

# Using Antihistamines as a Sleep Aid

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# Abstract

## **Background:**

Approximately 8.9% of the Australian population aged 20 years and over experience a sleep disorder. Many treatments are used for the treatment of sleep disorders including antihistamines, available without a prescription. Few studies have investigated the usage of antihistamine sleep aids and their efficacy.

## **Objectives:**

The aims of this study were to determine the:

- characteristics of patients requesting antihistamines as sleep aids; and
- usage and perceived efficacy of antihistamine therapy for insomnia in a sub-sample of the study population.

## **Design:**

The study was based on a convenience sample of community pharmacy clients seeking an antihistamine product as a sleep aid in a community pharmacy. It was conducted in 7 community pharmacies around the Australian Capital Territory (ACT) metropolitan area. Participants were surveyed in two phases.

The phase I survey was completed by clients recruited by the participating pharmacies whilst in the pharmacy.

A more detailed phase II survey was administered by the researcher during a follow-up telephone call and assessed the effectiveness of the antihistamine and other factors related to causes of insomnia, such as caffeine, alcohol consumption and smoking status.

Both questionnaires based on DSM-IV and ICSD criteria as well as the Insomnia Severity Index.

## **Results**

Seventy-three participants completed the Pharmacy questionnaire with 48 agreeing to participate in the telephone follow-up survey. The population was predominantly female (n=47, 63.5%). The likelihood of seeking treatment significantly increased with age, female

gender, and smoking. Difficulty initiating or maintaining sleep and frequent awakening also increased with increasing age. Participants with a lower education level were more likely to experience sleep problems. Herbal (52.1%) and non-prescription products (50.7%) had been used before receiving the antihistamine, indicating a lack of effect. Using antihistamine was associated with marked improvements in sleep parameters with 97.9% of participants rating an antihistamine as helpful. The main antihistamine side effects reported were drowsiness and nausea.

### **Conclusion**

Poor sleep pattern symptoms were associated with many factors including increasing age. Antihistamines were an effective treatment to improve sleep patterns.

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## Abbreviations

<b>5-HT</b>	5-hydroxytryptamine
<b>5-HTP</b>	5-hydroxytryptophan
<b>AASM</b>	American Academy of Sleep Medicine
<b>ACC</b>	Anterior Cingulate Cortex
<b>ACT</b>	Australian Capital Territory
<b>AIHW</b>	Australian Institute of Health and Welfare
<b>AMH</b>	Australian Medicines Handbook
<b>BBB</b>	Blood Brain Barrier
<b>BEACH</b>	Bettering the Evaluation and Care of Health
<b>BzRAs</b>	Benzodiazepine Receptor Agonists
<b>CAM</b>	Complementary and Alternative Medicines
<b>CBT</b>	Cognitive Behavioural Treatment
<b>CBT-I</b>	Cognitive Behavioural Therapy treatments for Insomnia
<b>CDC</b>	Centers for Disease Control and Prevention
<b>CT-I</b>	Cognitive Therapy for chronic Insomnia
<b>CYP</b>	Cytochrome P
<b>DRN</b>	Dorsal Raphe Nuclei
<b>DSM- IV</b>	Diagnostic and Statistical Manual of Mental Disorders, 4th Edition
<b>DSST</b>	Digit Symbol Substitution Test
<b>ECG</b>	Electrocardiography
<b>EEG</b>	Electroencephalogram
<b>EMG</b>	Electromyography
<b>EOG</b>	Electro-oculography
<b>ESS</b>	Epworth Sleepiness Scale
<b>FDA</b>	Food and Drug Administration
<b>GAD</b>	Generalized Anxiety Disorder
<b>GABA</b>	Gamma Amino Butyric Acid
<b>GP</b>	General Practitioner
<b>HT 7</b>	Heart-7 Points
<b>ICSD</b>	International Classification of Sleep Disorders
<b>IL-6</b>	Interleukin-6

<b>ISI</b>	Insomnia Severity Index
<b>MAOIs</b>	Monoamine oxidase inhibitors
<b>MDD</b>	Major Depressive Disorder
<b>NREM</b>	Non Rapid Eye Movement
<b>NRS</b>	Numerical Rating Scale
<b>OTC</b>	Over-the-counter
<b>PCG</b>	Posterior Cingulate Gyrus
<b>PCPA</b>	P-chlorophenylalanine
<b>PSG</b>	Polysomnographic
<b>PSQI</b>	Pittsburg's sleep-quality index
<b>RAS</b>	Reticular Activating System
<b>REM</b>	Rapid Eye Movement
<b>SCN</b>	Suprachiasmatic Nuclei
<b>SCT</b>	Stimulus Control Therapy
<b>SCT</b>	Symbol Copying Task
<b>SHE</b>	Sleep Hygiene Education
<b>SRT</b>	Sleep Restriction Therapy
<b>SSRIs</b>	Selective Serotonin Reuptake Inhibitors
<b>SWS</b>	Slow Wave Sleep
<b>TGA</b>	Therapeutic Goods Administration
<b>TNF-<math>\alpha</math></b>	Tumour Necrosis Factor $\alpha$
<b>TST</b>	Total Sleep Time
<b>VAS</b>	Visual Analogue Scale
<b>WASO</b>	Wakening After Sleep Onset