

# The use of hypnotics for primary insomnia in Saudi Arabia: a survey of patients' experiences and perceptions

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## Research

**Keywords:** patients, experiences, perceptions, hypnotics, primary insomnia, Saudi Arabia

**Posted Date:** February 27th, 2020

**DOI:** <https://doi.org/10.21203/rs.2.24723/v1>

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# Abstract

**Background:** This study investigated the experiences and perceptions of Saudi patients with primary insomnia.

**Method:** A cross-sectional design study (July 2019) using a self-administered questionnaire survey.

**Results:** Sixty-eight patients with primary insomnia participated (53% male, 47% female; 60% were younger than 45 years and a majority had a university-degree education level). Of the respondents, 64.7% were dissatisfied with their knowledge of insomnia and 97% wanted more information about its treatment. Approximately 59% used prescribed sleep medicines from the first instance and only 6% were referred to a psychologist for counselling. Benzodiazepines and Z-drugs were prescribed for 16% and 19% of respondents, respectively. A majority of respondents were given antihistamines or over-the-counter herbs. While 60% of patients used medications for long periods, 87% were not involved in treatment decisions. For those on long-term use, 80% were not seen regularly by doctors and 93% were provided with no plan for medicine discontinuations. More than 60% of respondents said that sleeping pills were best for treating insomnia and 31% believed they are safe and would continue taking them. More than 45% would not prefer non-pharmacological treatments (e.g., counselling).

**Conclusions:** Responses to the survey indicate a lack of knowledge about primary insomnia and its treatment among Saudi patients. Prescribing hypnotics is the most common treatment, non-pharmacological treatments are seldom used, and responses indicated inappropriate and long-term use of hypnotics. Patients should be better educated about insomnia and its treatment. Physicians should consider using non-pharmacological treatments and the Saudi Ministry of Health should develop country-specific guidelines.

## Background

The prevalence of insomnia is rising, and so is the use of hypnotic drugs [1]. Benzodiazepines and Z-drugs are the most commonly prescribed medications for the management of insomnia in primary care settings [2]. There is a global lack of knowledge about the availability of Cognitive Behavioural Therapy for insomnia (CBT-I) which means that the use of hypnotic medicines is still prevalent [3]. Several studies have been conducted to determine the attitudes, perceptions, and practices of physicians with regard to the prescription of hypnotic medicines [4]. Since patients are the recipients of treatment, however, conducting regular studies with them to understand their knowledge, experiences and attitudes about insomnia and its treatments will lead to improved support and appropriate treatment [4]. A systematic review of studies conducted in Europe, the United States, Australia and New Zealand has concluded that there is a lack of knowledge and concern among patients about the long-term use and side effects of hypnotics [5].

Despite the fact that benzodiazepines and Z-drugs are associated with adverse psychomotor and cognitive effects, as well as daytime somnolence [6], many patients perceive them as safe and effective

because they are prescribed by their doctors within a trusted medical system [5]. Even when a prescription for hypnotic medication was necessary, researchers found that physicians often prescribed them without a full discussion with the patient and without giving proper advice on the treatment [4, 7]. There is also evidence of a lack of knowledge and awareness among patients about what to do or who to consult if experiencing side effects or what to do if drug use extends past the recommended period [5]. This situation points to the possibility that patients are not extensively involved in the treatment and decision-making process, resulting in suboptimal treatment outcomes and adverse drug events [8].

In Saudi Arabia, estimates of the frequency of insomnia range from 33–78% [9, 10]. There are no figures for the prevalence of primary insomnia, which is not related to environmental, psychiatric or medical causes [11], but it is reported to account for 6% of all insomnia in other countries [12, 13]. Findings from previous research showed that, in a tertiary hospital in Saudi Arabia, prescribing physicians did not follow international guidelines for the management of primary insomnia [14]. Some physicians suggested that Saudi patients lacked knowledge of insomnia and its treatments. One barrier to following guidelines for the treatment of primary insomnia included the fear of patients becoming dependent on hypnotics. [15]. To optimise treatment in the management of primary insomnia involving the use of hypnotics, it is necessary to develop an understanding of the knowledge, experiences, and attitudes of patients toward them. This study, therefore, aimed to explore the knowledge, experience and perception of patients about using benzodiazepines and Z-drugs to manage primary insomnia in Saudi Arabia.

## Methods

### Online questionnaire design

This study used a cross-sectional survey on the Survey Monkey Software platform. The questionnaire was designed based upon the scientific literature and on findings from previous studies conducted by our research group [14, 15]. Survey questions were structured in the following six sections:

- Screening questions that allowed people with primary insomnia to complete the questionnaire and people without insomnia or other forms of insomnia to exit early.
- Patient demographics such as gender, age and educational level.
- Patients' knowledge about insomnia and its treatments.
- Patients' experiences of using prescribed hypnotics.
- Patients' perceptions about hypnotic medications.
- Patients' perceptions about non-pharmacological therapy.

### Validation, translation and reliability of the questionnaire

The survey questions were prepared in English on a Microsoft Word document and then translated into the Arabic language. Three people, who were expert in the field of either sleep medicine or questionnaire methodology, validated the questionnaire. They were provided with the aim and objectives of the study and asked a) if the questionnaire would address the objectives; and b) if the responses to the questions

were likely to provide the required information [16, 17]. In addition, they were asked to review all of the questionnaire items for readability, clarity, and comprehensiveness [16].

Two senior bilingual speakers independently translated the questionnaire from the English version into Arabic and then met to discuss differences before agreeing the Arabic translation. The Arabic draft was then translated back into English by two other bilingual speakers, who had no knowledge of the English version of the questionnaire [17]. In collaboration with the translators, the translations were reviewed by the research team to assess the back-translations for equivalence to the original English version. Discrepancies between the two versions of translation were discussed by the research team and resolved to produce the final Arabic version [17].

The reliability of the questionnaire was checked using the test-retest method. The questionnaire was presented to 10 people, in Saudi Arabia, who were using sleep medicines. They were asked to complete the questionnaire and then one week later they were asked to complete it again. The responses were checked item-by-item to see if they were the same. All 10 people were consistent in their answers apart from one person who changed one answer from (definitely agree) to (agree) and another who added three choices instead of two to a question. These differences were not considered to make a difference to the analysis by the research team, so the questionnaire was deemed reliable.

### **Sampling and sample size**

An appropriate number of adult patients (18 and over) in Saudi Arabia experiencing primary insomnia with unidentified causes were included in the study. Patients who have insomnia due to known physical, psychological, or environmental causes or because of the use of stimulant substances or drugs were excluded automatically by the survey.

The sample size was calculated based on the following formula [18]:

Sample size =  $\frac{(Z_{1-\alpha/2})^2 P(1-P)}{(d)^2}$  where “ $(Z_{1-\alpha/2})^2$  is a standard normal variable (at 5% type 1 error ( $P < 0.05$ ) it is 1.96 and at 1% type 1 error  $P < 0.01$  it is 2.58)”. In most studies,  $P < 0.05$  is considered significant, so 1.96 will be used in this study.  $P$  is the estimated proportion and  $d$  is the precision. As there is no current figure for primary insomnia in Saudi Arabia, the estimated prevalence of primary insomnia in the United States and Western Europe, which is 6% of individuals with chronic insomnia, was used [12, 13]. Therefore, it was assumed for the current study that 6% of people living with chronic insomnia in Saudi Arabia have primary insomnia. Based on the prevalence documented, a respondent group ranging from 30 to 68 was required to provide a true representation of the population of people living with primary insomnia in Saudi Arabia. A self-selecting online survey, a form of snowball sampling, was used for the study, using the Survey Monkey platform that allows Arabic text.

### **Recruitment and data collection**

The Twitter account of one of the authors (AB, the Director of the Sleep Disorders Centre in King Saud University, Saudi Arabia), which is dedicated to sleep medicine and has more than 25,000 followers, was

used to recruit participants. To improve the response rate, the link to the Arabic version of the survey was pinned to his account on Twitter for a week. Participants were asked to forward the survey to others who they know have insomnia. Participation in the study was entirely voluntary. Instructions about how to complete the questionnaire were included on the first page of the survey. The survey was set to allow people to participate and complete the questionnaire only once. Returning the questionnaire was considered giving consent to participate. No personal information, such as names or addresses, were collected. The survey was set to be open for two weeks, however the maximum required number of participants was obtained within 5 days and the survey was then closed.

### **Data analysis**

The data set was downloaded from the Survey Monkey server in Excel format and transferred into Stata statistical package. At first the variables were labelled and data coding was completed. Subsequently, data cleaning was performed to identify any inconsistencies in the data set. Descriptive statistics are provided for information on responses, respondent characteristics, and patients' experiences and perceptions. All relevant variables were analysed with respect to the age and sex of the respondent. A t-test was used to examine the statistical significance of apparent differences in responses to some questions by respondent gender. With a null hypothesis that there is no difference in knowledge about insomnia and its treatment between male and female genders, using unpaired t-test with a confidence limit 5% was performed; responses with statistically significant differences at this 5% level are indicated by \*. For questions with Likert scales, the responses were reported as percentages. Correlations between variables were determined when applicable. To examine the statistical significance of observed dependence between certain variables, Chi squared tests were performed in contingency tables, with a null hypothesis that the responses compared were independent. Links with significance at a confidence limit of 5% are indicated by \* and a confidence limit of 1% are indicated by \*\*.

### **Ethical considerations**

Ethical approval number (17/15) was obtained from the University of Reading Research Ethics Committee and the Jazan Health Affairs, Ministry of Health in Saudi Arabia on 21 May 2019.

## **Results**

Over five days, 217 respondents completed the online survey, which indicates considerable interest in the study. Of that total, 149 responses were excluded because the respondents had secondary insomnia. Thus, this study used a sample of 68 respondents, of whom 54 (79.4%) reported having insomnia; the other 14 did not know or were unsure if they had primary insomnia but were all identified as people living with primary insomnia based on their responses to subsequent screening questions.

### **1.1 Demographic data**

Table 1 shows the demographic characteristics of the respondents. Just above half were female gender and most of them were between 18 and 44 years old and holding university degree.

## **1.2 Knowledge about insomnia and its treatment**

When asked about their knowledge of insomnia and related problems, there were some contradictions between participants, as 82% thought that sleeping tablets are safe for short periods but 59% thought that they can be used long-term; 35% were satisfied with their knowledge but 97% wanted more information. There were also significant differences in knowledge between male and female respondents, (see Table 2).

## **1.3 Experiences of using sleep medicines**

When patients were asked about their experiences using sleep medicine, around 59% reported that they had used prescribed sleep medicines and only 6% had received CBT-I. The majority of patients (60%) had used their medications for long periods. One-quarter to one-third of the participants had tried a variety of ways to obtain sleep medicine (see Table 3).

Although a third of the respondents said that there was not enough time to discuss their problems with their doctor, and the vast majority (87%) were not involved in decision-making about their treatment, most people (85%) were told how to use their sleep medicine and were mostly compliant (70%) with the dosage. Very few patients (6%) were provided with a discontinuation plan and only one-fifth of long-term users were seen regularly by their doctor (see Table 3).

## **1.4 Perceptions about pharmacological and non-pharmacological treatments**

When asked for their opinions about treatments, the majority of respondents did not think that long-term sleep medications are safe or did not know if they are. While 44% believed that sleeping pills are harmful and that they wanted to stop using them, 61% believed that they are the best solution for treating insomnia, and 48% often insisted on getting them. On the other hand, more than one-third of patients believed that counselling treatment offers no benefits (see Fig. 1).

To check if the patients were behaving in the way that their responses suggested, their responses were compared using cross tabulation, and Chi squared tests in contingency tables were used to assess the significance of apparent links that were identified between the variables. Our null hypothesis was that each of the two variables were completely independent. This analysis identified a number of important links with statistically significant response distribution (see Table 4). Notably, there was an increase in the number of respondents who usually persisted in getting sleeping pills, among those who tried to stop sleeping pills but could not. Likewise, patients who reported using sleeping pills for more than six months were also more likely to report that they had tried to stop sleeping pills but could not. Although there may also be a link between respondents who reported that they usually persisted in get sleeping pills and those who reported that sleeping pills can be safely used for a long time, this correlation was weaker than

the other linked variables identified. There was, however, a link between respondents who were given advice or referred for counselling sessions and those who reported preferring non-medicine treatments. Finally, there was some indication that government hospitals were more likely to provide advice before initiating medication, while private hospitals and pharmacies were less likely do so, but this observation was not statistically significant.

## Discussion

This study revealed that patients in Saudi Arabia are often prescribed hypnotics for insomnia, do not receive CBT-I as a first-line treatment and are rarely involved in the treatment decision. A majority of patients reported that they were on long-term hypnotics and were not reviewed regularly by their doctors or provided with a plan for discontinuation (Table 3). Among the patients, there was limited knowledge about insomnia and its treatments, and many were only given information about how to use hypnotic medicines when they were prescribed. Even though 44% of patients believed that hypnotics are harmful and would have liked to stop using them, they still believed that hypnotic medicines are the best solution for treating insomnia. While many patients are dependent on their medication and use different methods to get prescriptions, there is considerable resistance among them to using non-pharmacological treatments for insomnia.

One limitation of this study is the mode of sampling, which was a self-completed questionnaire that was administered via the Twitter account of a sleep medicine specialist. The bias of Twitter users who are following a sleep medicine account means that we seem to have captured a highly educated sample and missed others who either have no access to or are not interested in Twitter. The rapid response rate and high number of respondents, however, confirm that this research methodology is a powerful tool and, in spite of the limitations, represents an effective way to gain an initial understanding of patient perspectives that can subsequently be validated over a broader patient population.

The findings of this study indicate that patients usually receive sleep medication as a first-line treatment rather than non-pharmacological treatment. This finding is consistent with a previous study by our group indicating that patients in Saudi Arabia are not receiving CBT-I [14], even though it is recommended as initial therapy by many clinical guidelines [19–21] and by many experts in Saudi Arabia [22]. This might be due to Saudi physicians' lack of knowledge about non-pharmacological treatment modalities for primary insomnia or their not having the time or expertise to deliver non-pharmacological treatment to patients [15]. The current study shows that patients who had not received CBT-I reported that they believed that non-pharmacological treatment is not beneficial. This belief may have contributed to the demand for medical treatment but could conversely reflect a limitation of patient information provided at initial presentation with primary insomnia. It is possible that when patients are offered non-pharmacological intervention, they become more positive about it.

The study revealed that the majority of the participants reported limited knowledge about insomnia and its treatment, and most expressed a desire for more information about both. The study also revealed that

most respondents believed that sleep medicines can cause dependence but can be used for long periods. This finding, though apparently contradictory, is not uncommon. As noted by Sirdifield et al. (2013), the belief that sleep medicines are not harmful may be because doctors prescribe the drugs and patients trust their doctor's professional opinion even if they prescribe them multiple times [4].

Using antihistamines and over-the-counter herbs for managing primary insomnia, long-term use of hypnotics and lack of regular reviews for patients on long-term prescriptions contradicts most of the available clinical guidelines [19–21]. These practices mirror the previous findings of a study conducted in a tertiary hospital in Saudi Arabia showing that around 44% of patients were prescribed antihistamines for primary insomnia. For long-term use, most patients had been prescribed hypnotics, but physicians did not review their patients after initiating this medication [14].

The study also revealed ineffective doctor-patient interaction among sleeping-pill users before and after being prescribed. It was noted that a majority of respondents were given sleep medicine because of the doctor's 'executive' decision and that they had been excluded from discussing their problems with the doctor. It was also noted that most long-term sleep-medicine users were not seeing their doctor regularly nor had they been provided with a plan for medicine discontinuation. These findings are consistent with a previous study showing that patients are not involved in treatment decisions [8]. This might be due to the belief of many Saudi physicians that patients lack knowledge about insomnia and its treatment [15]. What is more, physicians often find it challenging to discuss the risks or side effects of medicines with their patients [2]. This can be a source of dependence on sleep medicines. Indeed, there is a high association between long-term sleeping pill use and addiction [23, 24].

The study shows a high dependence on sleep medicines among respondents. This was evidenced by the various efforts that they had taken to access sleep medicines if the doctor had refused additional prescriptions. The study shows that respondents went to private hospitals, bought medicines from private pharmacies without prescription, went to another doctor at the same hospital, 'asked someone they know to make (wasta)' and argued with the doctor to get a prescription—all clear indications of sleeping-pill dependence and misuse [24, 25].

This study also found that a majority of respondents believed that sleep medicines are unsafe and preferred not to continue using them. Most, however, also agreed that sleep medicines are the best solution for treating insomnia. This shows that while the respondents were aware of the medicine's harmful nature, they believed that sedatives are the only option for them. The study revealed that respondents were not involved in the treatment decision or had discussed the availability of other treatments and that sleep medicines were often the first treatment given for insomnia. This could explain why the majority of respondents would like to stop their medicines. These findings are congruent with other studies that generally show that most sleep medicine users express the desire to stop using them [26]. Forty-one percent of the respondents also understood that some doctors preferred not to prescribe hypnotics, signifying an understanding of their doctor's awareness of the medicine's side effects [4].

The majority of respondents did not prefer non-pharmacological treatments, believing that they confer no benefits. When asked the question in different ways, the majority emphasised that they would not like to go to psychiatric hospitals for counselling therapy and most acknowledged that, if referred for counselling treatment, they would refuse. These findings support the view of many physicians that being referred to psychiatric hospitals for CBT-I carries stigma for Saudi patients and that there is a need for trained psychologists in general hospitals or specialist sleep clinics to provide the service for patients [15]. The only study conducted in Saudi Arabia to investigate stigma among patients with anxiety and depression found that the majority of patients either refused to complete the study or declined to continue when they realised that they would be asked about their mental illness [27]. This explains the extent to which Saudi patients feel stigmatised about their conditions when they are referred to psychiatric hospitals for non-pharmacological treatment.

It was noted that men were more satisfied with their knowledge of insomnia compared to women. Because the study was conducted in a country in which there has been a disparity between men and women in both access to education and the distribution of educational funds [28], this finding is plausible. A similar finding was also seen with more men than women knowing about other ways to treat insomnia. A recent study by Al-Ahmadi (2011) shows that, in general, access to information is a major challenge women in Saudi Arabia face, even including those in leadership positions [29]. Given that the sample was taken from an educated population with a majority of respondents having a university degree, possibly a result of the sampling method that relied on access to Twitter, this shows that despite the high level of education in respondents, men have better access to information than women.

This study found that women have a higher tendency than men to obtain sleep medicine from private hospitals in the first instance. We propose two reasons for this, based on the fact that 44% of those with a university degree were female. A high level of education has been correlated with high incomes [30, 31] and private hospitals are normally more expensive to access than public hospitals. Additionally, it might be easier for women to access sleep medicine in private hospitals because public hospitals are usually more accountable [32]. For this reason, public hospitals would be more reluctant to issue hypnotics in the first instance compared to private hospitals.

Global issues regarding the use of hypnotics, such as long-term use, misuse, patients not being involved in treatment decisions and patients on long-term use not being reviewed regularly by their doctors or provided with a plan for discontinuation are also common in Saudi Arabia. This study is the first of its kind to explore the knowledge, experiences and perceptions of patients concerning the use of hypnotics for treating insomnia in KSA and provides insight for future work.

## **Conclusion**

Due to lack of information about insomnia and the different ways of treating it, Saudi patients are at higher risk of experiencing side effects with, misusing and becoming dependent on hypnotics than informed patients elsewhere. Saudi physicians could be encouraged to use non-pharmacological

treatments as first-line therapies and educate patients about insomnia and its treatments. The Ministry of Health should develop country-specific guidelines that take account of the perspectives of prescribers and patients to optimise sleep disorder healthcare in Saudi Arabia.

## Abbreviations

Cognitive Behavioural Therapy for insomnia (CBT-I)

## Declarations

- **Ethical approval and consent to participate:** Ethical approval number (17/15) was obtained from the University of Reading Research Ethics Committee and the Jazan Health Affairs, Ministry of Health in Saudi Arabia on 21 May 2019. Returning the questionnaire was considered giving consent to participate.
- **Consent to publication:** not applicable
- **Availability of data:** The datasets generated and/or analysed during the current study are not publicly available due [because of the sensitivity of data collected from patients] but are available from the corresponding author on reasonable request.
- **Competing interests:** Authors have no conflict of interests and the work was not supported or funded by any drug company.
- **Funding:** The researcher is supported by a full-time scholarship provided by the Saudi Arabian Cultural Bureau in London.
- **Authors' contributions:** AD has contributed in the concepts, design, definition of intellectual content, literature search, data acquisition, data analysis, statistical analysis, manuscript preparation and manuscript editing. KR has contributed in the concepts, design, definition of intellectual content, data analysis and manuscript review. MA has contributed in the data acquisition, data analysis, statistical analysis, manuscript review. AE has contributed in the concepts, design, definition of intellectual content statistical analysis and manuscript review. AB has contributed in the concepts, data acquisition, data analysis, and manuscript review.
- **Acknowledgements:** not applicable
- On behalf of all the contributors I will act as guarantor and will correspond with the journal from this point onward.
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## Tables

Table 1 shows the demographic characteristics of the respondents.

Variable	N	%
<b>Gender of the respondent</b>		
Female	36	52.9
Male	32	47.1
<b>Age of the respondent</b>		
Between 18 and 44 years old	41	60.3
Between 45 and 64 years old	26	38.2
65 years old and over	1	1.5
<b>Education Level of the respondents</b>		
Secondary school or below	14	20.6
University degree	47	69.1
Masters	4	5.9
PhD	3	4.4

**Table 2: Knowledge about insomnia and its treatment (TRUE values)**

No.	Variable	Total (N=68)	Male (N=32)	Female (N=36)
		TRUE%	TRUE%	TRUE%
1.	I am satisfied with my knowledge about insomnia and related problems *	35.3	47.2	21.9
2.	I know that there are different ways to treat insomnia other than using sleeping pills *	64.7	77.8	50.0
3.	I would like more information about insomnia and its treatment	97.1	97.2	96.9
4.	Sleeping pills should be used when other treatments (such as counselling) are unsuccessful	51.5	61.1	40.6
5.	Sleeping pills are safe but only for short periods	82.4	86.1	78.1
6.	There are different types of sleeping pills	95.6	97.2	93.8
7.	Sleeping pills might cause dependence and other side effects *	86.8	94.4	78.1
8.	Sleeping pills can be used for long periods	58.8	52.8	65.6
9.	Sleeping pills can be shared with anyone (family or friends)	19.1	13.9	25.0
* indicates a statistically significant difference in responses between males and females with $p < 0.05$ .				

**Table 3: Experience of patients regarding sleep therapeutics**

Variable/ statement	Frequency	Percentage
<b>What was the first treatment provided</b>		
I was given advice for improving my sleep	24	35.3
I was prescribed sleep medicines	40	58.8
I was sent for a psychologist or sleep specialist for 6-8 counselling sessions	4	5.9
<b>Sleeping pills currently used by the respondents</b>		
Z-Drugs	12	19.0
Benzodiazepines	10	15.8
Antihistamines	32	50.8
Over-the-counter herbs	12	19.0
Others	6	9.5
<b>Duration of taking sleeping pills</b>		
Less than 6 weeks	16	23.5
More than 6 weeks	6	8.8
More than 6 months but less than a year	20	29.4
More than a year	21	30.8
I have never taken sleeping pills	5	7.3
<b>When medicines are finished, where do you get them from next time?</b>		
Go to the doctor to get another prescription	43	63.2
Borrow the medicines from friends or family members	3	4.4
Buy them from a private pharmacy without prescription	22	32.4
<b>If your doctor refuses to give you another prescription for your medicines, what do you do? (multiple response question)</b>		
I argue with the doctor to get the prescription	15	22.1
I go to another doctor in the same hospital	16	23.5
I ask someone he knows to make (Wasta) <sup>1</sup>	17	25.0
I go to a private hospital	22	32.4
I borrow them from family or friends	5	7.4
I buy them from a private pharmacy without prescription	25	36.8
I buy them from outside Saudi Arabia, for example, from Egypt	9	13.2

<b>What information did you receive when you first started using sleeping pills (multiple response)</b>		
Information about insomnia	16	23.5
Information about types of treatment	10	14.7
The names of different sleeping pills or classes	6	8.8
Explanation about the reasons for prescribed sleeping pills	14	20.6
Side effects of sleeping pills	16	23.5
Risks of sleeping pills	6	8.8
How to use sleeping pills	58	85.3
That sleeping pills should be used for short term only	14	20.6
There was not enough time to discuss these issues with the doctor	20	29.4
<b>When you were prescribed sleeping pills, were you involved in your treatment decision?</b>		
No	59	86.8
Yes	9	13.2
<b>If your sleeping pills were ineffective, did you increase the dose on your own without consulting your doctor?</b>		
No	48	70.6
Yes	20	29.4
<b>If you were prescribed sleeping pills for a long time, did you see your doctor regularly?</b>		
No	39	79.6
Yes	10	20.4
<b>If you were prescribed sleeping pills for a long time, did your doctor prepare a plan for discontinuation?</b>		
No	45	93.8
Yes	3	6.3
<b>Where the respondent got their sleeping pills in the first instance</b>		
Governmental hospitals	39	25
Private hospitals *	18	41
Community pharmacy without prescription	31	36
Family or friends	6	6
Governmental hospitals	39	25
* indicates a statistically significant difference in responses between males and females with P<0.05.		

<sup>1</sup> *wasta* is a term that suggests *using connections or influence*

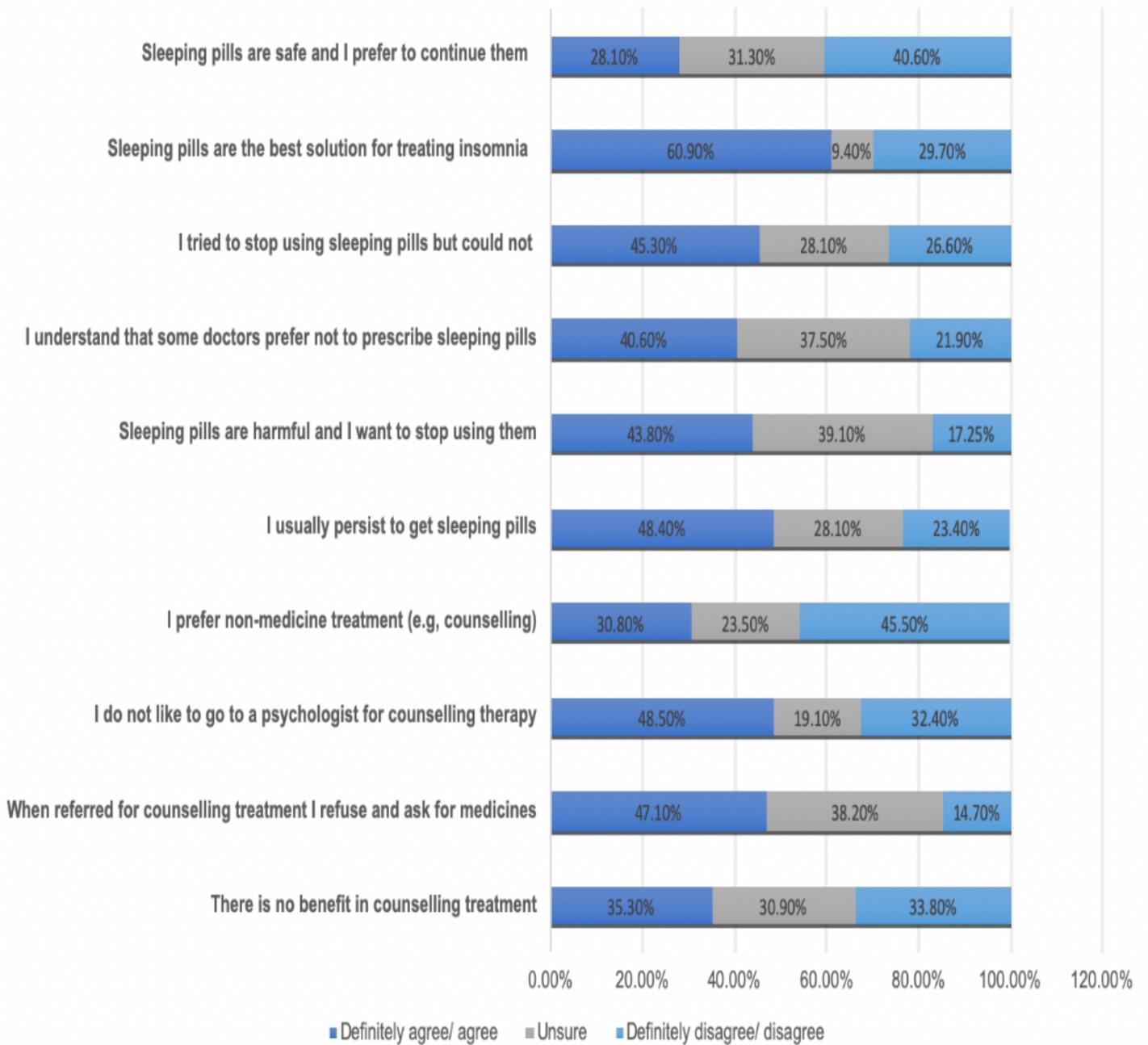
**Table 4: Cross tabulation between different variables to check if the patients were behaving in the way that their responses suggested**

<b>Patients tried to stop using sleeping pills but couldn't</b>				
Usually persist to get sleeping pills	Disagree	Neither agree or disagree	Agree	Total
Disagree	8	4	3	15
Neither agree or disagree	6	11	1	18
Agree	3	3	25	31
Total	17	18	29	64
Chi square = 31.30473				
Degree of freedom = 4				
P value = 0.00001**				
<b>Patients tried to stop using sleeping pills but couldn't</b>				
Duration	Disagree	Neither agree or disagree	Agree	Total
Less than 6 months	8	10	1	19
More than 6 months	9	7	28	44
Never use sleeping pills long time	0	1	0	1
Total	17	29	18	64
Chi square = 21.2792341				
Degree of freedom = 4				
P value = 0.000279**				
<b>Sleeping pills can be used for long time</b>				
Usually persist to get sleeping pills	False	True	Total	
Disagree	9	6	15	
Neither agree or disagree	9	9	18	
Agree	7	24	31	
Total	25	39	64	
Chi square = 7.204844				
Degree of freedom = 2				
P value = 0.027258*				
<b>Patients prefer non-medicine treatments</b>				
Type of treatment provided	Disagree	Neither agree or disagree	Agree	Total

Advice	4	3	17	24
Medicines	19	13	8	40
Referred for counselling sessions	2	0	2	4
Total	25	16	27	68
Chi square = 17.506642				
Degree of freedom = 4				
P value = 0.001541**				

## Figures

## Perceptions about sleep medicines and counselling



**Figure 1**

Perceptions about pharmacological and non-pharmacological treatments