

# Knowledge and Attitudes of Primary Care Physicians and Nurses about Cognitive-Behavioral Therapy for Insomnia

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## Abstract

**Objective:** The main objective of the study is to explore the knowledge of primary care physicians and nurses about cognitive-behavioral therapy for insomnia, and their opinion about it.

**Methods:** Cross-sectional observational study carried out in a primary care setting. Participants were primary care physicians and nurses from the Albacete Healthcare Area.

**Results:** With respect to the knowledge of this professionals about cognitive-behavioral therapy for insomnia, 28.8% of the physicians and 12.5% of the nurses reported knowing about it ( $p=0.041$ ). 18.9% of the physicians and 10.5% of the nurses had received some training about this therapy ( $p=0.152$ ) and 24.1% of the physicians and 10.4% of nurses knew its components ( $p=0.067$ ). 6.9% of the physicians and 10.4% of nurses would be able to apply this therapy. Most of the physicians and nurses reported that they would like to receive training about cognitive-therapy for insomnia (89.3% and 87.2% respectively,  $p=0.746$ ).

**Conclusions:** There is lacking in both the knowledge and application of the cognitive-behavioral therapy in the primary care context that is not so much related to a negative attitude of these professionals towards this therapy, but to other type of barriers such as limited training or lack of enough time to apply it in their daily practice.

**Keywords:** Primary care physicians; Cognitive-behavioral therapy; Insomnia

## Introduction

Sleep problems are as common in the general population as in the clinical practice. The prevalence of primary insomnia is estimated

at 10% in primary care patients [1,2]. Numerous diseases, of both physical and mental nature, may present with insomnia as one of their symptoms, although insomnia can be considered a disorder on its own. The insomnia diagnostic criteria according to the DSM-V are: a predominant complaint of dissatisfaction with the quantity or quality of sleep, associated with one (or more) of the following symptoms: (1) Difficulty initiating sleep, (2) Difficulty maintaining sleep, characterized by frequent awakenings or problems returning to sleep after awakenings (3) Early morning awakening with inability to return to sleep. Sleep disturbance is diagnosed as insomnia when, in addition to the above mentioned, it causes clinically significant distress or impairment in social, occupational, educational, academic, behavioral or other important areas of functioning, it occurs at least 3 nights per week and for at least 3 months, it occurs despite adequate opportunity to sleep, it is not better explained by and it does not occur exclusively during the course of another sleep-wake disorder and it is not attributable to the physiological effects of a substance. Coexisting mental disorders and medical conditions do not adequately explain the predominant complaint of insomnia [3]. In the last decade, there has been a clear increase in the recognition of the importance of sleep disorders in the primary care context [4].

Pharmacological interventions remain the most common approach to treat insomnia [5]. Their main advantage is that they produce a fast improvement. But we have to keep in mind that they have their limitations, such as the development of dependence and tolerance and, most importantly, they do not cure insomnia, and they usually become a chronic treatment that is not effective [6].

Cognitive behavioral therapy for insomnia can be contemplated as an alternative to the pharmacological treatments. It is a multicomponent intervention that normally includes: stimulus controls, sleep restriction therapy, sleep hygiene and education, cognitive restructuring, and relaxation [4]. Its main disadvantages are that during the first week the total sleep time may be reduced and somnolence may increase in the patients, but it presents the advantage that, in contrast to the pharmacological treatment, the results are durable [6]. In a recent meta analysis of studies comparing these two kinds of therapy (pharmacological and cognitive-behavioral) for the insomnia, it has been established that the cognitive-behavioral therapy for insomnia achieves durable results with a relatively reduced number of sessions and that its efficacy is higher than that of pharmacological therapy after 6 months or more after finishing the treatment [6].

Although it is known that the cognitive-behavioral therapy for insomnia is safer and provides more durable results than pharmacological therapy, this treatment is not available in primary care, among other reasons, because of the lack of professionals with the expertise required to apply the therapy or time constraints for consultation. A study performed with qualitative interviews with physicians from the South of England revealed that physicians are more focused in looking for signs of depression and anxiety signs in their patients to treat them first. 88% of them state that they give sleep hygiene advice to the patients that consult for insomnia. However, they also admit that they provide insufficient advice because patients expect drugs and seem to distrust non-pharmacological therapies. Finally, they admit a lack of time and training to employ psychological therapies in their practice [7].

Over the last few years, some papers have been published as a result of clinical trials on the use of cognitive-behavioral therapy for insomnia in the context of primary care. Positive results have been found when these interventions were provided by trained nurses. In particular, the sleep latency and the sleeplessness during the night improved after an intervention consisting of only six 50-minute group sessions. This allows providing the whole intervention taking about 1 hour per patient [8]. In a later clinical trial, positive results were also found for 5 group sessions provided by nurses. This study suggests that trained and supervised nurses can efficiently administer the cognitive-behavioral therapy for insomnia in general medicine practice [9]. Finally, this type of therapy delivered by primary care professionals has been reported to improve the Insomnia Severity Index score (from 19.0 to 13.4), sleep latency and wake (from 68.8 to 59.6) after sleep ones (from 76.0 to 54.2) [10].

Cognitive-behavioral therapy can also be effective when applied as a self-help therapy, thus requiring less time from the primary care professional. In particular, it was observed that cognitive-behavioral therapy for insomnia via self-help books achieved improvements in sleep after the treatment and that these improvements remained during the 6 months of monitoring. The authors recommended this form of intervention as a first approach to tackling sleep problems in the context of primary care [11].

The main objective of the study is to explore the knowledge of cognitive-behavioral therapy for insomnia among primary care physicians and nurses and their opinion about it. In this way, we intend to detect possible instruction deficiencies regarding the application of this therapy as well as the obstacles to learn and apply this technique in their daily practice.

## Methods

### Design

A cross-sectional observational study carried out in primary care settings.

### Participants

We offered participation to all primary care physicians and nurses within the Albacete Health Care Area (rural and urban communities). The inclusion criterion was to be working in any those communities during the study. A total of 367 professionals were contacted, of whom 107 agreed to participate (response rate=29%).

### Variables

We collected data on sociodemographics (sex, age, job and ages of experience as a primary care physician/nurse), knowledge about

cognitive-behavioral therapy for insomnia and their attitude about it, as well as and professional experience treating sleep disorders.

### Data collection

Information was collected using a self-reported questionnaire. We contacted with the physicians and nurses through the Health Care coordinators of each centre. We sent the questionnaires by internal mail to the coordinators and they distributed the questionnaires among their colleagues. We asked the coordinators to return the questionnaires also by internal mail once they were completed. The procedure consisted in: 1) Phone call to the coordinators to explain to them the objective of the study and request their collaboration. 2) Delivery of the questionnaires, accompanied by the information sheet for the participants by internal mail. 3) Two weeks after the first delivery of questionnaires and information sheets, delivery of electronic mails to the coordinators to thank their participation to those that already accepted and a reminder to those who had not responded yet.

### Data analysis

First of all we revised and cleaned up the database from possible errors and missing data. We performed a descriptive analysis of the sample using either measures of central tendency and dispersion or proportions, according to the type of variables. We compared physicians' and nurses' knowledge and attitudes towards cognitive-behavioral therapy for insomnia by using comparison of means and proportions for independent groups. For the proportional comparisons, when we found boxes with an expected frequency lower than 5, we used the Yates' correction and Fisher's exact test instead of Pearson's Chi square test, depending on the number of categories.

The study was approved by the Institutional Review Board and the Research Committee of the Albacete Health care Area.

## Results

The participants of the study were 59 primary care physicians (55.14%) and 48 primary care nurses (44.86%). Physicians' mean age was 53.34 years (SD: 7.60) while nurses' mean age was 49.52 years (8.81). The nurses reported 20.98 years of experience (SD: 11.32) and the physicians 23.95 (SD: 9.63) years of experience. 32 physicians (54.23%) were males and 35 nurses (72.91%) were females.

Physicians reported that 19.5% of their patients suffered insomnia problems, although the insomnia was not their main reason for consultation. The percentage of patients that attended consultation specifically complaining about insomnia was 8.8%, and they were currently treating 13.7% of their patients for this kind of problems. Regarding to the nurses, they reported that 22.1% of their patients suffered insomnia, of which 6.4% attended consultation specifically complaining about insomnia and they were currently treating for insomnia 8.1% of their patients. 33.9% of the physicians describe their management of the sleep problems of their patients as unsatisfactory or moderately unsatisfactory, while this happened in 14.6% of the nurses. In this group, it is necessary to take into account that 31.3% reported that they do not perform insomnia treatment interventions and therefore they were unable to assess their results on the item.

When they were asked about the recommendations they offer more frequently to treat insomnia we found that the most frequent ones were sleep hygiene (68.2%), relaxation (29.9%) and pharmacological treatment (23.4%). The most used sleep hygiene recommendations were a light dinner and/or avoid having dinner immediately before going to bed (25.2%), doing exercise (18.7%), establishing routines and going to bed always at the same time everyday (19.6%) and avoid

drinking coffee or other stimulant drinks (17.8%). In table 1 we can see the results in more detail and classified by profession.

With respect to the knowledge of this professionals about cognitive-behavioral therapy for insomnia, 28.8% of the physicians and 12.5% of the nurses reported knowing about it ( $p=0.041$ ). 18.9% of the physicians had received some training about this therapy vs 10.5% of the nurses ( $p=0.152$ ). 24.1% of the physicians knew its components vs 10.4% of nurses ( $p=0.067$ ). 6.9% of the physicians and 10.4% of nurses reported that they would be able to apply this therapy. Further, 39.7% of physicians and 22.9% of nurses were not sure whether they would be able to apply it. The rest stated that they would not be able to apply the therapy ( $p=0.191$ ). In table 2 we can observe in detail which components of the therapy were known by these professionals, when we directly asked about each one of them, as well as their knowledge of the pharmacological treatment of insomnia.

Most of the physicians and nurses reported not knowing whether the cognitive-behavioral therapy was effective to improve insomnia symptoms (69.5% vs. 85.4% respectively). 30.5% of the physicians stated that it was effective, while in the case of the nurses, 12.5% considered that it was effective whereas 2.1% considered that it was not ( $p=0.036$ ).

With regard to the collaboration with other professionals, 50.8% of the physicians and 65.9 of nurses never refer the patient to a psychologist for this type of problems ( $p=0.327$ ), 45.8% of physicians and 87.2% of nurses never refer to a psychiatrist ( $p=0.000$ ) and 59.6% of Physicians and 87.8% of Nurses never refer to a sleep unit ( $p=0.003$ ).

Physicians and nurses were directly asked about the frequency of use of the different components of the cognitive-behavioral therapy for insomnia in their consultations. Results can be viewed in table 3.

We asked the participants if they considered that certain interventions are effective for the treatment of insomnia. Results can be viewed in table 4 and figure 1.

Most of physicians and nurses reported that they would like to receive cognitive-behavioral therapy for insomnia training (89.3% and 87.2% respectively,  $p=0.746$ ). Also a majority stated that they thought they could learn to administer the therapy (64.3% of physicians and 60.4% of nurses), although 32.1% of physicians and 37.5% of nurses were uncertain if they could learn to use it ( $p=0.913$ ). When they were asked if they would like to use this therapy with their patients, both answered affirmatively (92.7% of physicians and 82.6% of nurses,  $p=0.118$ ). Although some of them also thought that they would not be able to do it (38.2% of physicians and 42.2% of nurses,  $p=0.682$ ). In table 5 we can see the advantages and disadvantages that they found in the use of this intervention in primary care.

As many physicians as nurses thought that both types of professionals are adequate to receive training in this intervention and administer it

**Table 1:** Most frequent recommendations to treat insomnia provided by primary care professionals. Comparison between physicians and nurses

Recommendation	Physicians N=59 (%)	Nurses n=48 (%)	p
Sleep hygiene	74.6	60.4	0.118
Pharmacological treatment	35.6	8.3	0.001
Relaxation	22.0	39.6	0.058
Avoid sleeping during the day	23.7	16.7	0.472
Phytotherapy	11.9	14.6	0.776
Changes in lifestyle	13.6	2.1	0.076

**Table 2:** Percentage of professionals that know the different interventions for insomnia

Component	Physicians (%)	Nurses (%)	p
Sleep hygiene	91.5	68.8	0.003
Sleep restriction	57.6	59.1	0.882
Stimulus control	64.4	72.7	0.371
Relaxation	93.2	86.4	0.409
Cognitive restructuring	21.1	22.0	0.915
Pharmacological treatment of insomnia	96.6	87.0	0.139

**Table 3:** Frequency of use of the components of the cognitive-behavioral therapy for insomnia in primary care

Component	Physicians (%)				Nurses (%)				p
	0	1	2	3	0	1	2	3	
Sleep hygiene	11.9	8.5	27.1	52.5	21.4	33.3	28.6	16.7	0.000
Sleep restriction	51.9	13.0	20.4	14.8	53.8	17.9	23.1	5.1	0.497
Stimulus control	41.4	6.9	25.9	25.9	28.6	42.9	14.3	14.3	0.000
Relaxation	20.3	28.8	25.4	25.4	22.7	31.8	31.8	13.6	0.527
Cognitive restructuring	81.5	14.8	3.7	0.0	87.5	10.0	2.5	0.0	0.806

\*0-Never; 1-Sometimes; 2-Frequently; 3-Always

at consultation (80.4% of physicians and 87.2% of nurses,  $p=0.117$ ). Regarding the format of the therapy, most of them considered that the individual format would be the best for the patients (60.4% of physicians and 54.3% of nurses,  $p=0.766$ ) and they also considered that this format would be the most convenient for practitioners (47.2% of physicians and 48.9% of nurses,  $p=0.711$ ), ahead of other options such as group therapy or self-help.

Finally, we asked the participants about what treatment they considered more adequate for the treatment of insomnia. Most of them chose the combined treatment (pharmacological treatment plus psychological treatment) (77.8% of physicians and 84.1% of nurses), the second most frequent answer was psychological treatment (22.2% of physicians and 13.6% of nurses) ( $p=0.298$ ).

## Discussion

Insomnia is a frequent problem in primary care, where it is usually treated with pharmacological therapy and where the access to cognitive-behavioral therapy is very restricted. In this study we have explored the knowledge and attitudes of among primary care physicians and nurses with the objective of detecting possible barriers to the use of these psychological interventions. Physicians and nurses reported that, as we expected, sleep problems have a high prevalence, being present in 1 out of 5 of their patients. These results are congruent with other available data from the recent literature reporting a prevalence of insomnia between 10 and 20% [12].

Among the most frequent recommendations offered by the participants in our study were sleep hygiene (combined or isolated) and pharmacological treatment. These data are in line with the results recently obtained in another study with primary care physicians [7]. In this study, the authors report that in sleep hygiene and pharmacological therapy, the most usual is sleep hygiene and the less usual is cognitive restructuring. In recent studies it has already been

**Table 4:** Primary care physicians and nurses' opinion about the effectiveness of different interventions for the treatment of insomnia

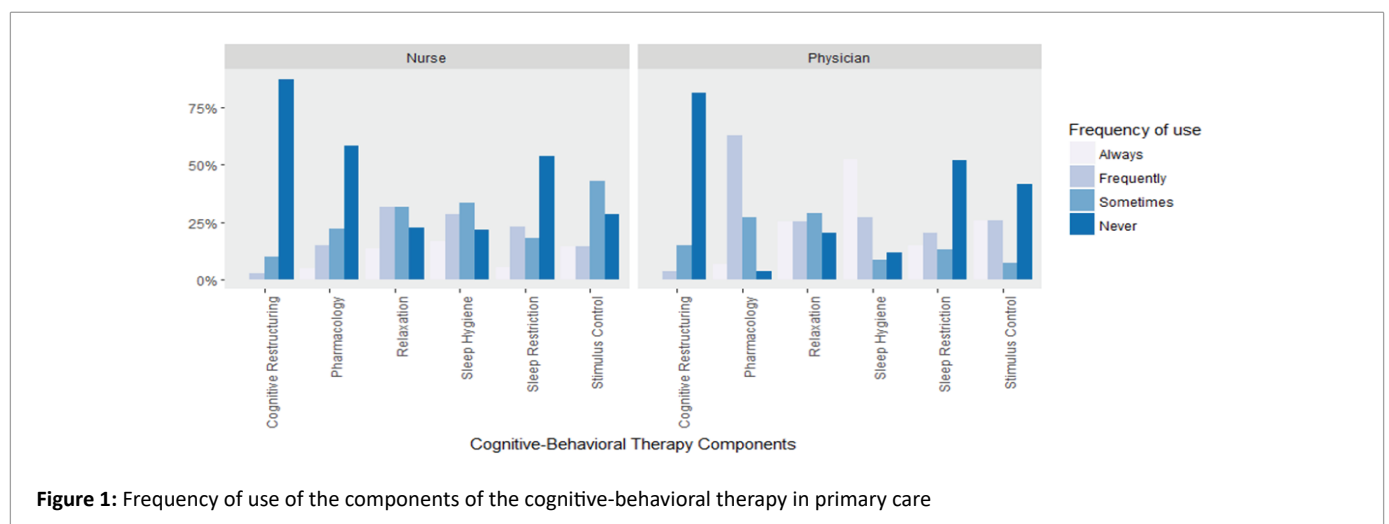
Intervention	Physicians (%)					Nurses (%)					p
	0	1	2	3	4	0	1	2	3	4	
Sleep hygiene	1.8	28.1	49.1	12.3	8.8	0	20.5	31.8	22.7	25.0	0.052
Sleep restriction	7.4	22.2	27.8	1.9	40.7	4.7	20.9	23.3	14.0	37.2	0.269
Stimulus control	1.9	33.3	33.3	3.7	27.8	0	18.2	36.4	18.2	27.3	0.077
Relaxation	5.4	39.3	33.9	12.5	8.9	0	18.2	40.9	31.8	9.1	0.027
Cognitive restructuring	3.8	13.5	9.6	3.8	69.2	2.4	14.3	14.3	4.8	64.3	0.967
Pharmacological treatment	0	24.1	62.1	12.1	1.7	0	37.2	48.8	9.3	4.7	0.400
To refer to a Psychologist	12.5	35.7	19.6	1.8	30.4	0	27.9	14.0	11.6	46.5	0.015
Refer to a Psychiatrist	13.8	29.3	25.9	3.4	27.6	11.9	14.3	21.4	2.4	50.0	0.182
Refer to a sleep unit	5.4	16.1	21.4	14.3	42.9	0	4.8	21.4	23.8	50.0	0.188

\*0-Non-effective; 1-A little effective; 2-Quite effective; 3-Very effective; 4-I do not know

**Table 5:** Positive and negative aspects of the cognitive behavioural therapy at the primary care consultations in physicians and nurses' opinion

Assertion	Physicians (%)			Nurses (%)			p
	T	F	DN	T	F	DN	
There is not sufficient time in the consultation to administer this kind of interventions	76.8	16.1	7.1	57.4	17.0	25.5	0.030
The primary care physicians do not have training to use this therapy	58.9	21.4	19.6	43.5	4.3	52.2	0.001
The primary care nurses do not have training to use this therapy	60.7	14.3	25.0	68.1	6.4	25.5	0.424
Insomnia patients can be reluctant to psychological treatment	39.3	41.1	19.6	36.2	19.1	44.7	0.010
Patients come to the consultation requesting mainly drugs	85.7	10.7	3.6	83.0	6.4	10.6	0.339
I think that it would be positive to have in primary care professionals that can administer this therapy	82.1	1.8	16.1	80.9	2.1	17.0	1.000
I think that using this therapy, it is possible to reduce the drugs consumption in the patients	83.9	1.8	14.3	63.0	0	37.0	0.011
I think that being able to administer this therapy can improve the assistance that I give to my patients	78.2	1.8	20.0	71.7	4.3	23.9	0.656

\*T-True; F-False; DN-Do not know



determined that physicians tend to focus more on sleep hygiene rather than on cognitive-behavioral therapy for insomnia [13].

Participants reported lack of knowledge about the cognitive-behavioral treatment for insomnia. The proportion of professionals that knew the therapy was low, and the proportion of those who had received specific training was even lower. Lack of training in this technique has been found in previous studies that already reported the

absence of training in sleep medicine in Medical Schools [14]. Also, in our study some participants declared that they were not sure about being able to apply the cognitive-behavioral therapy and most of them stated that they did not know whether it was effective to manage the symptoms of insomnia.

The opinion of primary care professionals regarding the effectiveness of the different interventions to treat insomnia did not always agree



with the available evidence from the literature. In particular, they considered stimulus control, sleep restriction, relaxation, paradoxical intention and cognitive-behavioral as empirically supported therapies for insomnia [15]. On the contrary, the sleep hygiene, the imagery training and the cognitive therapy are not believed to have enough evidence to be recommended as single therapies or when added to other specific approaches [16]. In our study, the most frequent opinions were, for sleep hygiene, “quite effective”, for sleep restriction, “very effective”, for stimulus control, “quite effective” and for relaxation, “a little effective”. Pharmacological therapy was considered “quite effective” by most of the physicians and nurses from our study. Although it is true that the results for the acute treatment of insomnia with either pharmacological or cognitive-behavioral therapies could be considered similar [17], and both therapies are effective in the short term, the psychological treatment maintains its effect for longer time [4].

In our study, the participant’s attitude towards the cognitive-behavioral therapy for insomnia could be considered as positive. They stated that they would like to receive training in these interventions and use them in their consultations. They even considered that it would be positive to use them in primary care to reduce pharmaceutical consumption and improve healthcare. These positive attitudes are not always in line with the actual possibilities to use this therapy in primary care, since there are other barriers apart from the attitudes of the primary care professionals towards these therapies. The obstacle most frequently found in our study was that the patients often go into a consultation expecting to receive pills for these conditions, followed by the limited time available to be spent in consultation with the patient and the limited training received by the primary care professionals.

In summary, the most frequently used interventions in primary care for the treatment insomnia are: sleep hygiene, relaxation and pharmacological therapy. There are limitations in the knowledge and use of cognitive-behavioral therapy in this setting, that are not related with a negative attitude of these professionals towards this therapy, but to other type of barriers such as their limited training or the lack of time to administer it in the consultations. Taking into account that the physicians and nurses are willing to receive training and that they think that it would be positive to use the cognitive-behavioral therapy in primary care to improve the medical care that their patients receive, it would be advisable to incorporate training in this therapy to the health care centres. This would make cognitive-behavioral therapy more accessible to the insomnia patients that attend to the consultation requesting help from their primary care physicians and nurses as well as improve their treatment.

### Limitations of the Study

Although the self-administered questionnaires provide the participants with a sense of privacy, the fact that data collection was carried out requesting participation by phone and postal mail may reduce the response rate of the study. In this sense, there could be differences between the participants that returned the questionnaire and those who did not. There could also be differences in accessing the questionnaire, because it was organized by a different person in each health centre. The prevalence of insomnia was an estimation made by the healthcare professionals and therefore it’s susceptible to error.

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