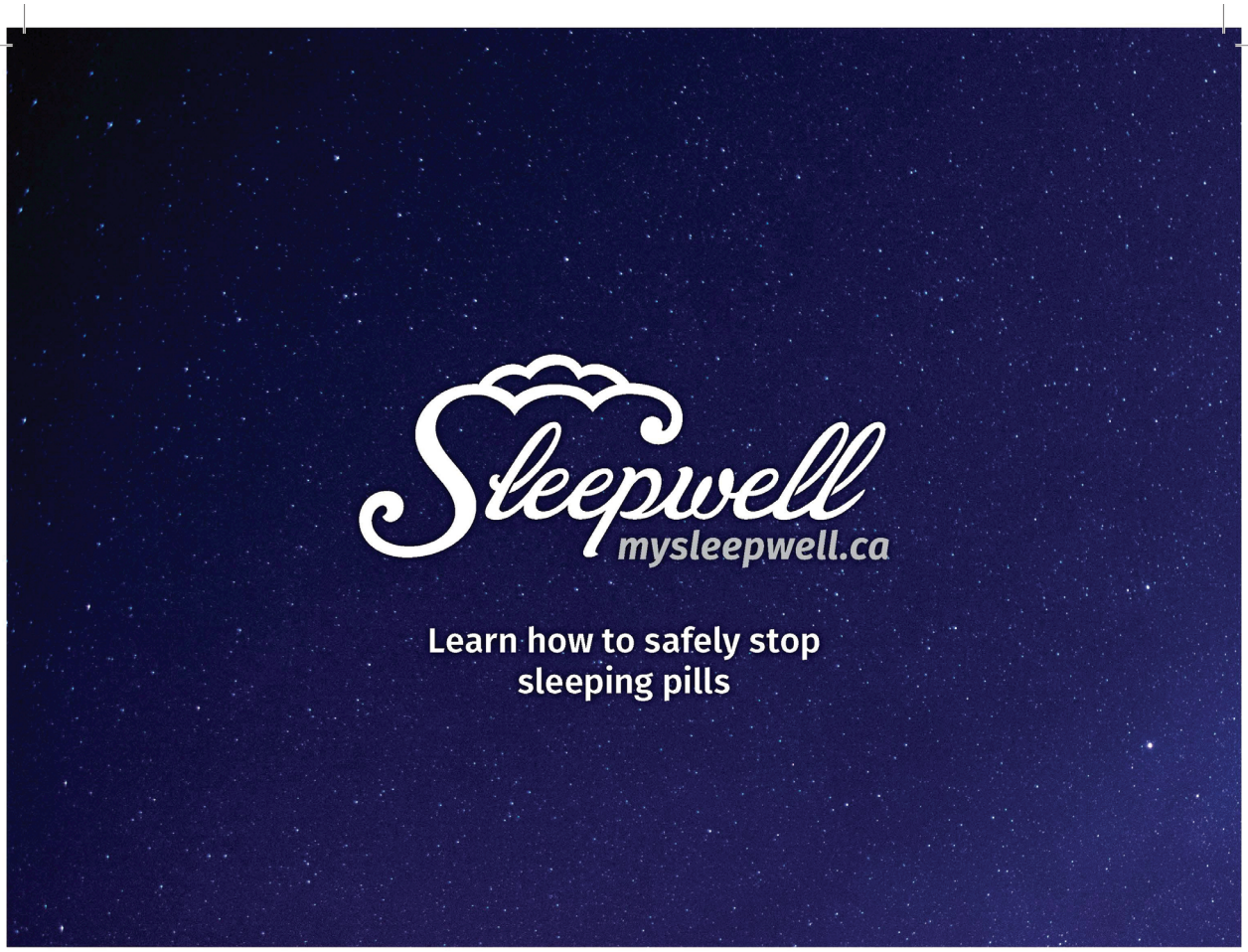
I was most surprised by

I'm ready to

	NOT READY		SOMEWHAT READY		FULLY READY
acknowledge that sleeping pills could be putting me at risk	1	2	3	4	5
make a sleeping pill dose reduction plan	1	2	3	4	5
speak with my health care provider about stopping sleeping pills	1	2	3	4	5
start to learn about CBTi to get a better night's sleep	1	2	3	4	5

I have what I need

- ☐ The Stop Sleeping Pills Guide & Planner
- ☐ A health care provider (physician, pharmacist) to work with
- ☐ Booklet 2: How to Get Your Sleep Back



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Canadian English Edition
04.2022

APPENDIX C BOOKLET 2 HOW TO GET YOUR SLEEP BACK

Booklet 2

How To Get Your Sleep Back

Sleepwell

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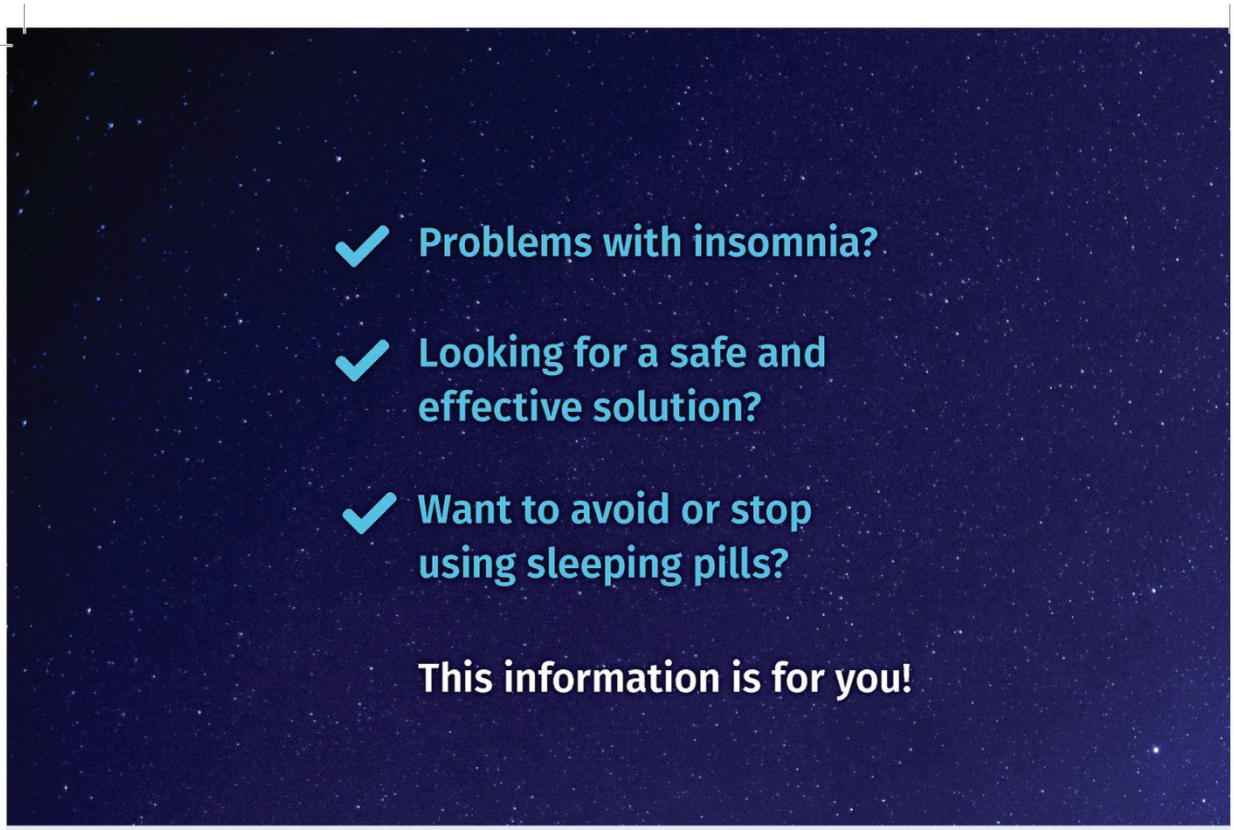

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Note: Specific features in this booklet were created specifically for the YAWNS NB study.

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Take the Quiz

What do you know about cognitive behavioural therapy for insomnia - CBTi?

1. Cognitive behavioural therapy for insomnia (**CBTi**) is a type of sleep therapy designed specifically to treat insomnia and keep it from coming back.

☐ TRUE ☐ FALSE

2. Experts recommend using **CBTi** when sleeping pills stop working.

☐ TRUE ☐ FALSE

3. Insomnia begins to resolve after 6 weeks of **CBTi**.

☐ TRUE ☐ FALSE

4. **CBTi** is only for people who are not currently taking sleeping pills.

☐ TRUE ☐ FALSE

5. The first step in getting started with **CBTi** is to get a referral from your doctor.

☐ TRUE ☐ FALSE

Answers are on the next page.

1

Check Your Knowledge

1. **Cognitive behavioural therapy for insomnia (CBTi)** is a type of sleep therapy designed specifically to treat insomnia and keep it from coming back.

   True

   In this booklet you will learn about CBTi and how you can easily access it and use it to treat insomnia and prevent it from returning. See what Sleepwell recommends on p. 15.

2. Experts recommend using **CBTi** when sleeping pills stop working.

   False

   CBTi is recommended to be used before sleeping pills are tried. It can also be used after taking sleeping pills for a long time.

3. Insomnia begins to resolve after 6 weeks of **CBTi**.

   False

   Sleep starts to improve within the first 2 weeks of starting CBTi and continues to get better even after the program ends. Most CBTi programs are 4-8 weeks long.

4. **CBTi** is only for people who are not currently taking sleeping pills.

   False

   CBTi is effective whether or not you are taking a sleeping pill. If you are, it can help you to gradually reduce and stop taking them.

5. The first step in getting started with **CBTi** is to get a referral from your doctor.

   False

   You do not need a referral to start CBTi. Use Sleepwell to help find a CBTi program that suits you best. Keep your doctor informed of your progress.

Your score: ____ /5

Find more quiz questions at **mysleepwell.ca**

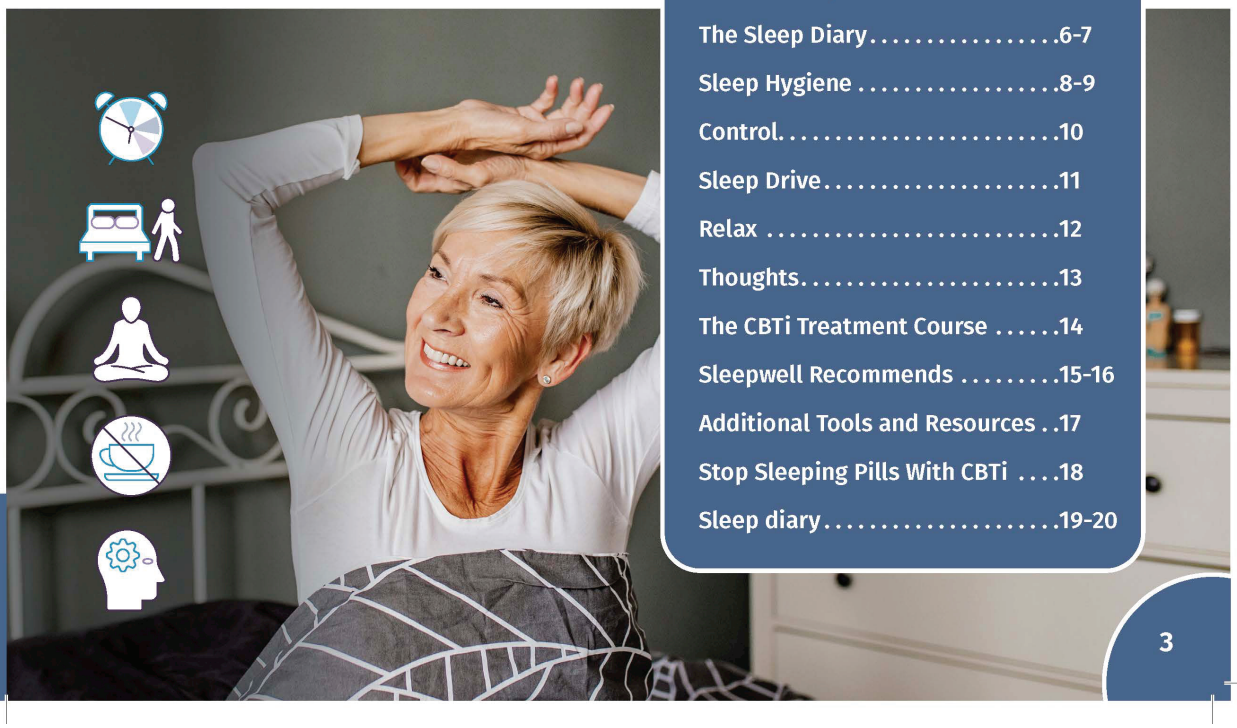
What is CBTi?

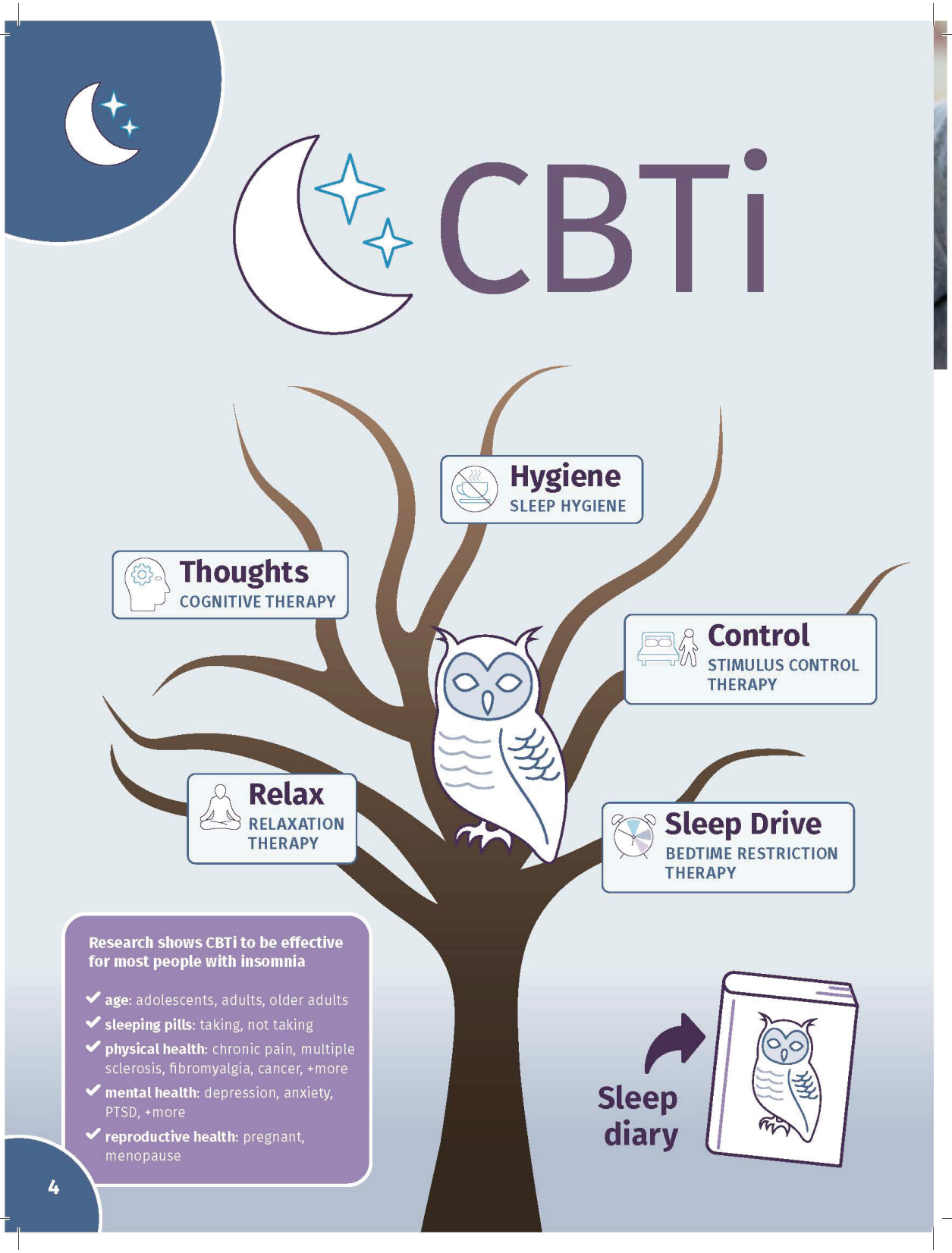
The purpose of Sleepwell is to help you learn about programs and techniques that you can take advantage of to get a good night's sleep without the use of sleeping pills. This booklet introduces you to **CBTi**, a form of **C**ognitive **B**ehavioural **T**herapy specifically developed for treating **i**nsomnia. New treatment guidelines created by sleep experts and researchers in Canada, Europe, and the United States all recommend CBTi ***ahead*** of sleeping pills for managing insomnia.

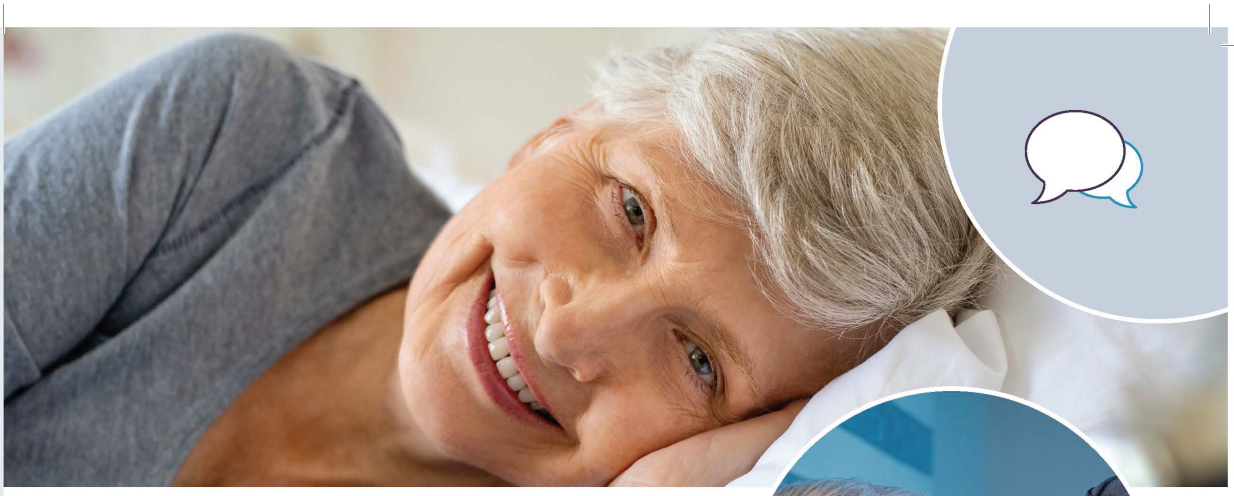
You can access CBTi programs in different ways. In addition to learning CBTi from a trained therapist, there are now several excellent self-help books, CBTi apps for your smart phone, and online services that guide you through the different sleep enhancing techniques of CBTi. Each program usually takes 4-8 weeks to complete, regardless of the format.

Sleepwell helps you get started with CBTi by recommending a specific book to use as your own self-guided CBTi program.* The book – *Sink Into Sleep, 2nd Edition* – includes advice on the 5 components of CBTi and explains how to use a sleep diary. See p. 15-16 for more details about this book and other Sleepwell recommendations.

**The developers of Sleepwell do not have a financial interest or other potential conflicts of interest with any recommended CBTi program.*




CBTi
Hygiene
SLEEP HYGIENE
Thoughts
COGNITIVE THERAPY
Control
STIMULUS CONTROL THERAPY
Relax
RELAXATION THERAPY
Sleep Drive
BEDTIME RESTRICTION THERAPY
Research shows CBTi to be effective for most people with insomnia
age: adolescents, adults, older adults
sleeping pills: taking, not taking
physical health: chronic pain, multiple sclerosis, fibromyalgia, cancer, +more
mental health: depression, anxiety, PTSD, +more
reproductive health: pregnant, menopause
Sleep diary
4



Laura's story

Night after night, my mind would race when my head hit the pillow. Getting to sleep was frustrating. Getting back to sleep when I woke up through the night was agonizing. Napping was a daily necessity. I took different sleeping pills, but they didn't fix the problem. This went on for years.

When I first heard about CBTi, I wasn't sure if it was right for me. Could I do it by myself? I didn't know anybody else who had tried it. But, after a few particularly bad nights, I decided "yes, I'm going to give it a try". I went online and purchased a book recommended by Sleepwell. Before it arrived a few days later in my mailbox, I started to log my sleep using the Sleepwell sleep diary. After 7 days of using my sleep diary, and with my book in hand, I began my CBTi program.

> ***"I followed the steps of the book's CBTi program and noticed my sleep improving within just two weeks."***

The book had the right balance of information. It helped me understand why I wasn't sleeping and the techniques for how to fix it. It was organized like a workbook, which I liked. Following the steps of the book's CBTi program, I noticed my sleep improving within just two weeks. Although I was spending less time in bed at the start, I was getting to sleep sooner and not waking up as much during the night. This felt really good as I was doing it by myself and it was working. It boosted my confidence to keep going and I finished going through the book in about 6 weeks.

This all happened a while ago. I've been sleeping much better ever since, and I don't need sleeping pills! Every now and then I still pull the book off the shelf and read some of the parts that really helped. Looking back, I'm so relieved that I gave CBTi a try.

5

Sleep diary

Use your **sleep diary** to learn about your sleep difficulties and how to fix them. Each morning record your previous night's sleep information in the diary. It is okay to just estimate the times. At the end of the week, identify a typical night's sleep and use it to calculate your average sleep duration and sleep efficiency. Track these numbers to see changes in your sleep over time. You will also need them when boosting your **sleep drive** with **Bedtime Restriction Therapy** (see p. 11).

Sleep duration = amount of time you spend in bed asleep

Sleep efficiency = % of time asleep compared to total time in bed

From Laura's sleep diary (week 1):

	DAY OF THE WEEK	Sunday
	DATE	June 28
Q1	What time did you go to bed?	9:30
Q2	What time did you try to go to sleep?	10:00
Q3	What time did you fall asleep?	11:00
Q4	How many times did you wake up during the night?	3
Q5	In total, how long did these awakenings last (minutes)?	30
Q6	What time was your final awakening?	5:30
Q7	What time did you get out of bed to start your day?	6:30
Q8	Note anything that interfered with your sleep	Long nap, mind raced, 2x Bathroom

CALCULATE SLEEP DURATION

Time between falling asleep (Q3) and final waking (Q6): 11:00 pm to 5:30 am = 6 h 30 min

Time awake during sleep (Q5): – 30 min

Sleep duration: 6 h 00 min

CALCULATE SLEEP EFFICIENCY

Sleep duration: 6 h 00 min = 360 min

Total time in bed: 9:30 pm to 6:30 am

time between going to bed (Q1) and getting out of bed (Q7): 9 h = 540 min

Sleep efficiency %: $\frac{360}{540} \times 100 = 67\%$

My sleep duration (typical night): 6 h 00 min

My sleep efficiency (typical night): 67%

Practice

Fill in the sleep diary based on how you slept last night, to the best of your recollection. Then, calculate your **sleep duration** and **sleep efficiency**. Follow Laura's example on the previous page as a guide. Was it a good night's sleep? Was your sleep efficiency above 85%?

How did you sleep last night?

DAY OF THE WEEK	
DATE	
Q1 What time did you go to bed?	
Q2 What time did you try to go to sleep?	
Q3 What time did you fall asleep?	
Q4 How many times did you wake up during the night?	
Q5 In total, how long did these awakenings last (minutes)?	
Q6 What time was your final awakening?	
Q7 What time did you get out of bed to start your day?	
Q8 Note anything that interfered with your sleep	

CALCULATE SLEEP DURATION

Time between falling asleep (Q3) and final waking (Q6) _____

Time awake during sleep (Q5) **–** _____

Sleep duration **=** _____

CALCULATE SLEEP EFFICIENCY

Sleep duration **(A)** _____ **min**

Total time in bed **(B)**
time between going to bed (Q1) and getting out of bed (Q7) _____ **min**

Sleep efficiency % $\left(\frac{A}{B} \times 100\right)$ **=** _____

My sleep duration (practice calculation): _____

My sleep efficiency (practice calculation): _____

Blank sleep diaries are provided on pages 19 and 20 and **mysleepwell.ca**

Easy end of week calculations at **mysleepwell.ca**

Hygiene

SLEEP HYGIENE

Sleep hygiene focuses on practical things you can do (or avoid doing) to help you prepare for a good night's sleep. Things to consider are your daytime activity level, use of naps, how much and when you eat, the effects of medications you take, use of caffeine and other stimulants, and your exposure to TV and other screens near bedtime. Sleep hygiene also emphasizes following a set routine each night and making sure that where you sleep is comfortable, quiet, and dark. Attending to your sleep hygiene is often very helpful if you do not experience insomnia often. However, it may be the least important component of CBTi if you have a longstanding problem with insomnia.

Use the **Checklist** on the next page to identify ways for you to improve your sleep hygiene. You may want to speak with your doctor or pharmacist to ask about how your medications could be affecting your daytime activities and ability to sleep at night.

Minimize sleep disruptors	Limit or avoid naps, bedtime screen time, caffeine, nicotine, alcohol, and other selected substances & medications
Exercise wisely	More vigorous by day; not before bed
Eat wisely	Don't go to bed hungry or full
Unwind	Follow a relaxing routine nightly
Suited to sleep	Prepare your bedroom to be dark, quiet and comfortable, as well as neither too warm or cold.

Hygiene of Sleep Checklist

What can you do differently today to improve your sleep hygiene?

DAYTIME

Exercise wisely	☐	Daytime exercise (with elevated heart rate and perspiration, ideally)
Eat wisely	☐	Avoid going to bed full or hungry
Nap wisely	☐	Avoid napping if possible; limit to a short nap before 3 pm
Stimulants	☐	Only early-in-the-day use of caffeine, nicotine, other stimulants
Medications	☐	Take during day if they disrupt sleep*

NOTES

BEFORE BED

Sleep disruptors

☐	Avoid caffeine	☐	Avoid some medications*
☐	Avoid nicotine	☐	Avoid screen time (TV, texting, etc.)
☐	Limit or avoid alcohol	☐	Avoid hunger, avoid fullness
☐	Avoid bright lights	☐	Avoid loud noises

Mobile phone

☐ Night mode (do not disturb) ☐ Away from bed

Relaxation

RELAXING ROUTINE, NIGHTLY

☐	Stretching or yoga	☐	Soothing sounds or silence
☐	Mindful breathing	☐	Avoiding vigorous exercise
☐	Guided meditation	☐	Finish your "planning time"/"worry time"

NOTES

IN BED

The room ☐ Quiet, dark (ear plugs & mask if needed)

The bed ☐ Warm (not hot), comfortable

You

CALM. TIPS TO HELP YOU QUICKLY EASE INTO SLEEP

☐ Imagery ☐ Mindful breathing ☐ Push away worries / planning until tomorrow

☐ Asleep (leave after 15-20 min. if not asleep; return when sleepy)

Rise time ☐ Out of bed and active

NOTES

**Ask your pharmacist or prescriber for guidance.*

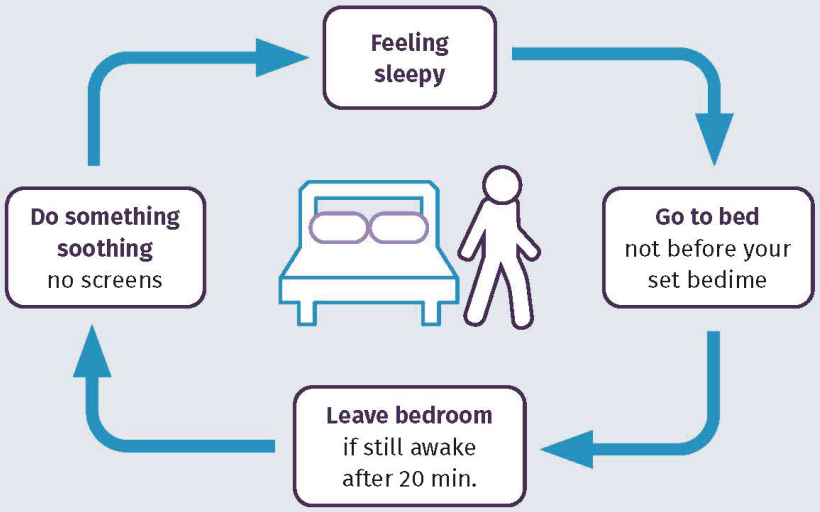
Control

STIMULUS CONTROL THERAPY

Break the cycle of being awake and feeling frustrated when in bed. Develop a healthy relationship between your bed and sleep. Only use your bed for sleep and intimacy.

Go to bed only when sleepy. Rise and leave the bedroom if still awake after 20 minutes of trying to fall asleep. Return when feeling sleepy. Leave again in 20 minutes if not asleep. Repeat until asleep. A few nights of this routine help to re-train your brain to associate your bed with sleep, allowing you to get to sleep and stay asleep more easily.

TIP: If you like having quiet background noise when trying to fall asleep, you can play one of Sleepwell's 20 minute white noise recordings (ex. waves, stream, campfire). Leave the bedroom if you are still awake when it ends.



Find more tools at
mysleepwell.ca/control/

Sleep Drive

BEDTIME RESTRICTION THERAPY

Build your inner sleep drive by following a process known as bedtime restriction therapy. This highly effective technique starts off by restricting your time in bed to match the amount of time you are sleeping. Begin by completing a sleep diary for at least 7 days. Then, calculate your typical sleep duration from your sleep diary. Choose the time you want to get out of bed each morning and subtract the amount of time you are sleeping to determine your bedtime for the next week. Your bedtime and rise time are your first week's **sleep prescription**. It should not be for less than 5 ½ hours. You gradually increase your time in bed by moving your set bedtime a little earlier each week, depending on your calculated sleep efficiency.

Laura's first Sleep Prescription

Sleep diary
First 7-14 days

My average time asleep = 6 h

MY SLEEP PRESCRIPTION
Bed Time: 12:30 pm
Rise Time: 6:30 am

Sleep prescription
Calculate sleep efficiency weekly.
Adjust your sleep prescription each week.

Next week, **Laura** will adjust her sleep prescription depending on her sleep efficiency %.

If last week's sleep efficiency was	Your sleep prescription's bedtime for this week should be:
Less than 85%	15 minutes later
85%-89%	unchanged
90%-94%	15 minutes earlier
95% or greater	30 minutes earlier

Find more tools at
mysleepwell.ca/sleep-drive/

Refer to your selected CBTi program for specific instructions of how to use Bedtime Restriction Therapy.

Relax
RELAXATION THERAPY

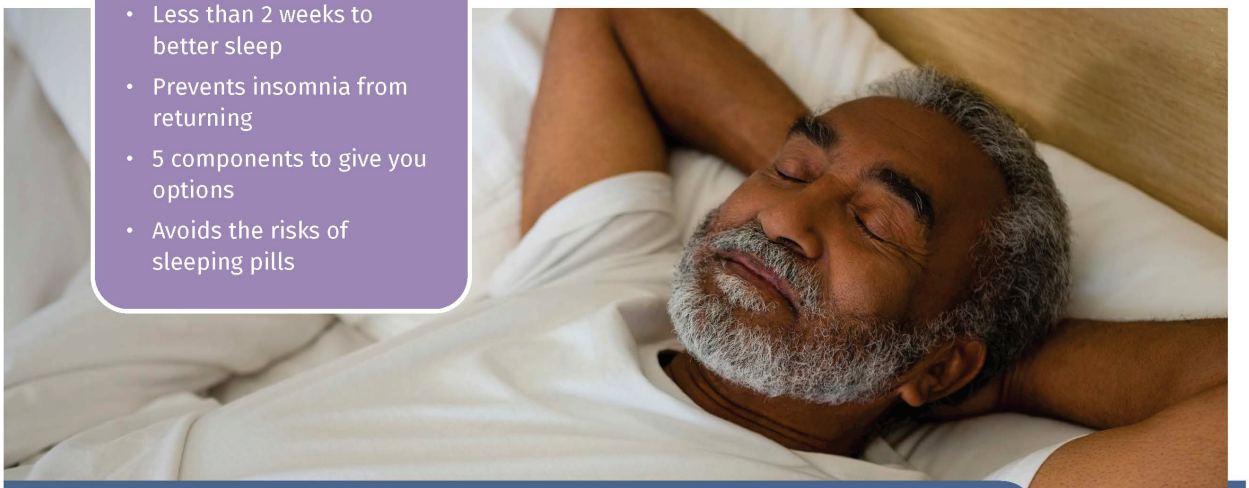
Relaxation therapy is a component of CBTi that uses a variety of relaxation techniques, earlier in the day or before going to sleep. The techniques help you prepare your body and mind to allow you to ease into sleep. Your CBTi program will provide you with different **relaxation options**. Suggestions are also available at **mysleepwell.ca**.

Facts about CBTi

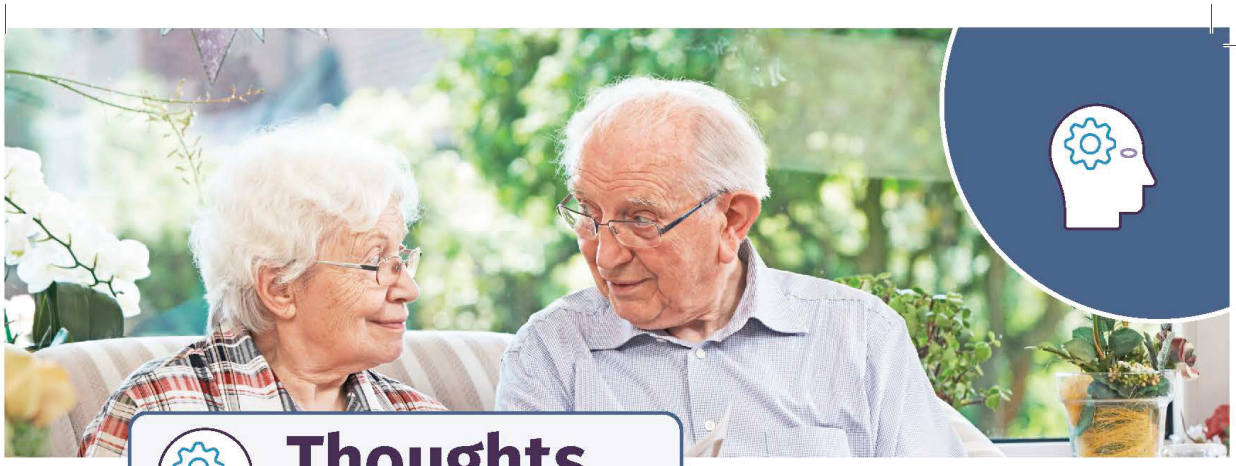
- Best treatment for insomnia
- Recommended by sleep experts worldwide
- New formats: books, apps, web-services
- Self-guided treatment course: 4-8 weeks
- Less than 2 weeks to better sleep
- Prevents insomnia from returning
- 5 components to give you options
- Avoids the risks of sleeping pills

Relaxation techniques

- Breathing
- Progressive muscle relaxation
- Stretching
- Yoga
- Imagery
- Guided meditation
- Story telling
- Autogenic training



For tools and resources to support your relaxation therapy, visit **mysleepwell.ca/relax/**



Thoughts
COGNITIVE THERAPY

Does your mind keep you up at night? Cognitive therapy helps you identify and work to correct existing negative attitudes and false beliefs about sleep that contribute to insomnia. This component of your CBTi program will teach you techniques to manage the thoughts that cause you to feel stressed and wide awake when in bed.

Examples of cognitive techniques

Thinking traps and realistic thinking

Fortune telling
I don't want to get out of bed if I can't sleep. It will take a long time to get to sleep when I go back to bed.

Getting out of bed when I can't sleep may not help me get a better sleep tonight but it will help me not have this problem on future nights.

Worry time

Every night I start worrying about the next day the moment my head hits the pillow.

I will set aside time every evening to think through my plans for the next day. I'll make notes. Later, when my head hits the pillow, I'll tell myself that I don't need to think about tomorrow and I'll gently push those thoughts away.

The power of distraction

Cognitive shuffle
Choose a 5-7 letter word. List 5-10 words starting with each letter. Get back to it when I lose my concentration and start thinking about something else.

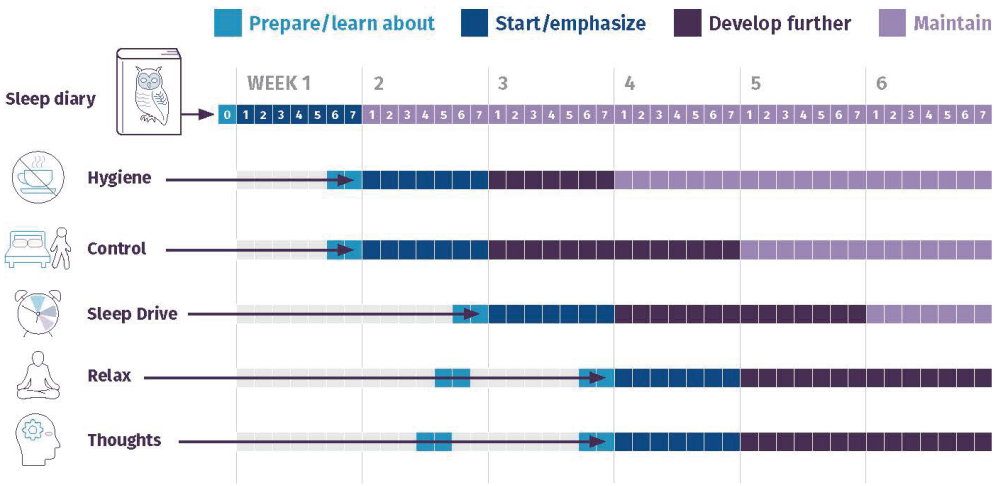
Focus on breathing
Appreciate everything about my breathing – sounds, speed, smell, warmth, feel, where it goes.

For additional tools and resources to support your cognitive therapy, visit **mysleepwell.ca/thoughts/**

The CBTi Treatment Course

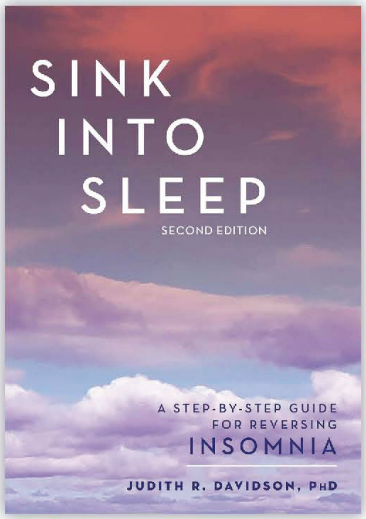
Most self-guided CBTi programs can be completed in 4-8 weeks. They start with recording 7 or more nights of sleep in your sleep diary and then focus on time-in-bed strategies, including Control and Sleep Drive components, during the first 2-3 weeks. They also offer practical tips about your sleep hygiene. The second half of many programs then help you develop other skills to prepare your mind and body for sleep, through effective relaxation and cognitive therapy techniques. CBTi is flexible. You do not need to master all 5 components to get your sleep back.

Here's an example of a CBTi program's schedule. Keep in mind that yours may differ.



Sleepwell recommends

For you, Sleepwell recommends the book Sink Into Sleep as your self-guided CBTi program.



*** 30% discount at bit.ly/sinksleep**

Simple to use 6-step approach
Week-by-week program

Up-to-date 2nd edition published November 2020

Affordable approx. $30

Canadian Dr. Davidson is an insomnia specialist with Queen's University

How to order **Online** with home delivery

LB.ca*
Chapters.Indigo.ca
Amazon.ca

Local bookstore
Contact your local bookstore to request a copy

**The developers of Sleepwell do not have a financial interest or other potential conflicts of interest with any recommended CBTi program.*

Discover more CBTi programs recommended by Sleepwell at **mysleepwell.ca/sleepwell-recommends**

Inside Sink Into Sleep

You are not too old to start. Older adults benefit from CBTi and the benefits endure. It is also safer than using sleeping medications.

Improvements are faster than you might think.

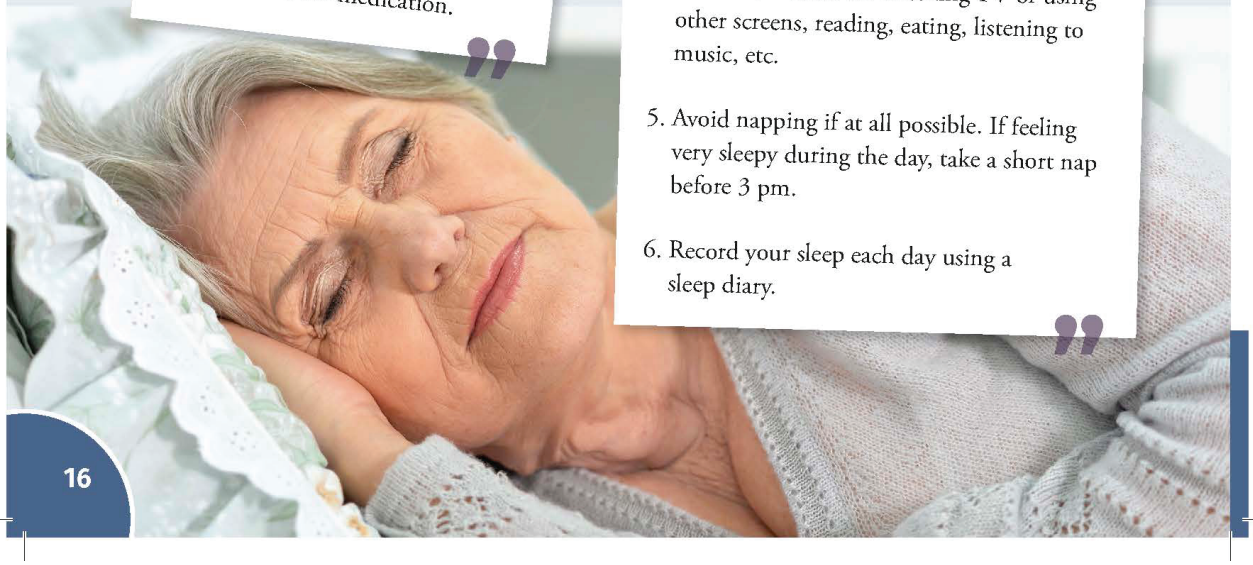
THE RACING MIND

I often hear "My mind won't shut off." "I wish I could switch off my brain." … Do you have worries about what will happen if you don't sleep? … There are several helpful strategies for calming active thoughts … .

People's use of sleep medication decreases gradually over time as they use CBTi and discover that they can sleep without the medication.

SIX STEPS TO SOLID SLEEP

1. Pick a bedtime and a rise time. Be as consistent as possible. Don't go to bed early or get up late. Adjust these times based on your weekly calculated sleep efficiency.
2. If not sleepy at bedtime, don't go to bed.
3. When in bed, leave the bedroom after 15-20 minutes if not asleep. Return when sleepy. Repeat until asleep.
4. Use the bedroom for sleep and intimacy. Use other rooms for watching TV or using other screens, reading, eating, listening to music, etc.
5. Avoid napping if at all possible. If feeling very sleepy during the day, take a short nap before 3 pm.
6. Record your sleep each day using a sleep diary.

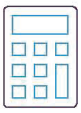


Additional Tools and Resources

Use Sleepwell's additional CBTi tools and resources to get the most out of your CBTi program.

Sleep Diary

Print a new Sleep Diary each week.



Sleep Efficiency Calculator

Use the online calculator for easy sleep efficiency and sleep duration calculations and the online guide to adjust your sleep prescription.

Hygiene

Print new copies of the **sleep hygiene checklist** and find other sleep hygiene resources.

Control

Learn more about **stimulus control therapy**.

Sleep Drive

Access selected resources about how to use **bedtime restriction therapy**.

Relax

Discover an extensive collection of **relaxation tools** and resources.

Thoughts

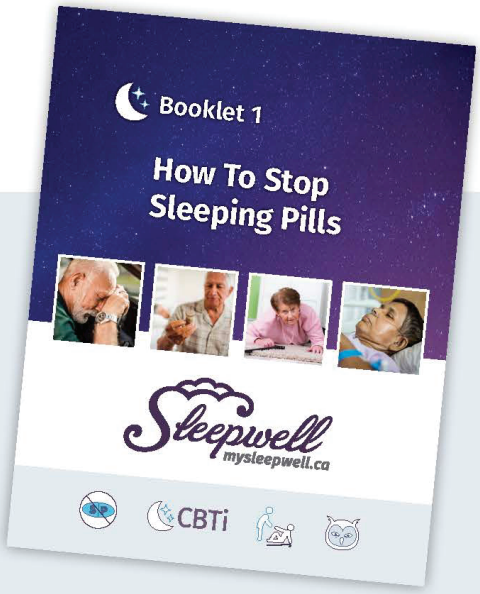
Examine the **suggested tools** and resources to help you keep your thoughts from keeping you up at night.

Tools and resources are available at **mysleepwell.ca**

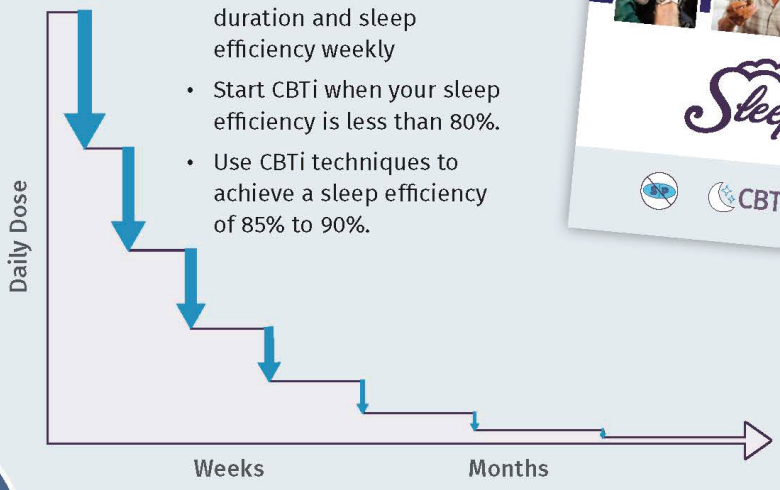
Stop sleeping pills while using CBTi

If you have been taking sleeping pills on most nights for several months or years, it is recommended that you do not abruptly stop taking them. Rather, a gradual dose reduction is recommended. You will find the details in Sleepwell's Booklet 1: How to stop sleeping pills.

It is recommended that you use CBTi to help improve your sleep while you are going through the process of gradually reducing and stopping your sleeping pill. Use of CBTi during this process supports a successful and permanent end to the need for sleeping pills.



- Use a sleep diary during dose reduction
- Calculate your sleep duration and sleep efficiency weekly
- Start CBTi when your sleep efficiency is less than 80%.
- Use CBTi techniques to achieve a sleep efficiency of 85% to 90%.



Sleepwell

Sleep Diary

MY SLEEP PRESCRIPTION

Bed Time: _____

Rise Time: _____

DAY OF THE WEEK							
DATE							
Q1 What time did you go to bed?							
Q2 What time did you try to go to sleep?							
Q3 What time did you fall asleep?							
Q4 How many times did you wake up during the night?							
Q5 In total, how long did these awakenings last (minutes)?							
Q6 What time was your final awakening?							
Q7 What time did you get out of bed to start your day?							
Q8 Note anything that interfered with your sleep							

End of week calculations

Easy calculations at **mysleepwell.ca/calculator**

My sleep duration (typical night): _____

My sleep efficiency (typical night): _____

Sleepwell

Sleep Diary

MY SLEEP PRESCRIPTION

Bed Time: _____

Rise Time: _____

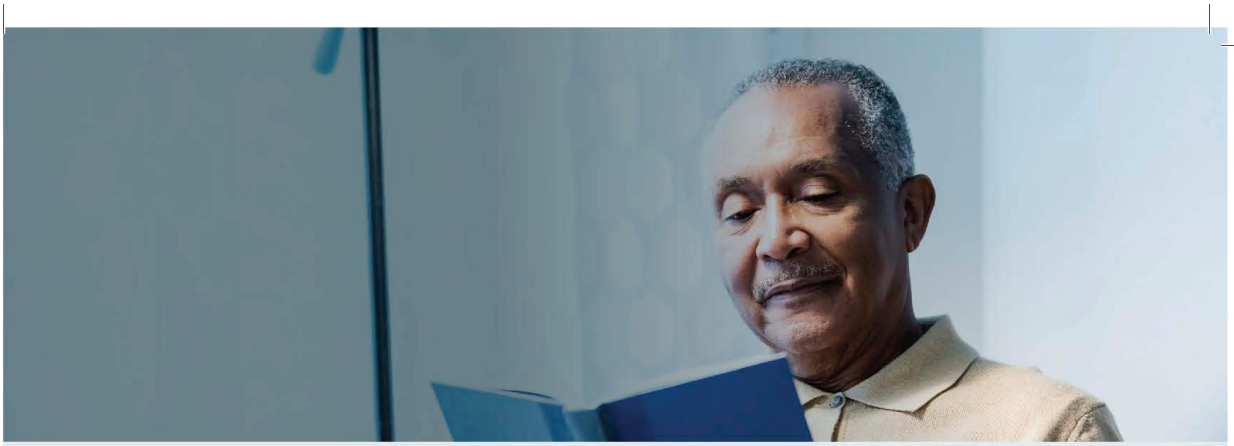
DAY OF THE WEEK							
DATE							
Q1 What time did you go to bed?							
Q2 What time did you try to go to sleep?							
Q3 What time did you fall asleep?							
Q4 How many times did you wake up during the night?							
Q5 In total, how long did these awakenings last (minutes)?							
Q6 What time was your final awakening?							
Q7 What time did you get out of bed to start your day?							
Q8 Note anything that interfered with your sleep							

End of week calculations

Easy calculations at **mysleepwell.ca/calculator**

My sleep duration (typical night): _____

My sleep efficiency (typical night): _____



My Plans

As a result of reading this booklet

I learned

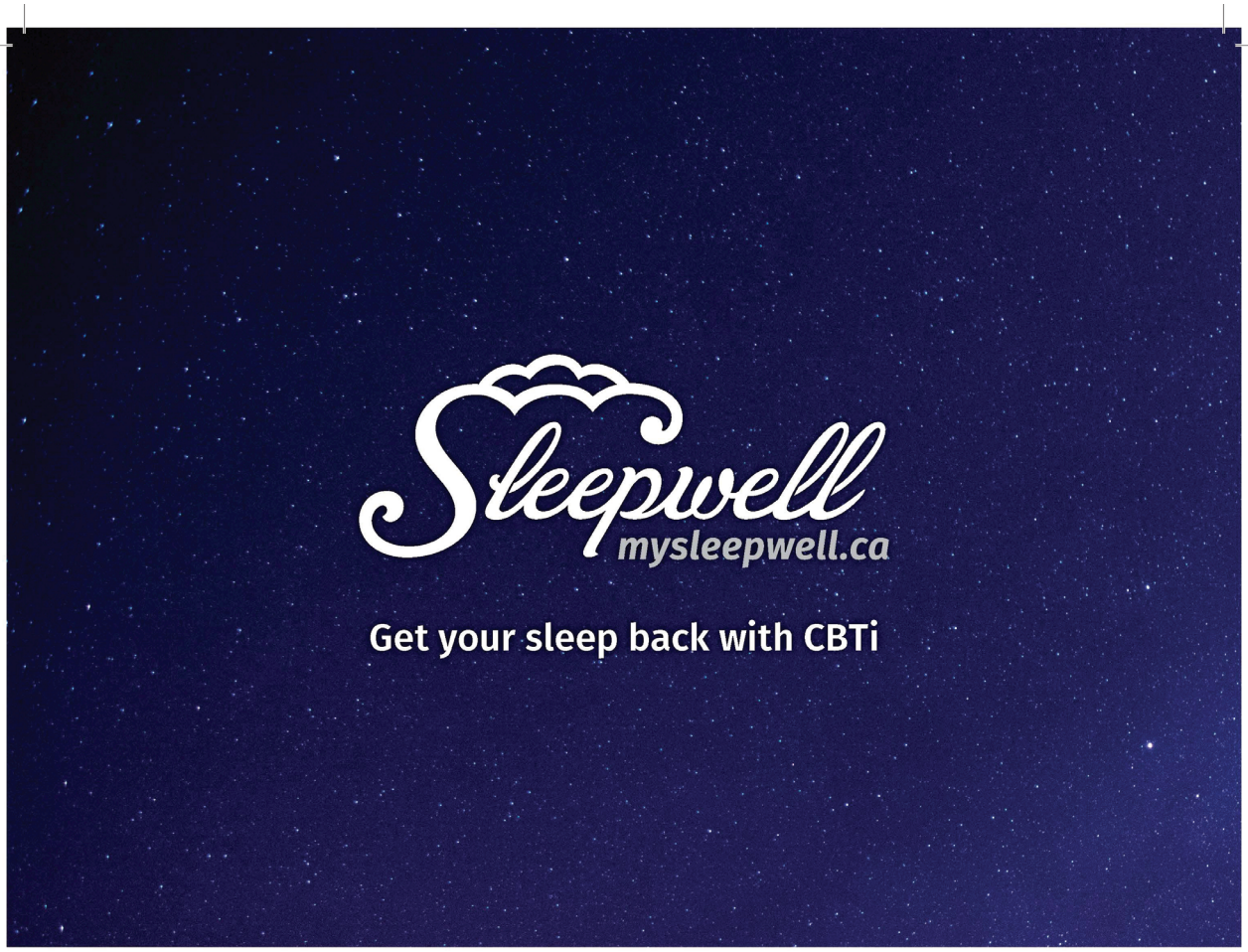
I was most surprised by

I'm ready to

	NOT READY	SOMEWHAT READY			FULLY READY
use a sleep diary	1	2	3	4	5
start a CBTi program recommended by Sleepwell	1	2	3	4	5
practice calculating my sleep duration and sleep efficiency	1	2	3	4	5
contact my doctor and pharmacist about gradually stopping my sleeping pill by _____ (date)	1	2	3	4	5

I have what I need

- ☐ The Stop Sleeping Pills Guide & Planner
- ☐ A health care provider (physician, pharmacist) to work with me to reduce and stop my sleeping pills
- ☐ A CBTi program to learn new ways to get a good night's sleep without sleeping pills



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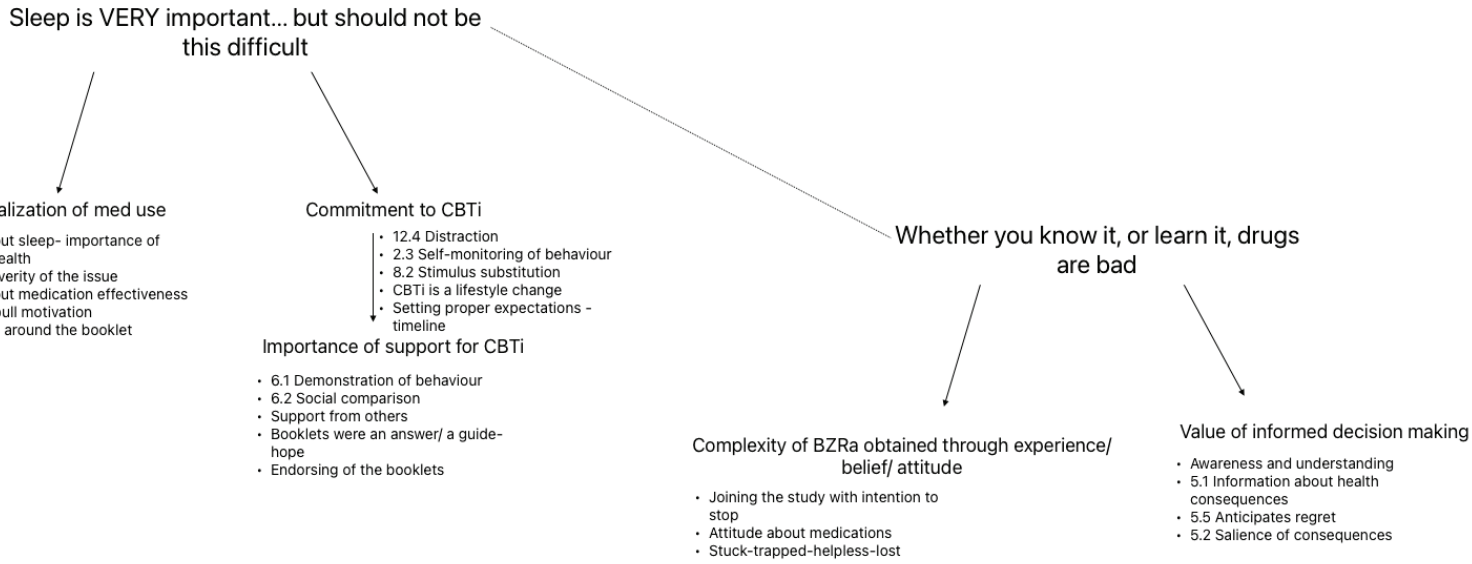
Canadian English Edition
04.2022

APPENDIX D INITIAL THEMATIC MAP



APPENDIX E PATIENT PARTNER LETTER

NAME
ADDRESS LINE 1
ADDRESS LINE 2
E4P 3Z2

June 1, 2022

Dear MR./MS.,

Thank you for taking the time to speak with me recently and for your interest in contributing your opinions and feedback related to our upcoming study about the design and content of the Sleepwell booklets used in the YAWNS NB study. Your perspective is very important in helping me prepare for the interviews as well as in making sure that my analysis is accurate. The following 2 pages give you a brief description of the study I am leading and the activities you are invited to take part in. I have included a copy of the Sleepwell package used in the YAWNS NB study, which includes a cover letter and 2 booklets.

For the first listed activity, feel free to look through the Sleepwell booklets at a time that is convenient for you. I will be contacting you shortly to arrange for our first meeting and look forward to speaking with you then.

Warm regards,

Tulayla Katmeh

Student, Department of Psychiatry

tulayla.katmeh@dal.ca

Study funding: Maritime SPOR Support Unit and Dalhousie University

About the study:

Sedative medications such as lorazepam and zopiclone are in a group called "benzodiazepine receptor agonists (BZRAs)". They are often prescribed to adults aged 65 years and older to help with sleep problems. Current treatment guidelines and experts do not recommend using these medications for insomnia. Instead, "cognitive behavioural therapy for insomnia", also known as CBTi, is recommended. The harms that can be caused by BZRAs (e.g., falls, memory problems) can be significant in older adults and outweigh their limited benefits. CBTi is effective and safe.

CBTi is a non-medication way to help with sleep and is recommended by Sleepwell. Sleepwell was developed by clinicians and researchers in Nova Scotia and includes a collection of information and tools for helping with insomnia that are available in booklets and on a website. Examples of some of Sleepwell's tools include a sleep diary and a sleep hygiene checklist.

There are several ongoing projects with Sleepwell. This project will focus on exploring the patient's experiences in trying to decrease or stop their BZRA medication with Sleepwell information and tools. The objective of the project is to explore older adults' perspectives on the Sleepwell resources. This project uses what is known as a qualitative method. It involves interviewing older adults with experience taking sleeping pills including BZRAs. An interview guide is prepared in advanced and used to guide each interview. The content of these interviews is then analyzed collectively to help get a deep understanding of older adults' experiences and perspectives on the use of these medications and on the information included in the Sleepwell booklets. Interviewing older adults about their experiences will help explore the parts of Sleepwell that are helpful or useful and opinions on the acceptability of Sleepwell for improving how insomnia is managed.

The results from this project will be used towards improving the Sleepwell information and tools, with the goal of helping older adults sleep better while reduce and stop the use of BZRAs.

My priority is to truly understand the patient perspective by interviewing older adults who received the Sleepwell booklets. It is important that I prepare for this as best as possible. And, once the interviews are complete, I want to make sure that my understanding of their perspectives is accurate. To help achieve these goals, you are invited to take part in the following activities.

About me:

I am completing my Masters in Psychiatry Research at Dalhousie University under the supervision of Dr. David Gardner and Dr. Andrea Murphy. I am a practicing community pharmacist in Halifax, Nova Scotia where I regularly provide care for older adults, many of whom use sleeping pills for insomnia. My interest in this subject started during my undergraduate pharmacy degree. I was involved in creating the content of the Sleepwell website and booklets that are now being studied. I am also a research assistant on the YAWNS NB study where I conduct interviews with participants about their sleep and sleeping pill use. I have taken part in creating a survey for older adults to help identify factors associated with BZRA use in older adults. I have completed the patient-oriented research training to learn more about including patient partners in the research process.

Your Role:

My priority is to truly understand the patient perspective by interviewing older adults who received the Sleepwell booklets. It is important that I prepare for this as best as possible. And, once the interviews are complete, I want to make sure that my understanding of their perspectives is accurate. To help achieve these goals, you are invited to take part in the following activities.

1. **Review two Sleepwell booklets**	
You will be sent the Sleepwell booklets for review. Get familiar with the content and provide first impressions on the material. Highlight information that you find relevant and irrelevant. What did you find helpful? What's not needed?	1 hour or less
2. **Review the interview guide and join a meeting to discuss it**	
You will be sent the draft interview guide ahead of time. The interview guide includes questions that study participants will be asked during the interview. Read the questions to see if they make sense and are appropriate. You can ask yourself: Would I know how to answer the question? Are there other questions that should be asked? Attend a meeting to provide feedback about the interview guide.	1 – 1.5 hours
3. **Practice interviews**	
Go through the interview with me as though you are a participant and provide feedback on flow, interviewer style, questions, and timing.	2 hours (or less)
4. **Troubleshoot the interviews**	
Respond to questions if issues come up as the interviews are being completed.	Less than 1 hour, if needed
5. **Provide feedback on analysis of interview findings**	
After analyzing 2-3 interviews, you will be sent a short document that summarizes my analysis for you to review. Attend a meeting and give your feedback on my analysis. This will be repeated two more times as I progress through the interviews.	3-4.5 hours for 3 reviews & meetings
	Total: 8-11 hours

Compensation:

Your time will be compensated. We will provide you with a grocery store gift card at the start, mid-point, and at the end of your contributions over approximately 1 year.

APPENDIX F DEDUCTIVE CODES

DEDUCTIVE CODE	DATA ILLUSTRATIONS
5.5 ANTICIPATED REGRET- induce or raise awareness of expectations of future regret about performance of the unwanted behaviour	BS0301: I read about when if you take sleeping pills for a long time it could cause like dementia, Alzheimer and sometimes your memory could be blurry and something like that and I don't want to be in that stage and that is why I was interested in it. AS0413: I just read it and I was glued to it because these people were falling and having accidents and stuff like that, and I didn't want to go there. I wanted to keep on driving a car as long as possible. AS0413: I never fell down, but sometimes I have to hang on to walls, you know, I go down the stairs, every time I go down the stairs or hang on to the walls I think to myself this is not normal. So, it really helped me to see that this is where I am heading. AS0256: The one that touches me the most is the memory loss problem… well because I don't want to lose my memory. AS0256: I've seen what they do in nursing homes with older people that are agitated, they give them medication to calm them down and after a while they can't walk anymore. They kind of become a vegetable, I watched them do that to my mom, so I don't want to go there. AS0256: …that would bother me you know trying to drive in that kind of condition. AS0256: I lose my sense of balance and sometimes when I take the sleeping pill two or three days in a row, it seemed like when I get up in the morning, I had a hard time waking up. BS0377: I think sometimes my memory is going, that is one thing I read in there, I thought I don't need to start losing my memory. AS0419: The part about memory was news to me and that was a little alarming when my mother just passed a few months ago from Alzheimer's. AS0378: I don't think I ever had a thought of you know, going into a coma or falling, so that had an impact certainly. AS0240: … twice in my life I've had pneumonia, and one of the things they say is that you are four times more likely to get pneumonia if you are on these pills, that is another incentive for me to stop because if you had pneumonia a couple of times like I have, you are also more susceptible to that and the pills that's not a good combination I guess. AS0280: … after reading that some of the seniors that take the pills maybe they'd fall or can't get up and I thought well I

	never had that problem but I wasn't gonna continue taking them and that would happen to me so I quit them. AS0280: … seniors falling and it thought I don't want that to happen to me and you know that is my biggest concern… AS0280: … I just felt like I didn't want to damage my health, afraid that I would so I just quit cold turkey and suffered through you know.
5.2 SALIENCE OF CONSEQUENCES- use methods specifically designed to emphasise the consequences of preforming the behaviour with the aim of making them more memorable (goes beyond informing about consequences)	BS0527: When I finished booklet one, I realized I really had to stop taking them… if I hadn't read book one I probably wouldn't have said "well hell I'm going to stop this", it kicked me into doing it so that is very positive. AS0378: the pictures in the booklets were best thing that I had because I really couldn't read, like I couldn't focus… I had, I looked at booklet 1 and went "worry and questioning and falling" AS0378: I saw that woman on the floor and she's either dead or in a coma you know that had an emotional impact on me because I don't ever put myself in that light… the woman laying down and have fallen and I live 47 stair up I live in a flat on the top of a building with no elevators oh yeah so that had great impact on me. AS0378: Those pictures resonated with me because I was going through this so yeah, I think what engaged me most was the pictures.
5.1 INFORMATION ABOUT HEALTH CONSEQUENCES- provide information about health consequences of preforming the behaviour)	BS0301: Well, you feel less drowsy, and you are more alert in the morning, and you feel yourself. BS0301: It helped me understand that we are in a vicious circle. AS0413: Yeah, I understood more about what sleeping pills did to your system, and I did not like that part they can have lasting effects. AS0419: the addictive nature and the resistance of your body to it was kind of encouraging me to try even harder to get off of it. AS0539: I learned more specifically about what the problems could be, but none of them were really a surprise. BS0527: I could see there was a memory effect and that was enough just to kick start the thing. BS0527: Sleeping pill vicious cycle that is exactly what happens is as time goes on you have to increase the dosage. AS0528: I guess it would be the effects of them, and the long-lasting effects and how they make you feel… the dangers of them and all the problems they could cause. BS0377: The side effects, when I read that dementia, I thought "I don't remember reading that", that was when I finally woke

	up (ahaha). I finally realized I got to get a hold of this here now. AS0341: It [the booklets] just kind of reinforced what I already knew or felt about them [sleeping pills]. AS0240: I guess one of the things I learned from that [the booklets], when you want to build up and you've been on them [sleeping pills] for a while, they don't do anything for your insomnia anyway… AS0240: The drowsiness in the morning and that type of thing with the pills [influenced my intention to stop sleeping pills] … AS0240: Well, I guess I found out I didn't know as much about sleeping pills as I thought I did and the issue of pneumonia, the facts that you know really they're not a cure for insomnia, once your body adjusts to the pill you probably has as much insomnia as you did without the pill. AS0280: I had more knowledge of what it [sleeping pills] can do to you.
6.1 DEMONSTRATION OF BEHAVIOUR- provide an observable sample of the performance of the behaviour, directly in person or indirectly (includes modelling)	BS0301: There was a story about this lady, and she stopped gradually, I stopped gradually too but didn't keep up. BS0301: It was the way they were practicing it and the way it wasn't easy, it is not easy, but the book helped a lot yes... I stopped gradually and then I read a story of those people and it helped me. BS0301: It's the stories about those people… it helped me keep on going. AS0413: I learned that you can't just stop… It was wisdom to decrease a little bit more and more, and I was sold on the idea [that this] is the only way, it's the only thing that makes sense. AS0539: Jerry's story and the other person, you know, how long it took them to get to sleep and that sort of thing, it was helpful. AS0539: The charts, that particular chart and how this person did it and so on and so forth helped. AS0539: Jerry had a chart there about how many weeks he was on a dose, and that idea I followed myself.
6.2 SOCIAL COMPARISON- draw attention to others' performance to allow comparison with the person's own performance	BS0301: Yes, yes, yes, yes! ...When I read about it, I thought, "well if they can do it [stop sleeping pills], I can too". AS0413: I was reading that [the stories] and I saw myself in their stories. I thought "these are real people, they've gone through it, I am going through the same thing", and I could identify with someone else. You know, it is not just me. Stories of people with the same problems and that there is a lot of people with the same problem.

	AS0413: The stories, the stories are so well done. I think it was mostly that. I didn't have to read much of it. But I got it. I got the point. That was the motivator that I enjoyed most. BS0527: I don't like things such as Jerry's story or someone else's story. That doesn't turn my crank a lot. AS0539: This use of someone's story, I think its ok, but I don't read those things to say, "oh I should do what he did or should do what she did or whatever." I just, those things were not motivational particularly for me.
1.4 ACTION PLANNING- prompt detailed planning of performance of the behaviour (must include at least one of the context, frequency, duration, and intensity). Context may be environmental or internal	AS0539: simply doing the plan of how long it takes to get to sleep and things, I found that really helpful, that's the kind of guy I am I like to have a plan, and I can work from a plan a lot better than I can from tell you know. AS0539: Here is a path let's see what to do with this, so in that way it helped. AS0539: Here's a plan and here's what to do. Start taking a look at, you know, how are you going to do this, do a chart, do a sleep diary for a couple of weeks and see.
12.4 DISTRACTION- advise or arrange to use an alternative focus for attention to avoid triggers for unwanted behaviour	AS0341: I learned relaxation stuff so I can go back to sleep, which I couldn't do before. BS0377: I've got the mindfulness CD I listen to and fall asleep…different breathing techniques and tightening your fists and doing different things and then there is music, that's a good one too. AS0419: Relaxation therapy I found really good, so I do yoga, but just re-enforcing my progressive muscle relaxation rather than just saying "oh ok, I won't do anything before bed for an hour and see if I sleep" but to actually physically do something to help your body relax that was good. AS0539: The kind of sort of meditation, I guess would be the best way to describe it, when you're going to sleep was helpful. AS0378: I learned how to promote my own relaxation and what things worked for me and what things didn't I discarded. AS0240: Well, the breathing exercises helped me as far as getting to sleep is concerned… AS0240: … I found probably the most beneficial thing I got out of that I found were the things inducing you to sleep, the breathing exercises, and not lying in bed there trying to get to sleep but get up and do something then come back to bed, I found that quite useful actually.
2.3 SELF-MONITORING OF BEHAVIOUR- establish a method for the person to monitor and record their	BS0301: It made me feel more confident. I had to mark everything, I had in my mind that I had to mark when I couldn't sleep or when I get up, it was like a commitment.

behaviour as part of a behaviour change strategy	AS0528: I couldn't do the sleep study thing because when I get up at night, I don't want to write nothing down and I forget. AS0413: the schedule I had to put down a chart, you know the diary, that was motivating you know I liked that… that was the big motivator here. AS0413: I think it is to have a conscious, booklet 2 is writing things down it has a diary, I think it helps. BS0527: Sleep diary, I was never good at doing anything like that and I didn't even try. BS0377: The thing is to keep a diary; how do you know when you fall asleep? I did start, well I'm in bed 10 or 1030 I don't know when I fall asleep so how could I put that down on the sheet? I can put when I woke up. AS0539: The various journals and charts and that sort of things... sleep checklist and stuff. AS0539: I actually used that sleep diary, and I did that for a couple of weeks to see how I was really sleeping, and it was a real eye opener. AS0378: That planner… it helped me do the fight so never once in the time I got the program to the time I stopped it did I miss that little planner. I was printing out blanks left right and centre… that was the best tool for me… I could see my hits and misses and helped me set goals. AS0240: … I didn't keep a sleep diary; I can get up in the morning and pretty well tell you what percentage of sleep I had during the night and recording it didn't [help]. I guess that reflects me as an individual more so, I'm sure some people would find it useful…
1.1 goal setting- set or agree a goal defined in terms of the behaviour to be achieved	BS0301: Well, it helped a lot, it helped to motivate. AS0528: Well, I guess you make your mind up and stick with it. AS0419: Well that what is measured actually happens, right? it is managed. It's not actually getting a goal and wondering if you're falling short or achieving, makes it manageable. AS0539: I set goals of tapering down and those goals were kept.
8.2 Stimulus substitution – prompt substitution of the unwanted behaviour with a wanted or neutral behaviour	AS0256: I tried the 15 mins in bed you know and if you are not asleep get up and do something else and it didn't seem to work. AS0413: This program works when you follow the details, there are certain details that you don't think are important, but

	they are, for instance when you can't sleep you get up, and I do that. AS0539: What was also helpful was the business of 15 or 20 minutes if you're not asleep get up. AS0240: … if I got to bed and I'm awake for more than 20 minutes get up and do something else, or id I wake up during the night and I can't get back to sleep I get up. AS0240: … I found probably the most beneficial thing I got out of that I found were the things inducing you to sleep, the breathing exercises, and not lying in bed there trying to get to sleep but get up and do something then come back to bed, I found that quite useful actually. AS0280: … it stuck in my mind to get up if you're not sleeping, when I'm tossing and turning, and I continue to do that.

APPENDIX G INDUCTIVE CODES

INDUCTIVE CODE	DATA ILLUSTRATIONS
Joining the study with the intention to stop	BS0301: I was determined to stop and that is why I was reading it [the booklets]. AS0413: Oh absolutely, I wanted to stay away from them as much as possible and this [the study] was a great opportunity to help me do that. AS0256: It [motivation to use CBTi] was to get off sleeping pills… because it had less side effects. BS0377: I felt more energized to start working seriously on stopping the pills. AS0378: I was already working very hard to get off of the sleeping pills and two other drugs that I was on that were interacting. AS0240: One of the reasons I participated in the study is I wanted to get off of them [sleeping pills] … AS0280: I was thinking hard about it [stopping sleeping pills] because they got to a point I didn't thing they were helping at all.
Awareness and understanding	BS0301: I was feeling more aware of myself and the kind of sleep [I was getting], and aware of those medications, and more aware of me. BS0301: The doctors who prescribed those [sleeping pills] without telling us the danger of it… I mean they don't give you instructions or answers. AS0528: I didn't understand the problems caused by sleeping pills really, I mean I knew it had effects, but this gives you more in-depth information. AS0528: Not too many no, the booklet really brought it [ways to help you sleep without sleeping pills] to attention. AS0256: I understood them [sleeping pills] better than before I had the booklets. AS0256: [Booklets] made me aware how dangerous the pills were if being used for a long period of time. BS0377: Yes, I had no idea about most of the side effects. BS0377: I was surprised, I didn't realize all those side-effects you can get.

	BS0377: Well, it was the information provided about the side effects and how you can gradually wean off [that increased my confidence]. AS0419: Some of the withdrawal effects from it [sleeping pill], other than not being able to sleep, you know that was news to me. AS0419: [The purpose of the booklets is] to understand, if you didn't already, what the long-term effects of them are… if you take something long term [you're] somewhat immune to the effects and your dosage keeps changing up when you want it to go down. AS0378: I was confident now that I knew what I was doing I was confident that after reading this book I was on the right path. AS0240: I answered the questions there and I think I only got three out of the five right and I said "obviously I don't know much about this sleeping pill as I thought I did."
Timeline- Setting proper expectation	AS0413: Maybe just because I was on a schedule and time limit, I had to uhm I became stressed a little bit. AS0413: I was going too fast I cut down too much, but I still have the goal… I'm not putting a number of weeks though. BS0527: I just didn't say "look right now its march in three months I'm going to be off these things", I just reduced the pills and then at a certain point I reduced it again. BS0377: It [stopping sleeping pills] is a slow process it doesn't happen overnight it takes a while. AS0539: There was a chart in there somewhere too, yeah "if you've been on sleeping pill for more than two years you know reduce your dose over 6 to 52 weeks", and that strangely enough I wasn't put off by that, I thought that's great, you know I got a lot of time because I have been on them for so long and it had been medically necessary for so long that I have to be careful that I don't just lean one way in the expense of the other. AS0539: If you've had these pills for more than two years, that the period gets a little longer and longer. I've been on them for you know years, you have to remember that you can start reducing your high dose you're on, but you have to slow down on the reduction rate, and that is what I did and that really was helpful. AS0378: I thought one week do one [medication], one week the other, my result was that it took me 6 or 7 months to clean myself up including your booklets.

Seeking substitute	BS0527: I heard that milk has tryptophan, which would make you sleepy, and I don't drink milk but this, I don't know, if cottage cheese has any but I'm pretending it did. AS0256: Other than CBD oil I don't think there is anything else I could take [to help me sleep]. AS0256: I tried to [reduce or stop the sleeping pill], I wanted to try the CBD oil and they closed all the clinics and the only thing they tell you is go there and pick what you want, well for me to choose something that I know nothing about, that is kind of ridiculous you know, I would want to do that through a doctor or nurse practitioner that knows something about natural medication. AS0256: I read most of the stories in it and that they are all very good very interesting and then again once you get someone there that can maybe prescribe me good CBD oil then I can try that.
Beliefs about capabilities	BS0301: I don't give me a chance if I could fall asleep without them [sleeping pills]. BS0301: I felt that I needed to stop but I don't have any like, it's like I don't have any confidence in myself and self-esteem… I'm still anxious and still scared, it is like trying to do new things. BS0377: Once you got into it boy it's hard to get out, without some kind of help. AS0419: What I hadn't realized before is that probably I have been on such a low dosage for so long that it will be difficult to fall asleep without them. AS0539: It did give me confidence, like I felt confident really always that I could stop sleeping pills but not how I could stop them. AS0539: If you are into stopping sleeping pills it is not an easy thing to do, there is no question about that I think that is agreed on by everybody. AS0378: It wouldn't matter I couldn't go to sleep anyhow; I had long gone past any sense of me being able to sleep because I think that's actually still in my head about that. I think you can do something so many times and then you just go "stuff this" … you know whatever we think is what we get that's what I was getting, if I hadn't been up four times and I stayed in bed for an hour I might be asleep.
Positive Reinforcement	AS0413: I felt confident that this [CBTi] was working well, I could tell I wasn't sleeping as well but I could live with it. So, I gained the confidence that I reduced [the pill] to almost half than what I used to take and that was a booster for me, I had the

	confidence that I can survive on that and uh that is the thing that stands out. AS0419: some guidance in the booklets would be good, and that could have been enough guidance to say "some of this is working and I need to know more" then go to a reference… people need to see the value of employing the technique before they go all out buy a book or go to a medical site. AS0419: Just having success being off the sleeping pill I know that I can get there again when I had a bad night or two, and booklet two just kind of helps me go back, what else can I do before I go back to taking pills because I am so exhausted, so keep going back to it as much as anything else. AS0280: … well I got off them [sleeping pills] so I know I can stay off them because I have been off them a long time.
Beliefs about sleep-importance of sleep for health.	AS0341: I did [stop the sleeping pills] for a little bit, but I couldn't sleep so I am back on them. AS0341: I just don't sleep if I don't take those pills and I need sleep. AS0341: I have a friend… she would go three four days without sleeping, yeah and I don't think that is really healthy either, I think she would be healthier taking something rather than nothing at all. BS0527: Doctor originally told me I was doing more harm to my body by not sleeping. BS0527: The benefit is it [sleeping pills] does put you to sleep. AS0419: A good night sleep is great for our physical and mental health and if you are not getting it [sleeping pills] helps. AS0419: My initial thought was if I can go more than one day in a row without sleeping pill so that I didn't want to get myself exhausted and make myself physically unwell. AS0539: I had to get my sleep with this [transplant] and the medication I was on, it was important that I get sleep and you know that kind of hooked me on [sleeping pills]. AS0378: When you have a sleeping disorder like this it is a physical pain. It really is, so you would do anything to stop the pain, even when they say it is addictive, so I understand that they are addictive now. ** AS0378: I have to go to sleep again or I'm not gonna be able to function… I became quite aware of that, how I was thinking, how muddled my thoughts were, how much I needed my you know a decent night sleep.

Priority/ severity of issue	AS0341: I had surgery, when I got home from the hospital after that I just started taking them again because I couldn't sleep. AS0341: I got out of the hospital from the surgery, then I fell and broke my hip and was back in the hospital for a period of time so sleeping wasn't really on my agenda. AS0413: A series of things happened in my life, just couldn't keep up the schedule. AS0419: I had a lot of difficult family issues going on that outweighed anything else that I was trying to do. AS0539: You know am I going to have a bad night of sleep and do some long term damage or am I going to you know take the pills and see what happens and basically that is what I chose to do until this study came along. AS0240: … in my case I was down to one pill a day so I didn't see the need to get involved in that type of program [CBTi]. AS0240: … aftereffects of pins and needles effects on the side of your face, it was very difficult to sleep under those circumstances and in that case, taking a mild sedative or sleeping pill to get a good night sleep might be more beneficial than not taking the pill…
Belief about medication effectiveness	AS0341: I just can't seem to do it because I can't get to sleep if I don't take them. AS0341: I don't think there is a whole a lot of benefits from them except that you get to sleep. AS0341: They were giving me something in the hospital so then when I got home, I was like BOING my eyeballs were open and they wouldn't shut so I started taking them again. AS0341: I just don't sleep if I don't take those pills and I need sleep. AS0528: You know you take them [sleeping pill], and they help then they don't help. BS0527: Knowing I hadn't taken the sleeping pill seemed to be in the back of my mind and it seemed like "yeah I gotta get it if I'm going to get to sleep". AS0256: Sleeping pills still help me when I need them. BS0377: I took a full one [sleeping pill] last night and had a great night sleep in over a week. BS0377: If you stop taking them [sleeping pills] you can't sleep so that was my big, I can't stop taking them cold turkey you have to have a better way to do it.

	BS0377: It just takes a while to get used to the lower one [dose] because you're not going to sleep as well as you did before.
Push and pull- reflexive vs automatic motivation	BS0301: It seems when I was off of it [sleeping pill] I was feeling better when I wake up in the morning because now when I wake up in the morning it is kind of I don't know blurry and like it is unnatural. BS0301: I tell myself its only for a few nights if I could get a good sleep but then after that I have to do, it is like in my mind I couldn't sleep and I had to take half of it. AS0528: Well, it [the booklets] seems to want to help but I can't get things together. BS0527: I knew I shouldn't be taking them and the few times I said the hell with it I'm going to stop taking them I found it difficult, I stopped for a month or so, but it was just easier to continue taking them. BS0377: I think I did pretty well on the book I know the answers, it's just to follow it. AS0378: When you have a sleeping disorder like this it is a physical pain. It really is so you would do anything to stop the pain even when they say it is addictive, so I understand that they are addictive now. **
Previous failure/ lack of success with CBTi	AS0528: The booklet gives information about people who were able to get off of sleeping pills and how they did it but it doesn't seem to work for me. AS0528: I just the mind racing bit you know, you can't use counts, you can't take deep breaths it just doesn't work. It is not slowing anything down; I start counting backwards I lose count and my mind is right back into it. I didn't use a lot of it because of my mind racing and stuff. AS0528: Well, the pictures they look so calm and relaxation techniques but with me I had a hard time getting those to work. BS0537: When I hurt my back, one of the people I went to suggested it [CBTi] and I tried it to a limited extent but wasn't impressed with it.
Stuck-trapped- helpless-lost	BS0301: Once you are in it [taking sleeping pills], it's like you're in a trap. AS0413: I find myself stuck in a bind because I don't know how else to do things other than pills. AS0256: Well, it kind of makes you feel helpless when your drowsy and you know, you don't feel like doing anything.

	BS0377: Once you got into it [taking sleeping pills], boy it's hard to get out without some kind of help** AS0539: I wanted to stop, didn't have a way kind of, didn't have the plan. AS0539: Over the last five or six years or so I've really been feeling that I had to do something about this but like I said I had no plan. AS0539: If you are into stopping sleeping pills it is not an easy thing to do, there is no question about that I think that is agreed on by everybody. AS0378: It created in me anxiety, a constant anxiety of from lack of sleep and not knowing which way to go. AS0378: …in fact all I was doing was suffering and so I was cutting my pills down and then suffering… AS0280: I did not know any ways to tell you the truth… I'd be up prowling around in the bed and I think "what? Am I losing my mind?"…
Booklets were an answer/ a guide	AS0419: …like I say if I fell back into the stressors when I wasn't sleeping and needed that [CBTi] then I probably would invest in one of the recommended books and try to learn a more definitive attack. AS0539: I think I would have had a more difficult time if I hadn't bought the book because sink into sleep is it's a really good book to you know to pick up and put down pick up, and put down, and then you know if you have an issue here you can find it in there somewhere. AS0539: Well, it was the path, and this cognitive behavioural therapy business was really interesting and it put me into an area that I didn't have a name for and so I found it really quite helpful. AS0539: I wanted to get more into it deeply so that I can really understand no not understand but really be motivated to do what I did. AS0539: They sort of peak your interest and point you into a direction and they give you a quick look at certain concepts so that you begin to realize that there is more to this than "oh I think I'm going to taper off and stop" you know… introduces you to various procedures and various things you can do in a pretty straight forward and practical way and then when I got through booklet 2 I really had to get the book. AS0378: Relief that there is an end in sight … I thought yes, I can do this [stop sleeping pills] I'm already doing this but I can do this better now.

	AS0378: There wasn't a reasonable thought in my head of how I could actually do this other than to get off the drugs, so it was an enlightenment the book was an enlightenment. AS0378: I bought the book [Sink into Sleep] immediately… I was enamoured by what I had received… I was agreeing with this and whatever you told me to do I was about to do. AS0378: It [the booklets] was like having a doctor in the house it was the helping hand that I needed. AS0528: Anybody who is having sleeping problem it [the booklets] would be a good read for them to start. AS0240: well I would certainly share them with people who are taking the sleeping pills and have difficulty sleeping because there is information there that they could use, I would share them with anybody I guess, I'm not sure there is any information in there that I wouldn't share with anybody.
Attitude about medication	AS0341: I don't like taking them, I take a whole truck load of pills and I am always trying to get rid of one or more. AS0341: I didn't like taking them that much in the first place. AS0528: I wanted to get off of them [sleeping pills] to get rid of some of the stuff you know, when you don't sleep you have problems but sleeping pills seems to have more problems. AS0528: Well, the thought is you can get off your sleeping pills you were helping your health a bit. AS0413: I wanted to get away from them as much as possible. AS0413: I was ready to suffer the consequences of not sleeping too well until I get used to it [being off of sleeping pills]. AS0413: I know that sleeping pill use is not normal now, and having have that thought, I never go away from that at any cost I want to find other ways but sleeping pills. BS0527: It [the motivator] was the fact that there was a problem with the sleeping pills, it is not healthy to continue taking them forever, my dosage over the years has gone from half a pill to three pills at night it was the fact that I knew it was less effective, so I had to increase the dosage. AS0256: Sleeping pills cause insomnia and make you lose your sense of balance and after a period of time they don't work. AS0256: The less pills I take the better I feel really. AS0539: the problem with the ones [sleeping pills] I was on is that they will put you to sleep but they won't keep you asleep and you know I knew that really from experience… maybe take

	another half pill in the middle of the night, and that's not a good idea, that has never happened since I started the study. AS0539: it was important that I get sleep with this [health condition] and that kind of hooked my on that stuff [sleeping pills], I knew it seemed to be the lesser of two evils you know. AS0539: If I can get rid of a couple of pills including this sleeping pill that would be a big help. AS0539: I'm not afraid of sleeping pills as much as I used to be, not worried about how to get off of them or getting off them. AS0378: The more I took it [sleeping pill] the less I slept… I learned that sleeping pills are very bad drugs. AS0378: I was seriously questioning drugs. AS0378: I was a very scared person because I was never a person to take pills and of a sudden, I'm on three of them. AS0240: Well, I have a bit of an aversion to pills to start with, I try to take as few as I can and so I saw the ad for the sleep study well why not, I'll see if I can, if it will help me [stop the sleeping pills]. AS0240: … I assume the fewer pills you take the better for your health… AS0280: … I am not one to take pills… I will just struggle through somehow without taking that stuff.
Informed decision making	BS0301: It is like a vicious circle that I am in so I would like to stop it [sleeping pill] again. AS0419: It [the booklet] made me feel more informed, so it is more of a conscious decision what I did and I didn't do, in other words whether I actively wanted to stop. AS0539: We start our night with watching the news and that's something that the study suggests, warns against anyway, but we did it with our eyes wide open so to speak. AS0539: What the study did for me was it put me in a place where I am always conscious of the fact that I can't go back to that level of sleeping pills and that I have to you know really get off of them but it's been difficult to do. AS0378: Most of us we just take drugs based on what our doctor tells us… there is not enough research that goes into everything, the drugs I was trying to go off… only one of those drugs were on your list however in my withdrawing from these drugs I went through terrible, terrible withdrawal… so I did the research. AS0378: More information on the drug section of how so people even learn they can look up the drugs they are taking.

	AS0240: [Learning about the problems caused by sleeping pills] made me feel like they were unnecessary, and I should get off them… AS0280: I mean I could go back to the doctor and get a different prescription all together, but I don't want to, and I told him [doctor] before and he suggested giving me something different but I said I'm not going on them again.
Support from others- the value of help and belonging	AS0378: I learned that I wasn't alone, there is a lot of people in this mess. AS0378: You are not alone here and this is the truth, so I guess it built that confidence and it spurred my get up and go. AS0378: I was on my own, I saw it [add for YAWNS study] on my tv one night and almost fell off my chair because it said YAWNS program for seniors and I went "oh my god, oh my god!" I always knew that there is a connection in life we just have to look for it and as soon as I saw that I was on the phone. AS0378: I have been on my own for 30 years and the only person I had to rely on was me. AS0378: I had been looking for help I couldn't keep doing this on my own and I couldn't be running to my doctor about it because nobody seems to understand. AS0413: My wife is helping me, so we've been doing it in my own timing I don't have to rush too much. AS0413: My wife sometimes would read to me a part of it and we would go through it together. On my own it was a little bit difficult, but it was nice to have companionship. BS0377: If you have a husband or a mate you are sleeping well, and when my husband died that's when I started having problems, it makes a difference when you have a companion or someone in bed with you it makes a difference. BS0377: I have a new doctor and I know she's trying, she wants me to stop them [sleeping pills], she knows they're not good for me. She was the one who said lets reduce the dosage which I haven't thought of before. BS0377: My doctor like I said really wants me to stop, new doctor so that was the first think she tackled was the sleeping pills. BS0527: When I commented to him [the pharmacist], he should've kept his mouth shut when I commented to him, he said "well when you divided in two you are getting to a dosage that isn't physiologically successful"
Racing mind	AS0256: Come night time, when I want to go to bed is when I become hyper.

	BS0377: As soon as I get to bed, I start thinking about all these stupid things and I have to try and stop that. AS0419: You'd be thinking about what's going to come ahead and I couldn't seem to relax, something is always on my mind.
Skepticism around the booklet	BS0527: Pneumonia I didn't realize there was a connection [to taking sleeping pills], I do find the statistics kind of not overly believable. BS0527: I felt booklet two pushed cognitive behavioural therapy and I felt it was flogging, promoting somebody's book… I saw that there was a couple of references to the book and then I think there was a discount available if I got the book and I'm just looking and thinking "this is kind of they are promoting that book." BS0377: I don't know if that [sleeping pills has an effect on memory] is true or not, I mentioned it to somebody, and they said that's not true. AS0419: If you tell me to buy something it feels like an add rather than a help… why is it telling me to buy this book… I think I did see the disclaimer but that doesn't really change the flavor. AS0419: [Would recommend the booklets to] anyone who is trying to improve the quality of sleep. AS0280: well I also heard that it can cause you to have, will I don't know if it is true or not, it could cause you to have memory laps…
Endorsing of the booklets	AS0539: If there was no recommendation in there [the booklet] I wouldn't even know that there was a book that is called Sink into Sleep. AS0378: Behind them [the booklets] were people who were looking at things the same way I was looking at them only they had a lot more favourable credentials than I do. AS0378: I have a younger friend she is 50 and she was the first one I shared it with, and she wouldn't do it so she couldn't follow it and I said "then you do not have a sleeping problem, you couldn't have a sleeping problem honey or you would be doing some of this" AS0341: It [the booklet] is for people who are already taking sleeping pills and she [this person's friend] doesn't so they probably wouldn't even apply to her. AS0413: I would share it [the booklets] with anybody that has a problem I wouldn't be afraid to share it with anybody.

	AS0256: Anyone with a sleeping problem it [the booklets] might work for them even if it didn't work very well for me.
CBTi is a lifestyle change-commitment to a lifestyle change	AS0413: … this is my new life, you know I have already accepted, I'm already doing it, I am not going to quit. AS0539: Well, it's a course, it's like a university course or something you know, you've gotta schedule yourself, you've got to do what the book suggests you do, you gotta follow it just like you were going to make a final exam or something you know… the book instilled that commitment in me. AS0378: I felt probably a sense of relief… reading it is one thing doing it of course is absolute other things but reading it was a sense of relief this would work, and I had to do it and so I had to pull up my socks more and so I did set those heave duty guidelines. AS0413: It was exciting, there was excitement that maybe I can do this [stop sleeping pills] and I wanted to give it my all.

APPENDIX H CODES USED IN EACH THEME

Codes under the theme Sleep should not be this difficult

Beliefs About Sleep- importance of sleep for health.	AS0341: I did [stop the sleeping pills] for a little bit, but I couldn't sleep so I am back on them. AS0341: I just don't sleep if I don't take those pills and I need sleep. AS0341: I have a friend… she would go three four days without sleeping, yeah and I don't think that is really healthy either, I think she would be healthier taking something rather than nothing at all. BS0527: Doctor originally told me I was doing more harm to my body by not sleeping. BS0527: The benefit is it [sleeping pills] does put you to sleep. AS0419: A good night sleep is great for our physical and mental health and if you are not getting it that [sleeping pills] helps. AS0419: My initial thought was if I can go more than one day in a row without sleeping pill so that I didn't want to get myself exhausted and make myself physically unwell. AS0539: I had to get my sleep with this [transplant] and the medication I was on, it was important that I get sleep and you know that kind of hooked me on. AS0378: I have to go to sleep again or I'm not gonna be able to function… I became quite aware of that, how I was thinking, how muddled my thoughts were, how much I needed my you know a decent night sleep. AS0378: It wouldn't matter I couldn't go to sleep anyhow; I had long gone past any sense of me being able to sleep because I think that's actually still in my head about that. I think you can do something so many times and then you just go "stuff this" … you know whatever we think is what we get that's what I was getting, if I hadn't been up four times and I stayed in bed for an hour I might be asleep.
Priority/severity of issue	AS0341: I had surgery, when I got home from the hospital after that I just started taking them again because I couldn't sleep. AS0341: I got out of the hospital from the surgery, then I fell and broke my hip and was back in the hospital for a period of time so sleeping wasn't really on my agenda. AS0378: When you have a sleeping disorder like this it is a physical pain. It really is, so you would do anything to stop the pain, even when they say it [sleeping pill] is addictive, so I understand that they are addictive now. AS0413: A series of things happened in my life, just couldn't keep up the schedule. AS0419: I had a lot of difficult family issues going on that outweighed anything else that I was trying to do.

	AS0539: You know am I going to have a bad night of sleep and do some long-term damage or am I going to you know take the pills and see what happens and basically that is what I chose to do until this study came along. AS0240: … in my case I was down to one pill a day so I didn't see the need to get involved in that type of program [CBTi]. AS0240: … aftereffects of pins and needles effects on the side of your face, it was very difficult to sleep under those circumstances and in that case, taking a mild sedative or sleeping pill to get a good night sleep might be more beneficial than not taking the pill…
Belief about medication effectiveness	AS0341: I just can't seem to do it because I can't get to sleep if I don't take them. AS0341: I don't think there is a whole a lot of benefits from them except that you get to sleep. AS0341: They were giving me something in the hospital so then when I got home, I was like BOING my eyeballs were open and they wouldn't shut so I started taking them again. AS0341: I just don't sleep if I don't take those pills and I need sleep. AS0528: You know you take them [sleeping pill], and they help then they don't help. BS0527: Knowing I hadn't taken the sleeping pill seemed to be in the back of my mind and it seemed like "yeah I gotta get it if I'm going to get to sleep". AS0256: Sleeping pills still help me when I need them. BS0377: I took a full one [sleeping pill] last night and had a great night sleep in over a week. BS0377: If you stop taking them [sleeping pills] you can't sleep so that was my big, I can't stop taking them cold turkey you have to have a better way to do it. BS0377: It just takes a while to get used to the lower one [dose] because you're not going to sleep as well as you did before. AS0419: What I hadn't realized before is that probably I have been on such a low dosage for so long that it will be difficult to fall asleep without them, so that is a little bit of a dependency there. BS0301: I don't give me a chance if I could fall asleep without them [sleeping pills].
Push and pull motivation	BS0301: It seems when I was off of it [sleeping pill] I was feeling better when I wake up in the morning because now when I wake up in the morning it is kind of I don't know blurry and like it is unnatural. BS0301: I tell myself its only for a few nights if I could get a good sleep but then after that I have to do, it is like in my mind I couldn't sleep and I had to take half of it. AS0528: Well, it [the booklets] seems to want to help but I can't get things together.

	BS0527: I knew I shouldn't be taking them and the few times I said the hell with it I'm going to stop taking them I found it difficult, I stopped for a month or so, but it was just easier to continue taking them.
Skepticism around the booklet	BS0527: Pneumonia I didn't realize there was a connection [to taking sleeping pills], I do find the statistics kind of not overly believable. BS0527: I felt booklet two pushed cognitive behavioural therapy and I felt it was flogging, promoting somebody's book… I saw that there was a couple of references to the book and then I think there was a discount available if I got the book and I'm just looking and thinking "this is kind of they are promoting that book." BS0377: I don't know if that [sleeping pills has an effect on memory] is true or not, I mentioned it to somebody, and they said that's not true. AS0419: If you tell me to buy something it feels like an add rather than a help… why is it telling me to buy this book… I think I did see the disclaimer but that doesn't really change the flavor. AS0280: well I also heard that it can cause you to have, will I don't know if it is true or not, it could cause you to have memory laps…

12.4 distraction- advise or arrange to use an alternative focus for attention to avoid triggers for unwanted behaviour	AS0341: I learned relaxation stuff so I can go back to sleep, which I couldn't do before. BS0377: I've got the mindfulness CD I listen to and fall asleep…different breathing techniques and tightening your fists and doing different things and then there is music, that's a good one too. AS0419: Relaxation therapy I found really good, so I do yoga, but just re-enforcing my progressive muscle relaxation rather than just saying "oh ok, I won't do anything before bed for an hour and see if I sleep" but to actually physically do something to help your body relax that was good. AS0539: The kind of sort of meditation, I guess would be the best way to describe it, when you're going to sleep was helpful. AS0378: I learned how to promote my own relaxation and what things worked for me and what things didn't I discarded. AS0240: Well, the breathing exercises helped me as far as getting to sleep is concerned… AS0240: … I found probably the most beneficial thing I got out of that I found were the things inducing you to sleep, the breathing exercises, and not lying in bed there trying to get to sleep but get up and do something then come back to bed, I found that quite useful actually.
2.3 self-monitoring of behaviour- establish a method for the person to monitor and record their	BS0301: It made me feel more confident. I had to mark everything, I had in my mind that I had to mark when I couldn't sleep or when I get up, it was like a commitment.

behaviour as part of a behaviour change strategy	AS0528: I couldn't do the sleep study thing because when I get up at night, I don't want to write nothing down and I forget. AS0413: the schedule I had to put down a chart, you know the diary, that was motivating you know I liked that… that was the big motivator here. AS0413: I think it is to have a conscious, booklet 2 is writing things down it has a diary, I think it helps. BS0527: Sleep diary, I was never good at doing anything like that and I didn't even try. BS0377: The thing is to keep a diary; how do you know when you fall asleep? I did start, well I'm in bed 10 or 1030 I don't know when I fall asleep so how could I put that down on the sheet? I can put when I woke up. AS0539: The various journals and charts and that sort of things... sleep checklist and stuff. AS0539: I actually used that sleep diary, and I did that for a couple of weeks to see how I was really sleeping, and it was a real eye opener. AS0378: That planner… it helped me do the fight so never once in the time I got the program to the time I stopped it did I miss that little planner. I was printing out blanks left right and centre… that was the best tool for me… I could see my hits and misses and helped me set goals. AS0240: … I didn't keep a sleep diary, I can get up in the morning and pretty well tell you what percentage of sleep I had during the night and recording it didn't [help]. I guess that reflects me as an individual more so, I'm sure some people would find it useful…
8.2 Stimulus substitution – prompt substitution of the unwanted behaviour with a wanted or neutral behaviour	AS0256: I tried the 15 mins in bed you know and if you are not asleep get up and do something else and it didn't seem to work. AS0413: This program works when you follow the details, there are certain details that you don't think are important, but they are, for instance when you can't sleep you get up, and I do that. AS0539: What was also helpful was the business of 15 or 20 minutes if you're not asleep get up. AS0240: … if I got to bed and I'm awake for more than 20 minutes get up and do something else, or id I wake up during the night and I can't get back to sleep I get up. AS0240: … I found probably the most beneficial thing I got out of that I found were the things inducing you to sleep, the breathing exercises, and not lying in bed there trying to get to sleep but get up and do something then come back to bed, I found that quite useful actually. AS0280: … it stuck in my mind to get up if you're not sleeping, when I'm tossing and turning and I continue to do that.

CBTi is a lifestyle change-commitment to a lifestyle change	AS0413: … this is my new life, you know I have already accepted, I'm already doing it, I am not going to quit. AS0413: It was exciting, there was excitement that maybe I can do this [stop sleeping pills] and I wanted to give it my all. AS0413: If one or a couple of days it [CBTi] doesn't work then it is tempting to go back to the pill, but I liked the idea of venturing to a new life with no pills. AS0539: Well, it's a course, it's like a university course or something you know, you've gotta schedule yourself, you've got to do what the book suggests you do, you gotta follow it just like you were going to make a final exam or something you know… the book instilled that commitment in me. AS0539: I paid attention to what I should and should not be doing and quite frankly it worked, and the only thing that prevented it from working completely is I got lazy and I said "oh I'm doing so well I'm going to take a little break", well that break is still going on. AS0378: I felt probably a sense of relief… reading it is one thing doing it of course is absolute other things but reading it was a sense of relief this would work, and I had to do it and so I had to pull up my socks more and so I did set those heave duty guidelines. BS0377: I think I did pretty well on the book I know the answers, it's just to follow it. AS0171: no, I don't do goals, I don't do that stuff. My life is too busy I don't have time to think about a whole wack of things, so I don't do that stuff. It either works or it doesn't work and if it doesn't work then out the door you go, it's that simple to me
Timeline- Setting proper expectation	AS0413: Maybe just because I was on a schedule and time limit, I had to uhm I became stressed a little bit. AS0413: I was going too fast I cut down too much, but I still have the goal… I'm not putting a number of weeks though. BS0527: I just didn't say "look right now its march in three months I'm going to be off these things", I just reduced the pills and then at a certain point I reduced it again. BS0377: It [stopping sleeping pills] is a slow process it doesn't happen overnight it takes a while. AS0539: There was a chart in there somewhere too, yeah "if you've been on sleeping pill for more than two years you know reduce your dose over 6 to 52 weeks", and that strangely enough I wasn't put off by that, I thought that's great, you know I got a lot of time because I have been on them for so long and it had been medically necessary for so long that I have to be careful that I don't just lean one way in the expense of the other.

	AS0539: If you've had these pills for more than two years, that the period gets a little longer and longer. I've been on them for you know years, you have to remember that you can start reducing your high dose you're on, but you have to slow down on the reduction rate, and that is what I did and that really was helpful. AS0378: I thought one week do one [medication], one week the other, my result was that it took me 6 or 7 months to clean myself up including your booklets.

6.1 demonstration of behaviour- provide an observable sample of the performance of the behaviour, directly in person or indirectly (includes modelling)	BS0301: There was a story about this lady, and she stopped gradually, I stopped gradually too but didn't keep up. BS0301: It was the way they were practicing it and the way it wasn't easy, it is not easy, but the book helped a lot yes... I stopped gradually and then I read a story of those people and it helped me keep on going. BS0301: It's the stories about those people… it helped me keep on going. AS0413: I learned that you can't just stop… It was wisdom to decrease a little bit more and more, and I was sold on the idea [that this] is the only way, it's the only thing that makes sense. AS0539: Jerry's story and the other person, you know, how long it took them to get to sleep and that sort of thing, it was helpful. AS0539: The charts, that particular chart and how this person did it and so on and so forth helped. AS0539: Jerry had a chart there about how many weeks he was on a dose, and that idea I followed myself.
6.2 social comparison- draw attention to others' performance to allow comparison with the person's own performance	BS0301: Yes, yes, yes, yes! ...When I read about it, I thought, "well if they can do it [stop sleeping pills], I can too". AS0413: I was reading that [the stories] and I saw myself in their stories. I thought "these are real people, they've gone through it, I am going through the same thing", and I could identify with someone else. You know, it is not just me. Stories of people with the same problems and that there is a lot of people with the same problem. AS0413: The stories, the stories are so well done. I think it was mostly that. I didn't have to read much of it. But I got it. I got the point. That was the motivator that I enjoyed most. BS0527: I don't like things such as Jerry's story or someone else's story. That doesn't turn my crank a lot. AS0539: This use of someone's story, I think its ok but I don't read those things to say, "oh I should do what he did or should do what she did or whatever." I just, those things were not motivational particularly for me.
Support from others- the value of help and belonging	AS0378: I learned that I wasn't alone, there is a lot of people in this mess. AS0378: You are not alone here and this is the truth, so I guess it built that confidence and it spurred my get up and go. AS0378: I was on my own, I saw it [add for YAWNS study] on my tv one night and almost fell off my chair because it said YAWNS program for seniors and I went "oh my god, oh my god!" I always knew that there is a

	connection in life we just have to look for it and as soon as I saw that I was on the phone. AS0378: I have been on my own for 30 years and the only person I had to rely on was me. AS0378: I had been looking for help I couldn't keep doing this on my own and I couldn't be running to my doctor about it because nobody seems to understand. AS0413: My wife is helping me, so we've been doing it in my own timing I don't have to rush too much. AS0413: My wife sometimes would read to me a part of it and we would go through it together. On my own it was a little bit difficult, but it was nice to have companionship. BS0377: If you have a husband or a mate you are sleeping well, and when my husband died that's when I started having problems, it makes a difference when you have a companion or someone in bed with you it makes a difference. BS0377: I have a new doctor and I know she's trying, she wants me to stop them [sleeping pills], she knows they're not good for me. She was the one who said lets reduce the dosage which I haven't thought of before. BS0377: My doctor like I said really wants me to stop, new doctor so that was the first think she tackled was the sleeping pills. BS0527: When I commented to him [the pharmacist], he should've kept his mouth shut when I commented to him, he said "well when you divided in two you are getting to a dosage that isn't physiologically successful"
Booklets were an answer/ a guide – hope	AS0419: …I probably would if I started drifting ack to sleeping pills I would pick up some of the recommended books about cognitive techniques because I found them difficult, it is easy to say turn off the worry time, but it doesn't happen so that kind of thing to refocus your mind so that it can relax. I would probably need more coaching… AS0419: I thought there would be a little more of a guide in it [booklet 1] as to how to stop [sleeping pills], but that turned out to be in booklet two so maybe my expectation of the booklet was different. AS0539: I think I would have had a more difficult time if I hadn't bought the book because sink into sleep is it's a really good book to you know to pick up and put down pick up, and put down, and then you know if you have an issue here you can find it in there somewhere. AS0539: Well, it was the path, and this cognitive behavioural therapy business was really interesting, and it put me into an area that I didn't have a name for and so I found it really quite helpful. AS0539: I wanted to get more into it deeply so that I can really understand no not understand but really be motivated to do what I did. AS0539: They sort of peak your interest and point you into a direction and they give you a quick look at certain concepts so that you begin to realize that there is more to this than "oh I think I'm going to taper off and stop" you know… introduces you to various procedures and various things you can do in a pretty straight forward and practical way and then when I got through booklet 2 I really had to get the book.

	AS0539: It did give me confidence, like I felt confident really always that I could stop sleeping pills but not how I could stop them. AS0539: Both booklet one and booklet two were helpful to me to introduce me to the main event which I think was the book [sink into sleep], the guide. AS0378: Relief that there is an end in sight … I thought yes, I can do this [stop sleeping pills] I'm already doing this but I can do this better now. AS0378: I didn't have much before I had this book…in fact all I was doing was suffering and so I was cutting my pills down and then suffering… there wasn't a reasonable thought in my head of how I could actually do this other than get off the drugs. So it was an enlightenment, the book was an enlightenment. AS0378: I bought the book [Sink into Sleep] immediately… I was enamoured by what I had received… I was agreeing with this and whatever you told me to do I was about to do. AS0378: It [the booklets] was like having a doctor in the house it was the helping hand that I needed. AS0528: Anybody who is having sleeping problem it [the booklets] would be a good read for them to start. AS0240: Well I would certainly share them with people who are taking the sleeping pills and have difficulty sleeping because there is information there that they could use, I would share them with anybody I guess, I'm not sure there is any information in there that I wouldn't share with anybody.
Endorsing of the booklets	AS0539: If there was no recommendation in there [the booklet] I wouldn't even know that there was a book that is called Sink into Sleep. AS0378: Behind them [the booklets] were people who were looking at things the same way I was looking at them only they had a lot more favourable credentials than I do. AS0378: I have a younger friend she is 50 and she was the first one I shared it with, and she wouldn't do it so she couldn't follow it and I said "then you do not have a sleeping problem, you couldn't have a sleeping problem honey or you would be doing some of this" AS0341: It [the booklet] is for people who are already taking sleeping pills and she [this person's friend] doesn't so they probably wouldn't even apply to her. AS0413: I would share it [the booklets] with anybody that has a problem I wouldn't be afraid to share it with anybody. AS0256: Anyone with a sleeping problem it [the booklets] might work for them even if it didn't work very well for me. AS0419: [Would recommend the booklets to] anyone who is trying to improve the quality of sleep.

Codes under the theme- Whether you know it, or learn it, drugs are bad.

Awareness and understanding	BS0301: I was feeling more aware of myself and the kind of sleep [I was getting], and aware of those medications, and more aware of me. BS0301: The doctors who prescribed those [sleeping pills] without telling us the danger of it… I mean they don't give you instructions or answers. AS0528: I didn't understand the problems caused by sleeping pills really, I mean I knew it had effects, but this gives you more in-depth information. AS0528: Not too many no, the booklet really brought it [ways to help you sleep without sleeping pills] to attention. AS0256: I understood them [sleeping pills] better than before I had the booklets. AS0256: [Booklets] made me aware how dangerous the pills were if being used for a long period of time. BS0377: Yes, I had no idea about most of the side effects. BS0377: I was surprised, I didn't realize all those side-effects you can get. BS0377: Well, it was the information provided about the side effects and how you can gradually wean off [that increased my confidence around sleeping pill use]. AS0419: Some of the withdrawal effects from it [sleeping pill], other than not being able to sleep, you know that was news to me. AS0419: [The purpose of the booklets is] to understand, if you didn't already, what the long-term effects of them are… if you take something long term [you're] somewhat immune to the effects and your dosage keeps changing up when you want it to go down. AS0419: It [the booklet] made me feel more informed, so it is more of a conscious decision what I did and I didn't do, in other words whether I actively wanted to stop. AS0378: I was confident now that I knew what I was doing I was confident that after reading this book I was on the right path. AS0378: Most of us we just take drugs based on what our doctor tells us… there is not enough research that goes into everything, the drugs I was trying to go off… only one of those drugs were on your list however in my withdrawing from these drugs I went through terrible, terrible withdrawal… so I did the research. AS0378: More information on the drug section of how so people even learn they can look up the drugs they are taking… they need to be given some sort of advice and not just the printout that comes from that pharmacist… AS0240: I answered the questions there and I think I only got three out of the five right and I said "obviously I don't know much about this sleeping pill as I thought I did." AS0240: [Learning about the problems caused by sleeping pills] made me feel like they were unnecessary, and I should get off them…

	AS0539: We start our night with watching the news and that's something that the study suggests, warns against anyway, but we did it with our eyes wide open so to speak. AS0539: What the study did for me was it put me in a place where I am always conscious of the fact that I can't go back to that level of sleeping pills and that I have to you know really get off of them, but it's been difficult to do. AS0280: I mean I could go back to the doctor and get a different prescription all together, but I don't want to, and I told him [doctor] before and he suggested giving me something different, but I said I'm not going on them again.
5.1 information about health consequences- provide information about health consequences of preforming the behaviour)	BS0301: Well, you feel less drowsy, and you are more alert in the morning and you feel yourself. BS0301: It helped me understand that we are in a vicious circle. AS0413: Yeah, I understood more about what sleeping pills did to your system, and I did not like that part they can have lasting effects. AS0419: The addictive nature and the resistance of your body to it was kind of encouraging me to try even harder to get off of it. AS0539: I learned more specifically about what the problems could be, but none of them were really a surprise. BS0527: I could see there was a memory effect and that was enough just to kick start the thing. BS0527: Sleeping pill vicious cycle that is exactly what happens is as time goes on you have to increase the dosage. AS0528: I guess it would be the effects of them, and the long-lasting effects and how they make you feel… the dangers of them and all the problems they could cause. BS0377: The side effects, when I read that dementia, I thought "I don't remember reading that", that was when I finally woke up (ahaha). I finally realized I got to get a hold of this here now. AS0341: It [the booklets] just kind of reinforced what I already knew or felt about them [sleeping pills]. AS0240: I guess one of the things I learned from that [the booklets], when you want to build up and you've been on them [sleeping pills] for a while, they don't do anything for your insomnia anyway… AS0240: The drowsiness in the morning and that type of thing with the pills [influenced my intention to stop sleeping pills]… AS0240: Well I guess I found out I didn't know as much about sleeping pills as I thought I did and the issue of pneumonia, the facts that you know really they're not a cure for insomnia, once your body adjusts to the pill you probably has as much insomnia as you did without the pill. AS0280: I had more knowledge of what it [sleeping pills] can do to you.

5.5 anticipated regret- induce or raise awareness of expectations of future regret about performance of the unwanted behaviour	BS0301: I read about when if you take sleeping pills for a long time it could cause like dementia, Alzheimer and sometimes your memory could be blurry and something like that and I don't want to be in that stage and that is why I was interested in it. AS0413: I just read it and I was glued to it because these people were falling and having accidents and stuff like that, and I didn't want to go there. I wanted to keep on driving a car as long as possible. AS0413: I never fell down, but sometimes I have to hang on to walls, you know, I go down the stairs, every time I go down the stairs or hang on to the walls I think to myself this is not normal. So, it really helped me to see that this is where I am heading. AS0256: The one that touches me the most is the memory loss problem… well because I don't want to lose my memory. AS0256: I've seen what they do in nursing homes with older people that are agitated, they give them medication to calm them down and after a while they can't walk anymore. They kind of become a vegetable, I watched them do that to my mom, so I don't want to go there. AS0256: …that would bother me you know trying to drive in that kind of condition. AS0256: I lose my sense of balance and sometimes when I take the sleeping pill two or three days in a row, it seemed like when I get up in the morning, I had a hard time waking up. BS0377: I think sometimes my memory is going, that is one thing I read in there, I thought I don't need to start losing my memory. AS0419: The part about memory was news to me and that was a little alarming when my mother just passed a few months ago from Alzheimer's. AS0378: I don't think I ever had a thought of you know, going into a coma or falling, so that had an impact certainly. AS0240: … twice in my life I've had pneumonia, and one of the things they say is that you are four times more likely to get pneumonia if you are on these pills, that is another incentive for me to stop because if you had pneumonia a couple of times like I have, you are also more susceptible to that and the pills that's not a good combination I guess. AS0280: … after reading that some of the seniors that take the pills maybe they'd fall or can't get up and I thought well I never had that problem but I wasn't gonna continue taking them and that would happen to me so I quit them. AS0280: … seniors falling and it thought I don't want that to happen to me and you know that is my biggest concern… AS0280: … I just felt like I didn't want to damage my health, afraid that I would so I just quit cold turkey and suffered through you know.

5.2 salience of consequences- use methods specifically designed to emphasise the consequences of preforming the behaviour with the aim of making them more memorable (goes beyond informing about consequences)	BS0527: When I finished booklet one, I realized I really had to stop taking them… if I hadn't read book one I probably wouldn't have said "well hell I'm going to stop this", it kicked me into doing it so that is very positive. AS0378: the pictures in the booklets were best thing that I had because I really couldn't read, like I couldn't focus… I had, I looked at booklet 1 and went "worry and questioning and falling" AS0378: I saw that woman on the floor and she's either dead or in a coma you know that had an emotional impact on me because I don't ever put myself in that light… the woman laying down and have fallen and I live 47 stair up I live in a flat on the top of a building with no elevators oh yeah so that had great impact on me AS0378: Those pictures resonated with me because I was going through this so yeah, I think what engaged me most was the pictures.

Joining the study with the intention to stop	BS0301: I was determined to stop and that is why I was reading it [the booklets]. AS0413: Oh absolutely, I wanted to stay away from them as much as possible and this [the study] was a great opportunity to help me do that. AS0256: It [motivation to use CBTi] was to get off sleeping pills… because it had less side effects. BS0377: I felt more energized to start working seriously on stopping the pills [after reading the booklets]. AS0378: I was already working very hard to get off of the sleeping pills and two other drugs that I was on that were interacting. AS0240: One of the reasons I participated in the study is I wanted to get off of them [sleeping pills] … AS0280: I was thinking hard about it [stopping sleeping pills] because they got to a point I didn't think they were helping at all.
Attitude about medication	AS0341: I don't like taking them [sleeping pills], I take a whole truck load of pills and I am always trying to get rid of one or more. AS0341: I didn't like taking them [sleeping pills] that much in the first place. AS0528: I wanted to get off of them [sleeping pills] to get rid of some of the stuff you know, when you don't sleep you have problems but sleeping pills seems to have more problems. AS0528: Well, the thought is you can get off your sleeping pills you were helping your health a bit. AS0413: I wanted to get away from them [sleeping pills] as much as possible. AS0413: I was ready to suffer the consequences of not sleeping too well until I get used to it [being off of sleeping pills]. AS0413: I know that sleeping pill use is not normal now, and having have that thought, I never go away from that at any cost I want to find other ways but sleeping pills.

	BS0527: It [the motivator to stop my sleeping pills] was the fact that there was a problem with the sleeping pills, it is not healthy to continue taking them forever, my dosage over the years has gone from half a pill to three pills at night it was the fact that I knew it was less effective, so I had to increase the dosage. AS0256: Sleeping pills cause insomnia and make you lose your sense of balance and after a period of time they don't work. AS0256: The less pills I take the better I feel really. AS0539: the problem with the ones [sleeping pills] I was on is that they will put you to sleep but they won't keep you asleep and you know I knew that really from experience… maybe take another half pill in the middle of the night, and that's not a good idea, that has never happened since I started the study. AS0539: it was important that I get sleep with this [health condition] and that kind of hooked my on that stuff [sleeping pills], I knew it seemed to be the lesser of two evils you know. AS0539: If I can get rid of a couple of pills including this sleeping pill that would be a big help. AS0539: I'm not afraid of sleeping pills as much as I used to be, not worried about how to get off of them or getting off them. AS0378: The more I took it [sleeping pill] the less I slept… I learned that sleeping pills are very bad drugs. AS0378: I was seriously questioning drugs. AS0378: I was a very scared person because I was never a person to take pills and of a sudden, I'm on three of them. AS0240: Well, I have a bit of an aversion to pills to start with, I try to take as few as I can and so I saw the ad for the sleep study well why not, I'll see if I can, if it will help me [stop the sleeping pills]. AS0240: … I assume the fewer pills you take the better for your health… AS0280: … I am not one to take pills, but I did take them, but why take them if you go to bed and you still can't sleep so I just felt that I didn't need them. I will just struggle through somehow without taking that stuff [sleeping pills].
Stuck-trapped- helpless-lost	BS0301: Once you are in it [taking sleeping pills], it's like you're in a trap. BS0301: I felt that I needed to stop but I don't have any like, it's like I don't have any confidence in myself and self-esteem… I'm still anxious and still scared, it is like trying to do new things. AS0413: I find myself stuck in a bind because I don't know how else to do things other than pills. AS0413: I wanted a normal way of life without feeling drowsy and sleepy. AS0256: Well, it kind of makes you feel helpless when your drowsy and you know, you don't feel like doing anything. BS0377: Once you got into it [taking sleeping pills], boy it's hard to get out without some kind of help.

	AS0539: I wanted to stop, didn't have a way kind of, didn't have the plan. AS0539: Over the last five or six years or so I've really been feeling that I had to do something about this but like I said I had no plan. AS0539: If you are into stopping sleeping pills it is not an easy thing to do, there is no question about that I think that is agreed on by everybody. AS0378: It [sleeping pill use] created in me anxiety, a constant anxiety of from lack of sleep and not knowing which way to go. AS0378: … I did talk to him [my doctor] about it and I said I got addicted and he said I am not giving it to you anymore, I said that's fine because I already had some left. However, a few months later I went back to him, and I said I won't be addicted again I'll be very strong about this, and I wasn't. So, I don't lay it in the hands of doctors or anything else I think people in general need to take better [care] and be more responsible of their health and not go to the doctor… AS0280: I did not know any ways to tell you the truth… I'd be up prowling around in the bed and I think "what? Am I losing my mind?"…

APPENDIX I PLAIN LANGUAGE ABSTRACT

Despite limited effectiveness when used long-term and the potential for memory problems, falls, and other well-known dangers, sleeping pills continue to be used commonly in the management of chronic insomnia in older adults. The most prescribed type of sleeping pills are the benzodiazepine-receptor agonists (BZRAs), for example zopiclone and lorazepam. Due to their risk, they should be avoided where possible, especially by people over 65 years of age. The recommended treatment for chronic insomnia is a form of sleep therapy known as cognitive behavioural therapy for insomnia (CBTi). Information on how to stop using sleeping pills and get access to CBTi is available from Sleepwell, which is a program that includes online and printable resources for the public and health care providers. The aim of the present study was to improve our understanding of older adult's perspectives on the material contained within newly developed Sleepwell booklets and to explore the challenges and opportunities in discontinuing BZRA sleeping pills and using CBTi. Through interviews, I gathered this information from older adults who had previous experience with the Sleepwell booklets. The booklets were successful in improving knowledge about medication safety and providing support in the difficult journey of committing to CBTi. However, overcoming the belief that sleeping pills are necessary for sleep and overall health was difficult and interfered with ending their long-term use. However, a dislike for relying on sleeping pills encouraged participants to reassess their own personal use of BZRA sleeping pills. Suggestions for how to simplify the process for safely stopping sleeping pills were offered as were ideas to improve CBTi use.