Supporting information about the approach to sleep complaints and insomnia for adult patients in the primary care setting: where do they find this information and how do they process it
A qualitative research project

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Master of Family Medicine 2018 – 2020

Research Project Master Family Medicine

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Acknowledgements

This master's thesis has been a real journey for the two of us: a journey to discover qualitative research and the possibilities and limitations of decision supports.

We want to thank our research team (Prof. dr. Vermandere, Prof. dr. Van Nuland and Peters Sanne) to put the idea into a research project, for the enthusiastic guidance and the feedback.

To all participating patients also a word of thanks. This research could not have taken place without their enthusiastic cooperation.

Last but not least, we would like to thank our families and partners for the support, the grammar checks, the listening ear and the understanding.

Abstract

Supporting information about the treatment of sleep disorders and insomnia for adult patients in primary care: where do patients find their information and how do they process it? A qualitative research project.

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Introduction: Sleeping problems are a common complaint in the general practice. Patients can obtain information about this through various channels. Information brochures and campaigns in Belgium are currently focused on the use of benzodiazepines and not so much on the causes of a sleeping disorder and the non-drug treatment. It is important to know where patients find their information and how they process it.

Research question: This study investigates where patients look for information about sleeping problems and how they process this information.

Method: A qualitative study with a phenomenological approach was chosen in which semi-structured interviews were conducted with patients who had (experienced) sleep problems themselves and consulted their general practitioner.

Results: 12 semi-structured interviews were conducted to assess the experiences of looking up and applying information about sleeping problems. The participants found their information mainly through the internet and the general practitioner (GP). Information through the use of the internet was obtained quickly and easily but the reliability and abundance of information was perceived as a difficulty by many participants. The GP was able to provide more information that was applied to their situation, but unfortunately still focused too much on the drug treatment. Sleep hygiene tips were often difficult to maintain and did not completely solve the problem. Many participants had a hard time finding rest before bed. Often the motivation to maintain the treatments in the long term was also lacking.

Conclusion: Participants mainly used the internet and the general practitioner as a source of information. The disadvantage of the internet is that it is not always reliable and that there is sometimes too much information available. The general practitioner has the advantage of personal knowledge about the patient, but still focuses too much on the use of medication. More research is needed into where people find their information, especially regarding the internet. The quality of this information is another point that can be further investigated.

ICPC-code: P06 – Sleeping disorder

1 Introduction

Sleep disorders are a widespread problem in the general population. Up to 30% of the population aged 15 years and older suffers from sleeping problems in Belgium (1). The latest Intego database shows an increase in incidence over a five-year period from 5,260 per 1000 patients in 2010 to 6,873 per 1000 patients in 2015 (2).

There are no objective criteria to diagnose insomnia. It is defined as the subjective perception of difficulty with sleep initiation, duration, consolidation, or quality despite adequate opportunity for sleep (3). It results in some form of functional impairment during the day (4). Possible daytime complaints are drowsiness, lack of concentration, fatigue and so on (3, 5). Insomnia is considered to be chronic when present for at least one month, according to the second International Classification of Sleep Disorders, and at least three months, according to the DSM-V criteria (3, 6).

More and more patients are seeking help to try to manage their insomnia. Belgium is a country where medicinal therapy is still the most common course of action, which means that there is a high chronic use of benzodiazepines. Almost 15,5% of Belgian inhabitants above 15 years of age have used benzodiazepines (BZD) or Z-drugs in the past two weeks, according to the 2018 National Health Survey (7). Taking into account this high prevalence of (z-) BZD misuse together with health-related complications of these medicines, supporting the availability of non-drug alternatives for sleep disorders becomes more relevant (8-11).

In order to make a change, a new guideline for the treatment of sleeping disorders and insomnia was developed by Domus Medica in 2018 (12). The focus in this guideline lies on these non-pharmacological treatment options. These options mainly consist of educating patients and offering them the necessary tools for self-management of this health problem. To be able to implement this guideline in the clinical practice, there is a need for educational material.

Patients find their health information in all kinds of places, ranging from their personal circle to the internet. Written information plays a very important role in self-management of health problems; this has been proven extensively in the past (13-15). This form of educational material can be used as an instrument to improve shared-decision making, which in turn has a positive effect on treatment outcome and commitment to therapy (13-19). In the past decade, the internet has been playing an increasing role in looking up health information for patients (20).

However, up to date little research has been done on the availability of patient educational material (both on- an offline) and the studies that have been conducted show a high variance in quality (13, 17, 18, 21-23). In Belgium, there are currently no studies that focus on the availability and quality of educational materials. The educational material about insomnia provided by the Belgian government focuses mainly on the discontinuation of benzodiazepines (24).

The aim of this study was to explore patients' views about the information regarding sleeping disorders. In this research project, the first researcher elaborated the following two research questions.

- Where do patients find information concerning sleeping disorders?
- How do patients process information concerning sleeping disorders?

In another research project, the second researcher elaborated two other research questions:

- What are the patients' needs regarding the information on sleeping disorders?
- How do patients want to receive information on sleeping disorders?

2 Methodology

Study design

In the exploratory nature of this study, qualitative research was the most suitable research strategy to unravel the patient's point of view. Furthermore, a phenomenological approach was used (25, 26). The researchers in this study performed semi-structured interviews whereby the interviewer could delve deeply into social and personal matters of the participants and uncover patients' attitudes, beliefs, experience, and motives about information regarding sleeping problems and how to handle them.

In- and exclusion criteria

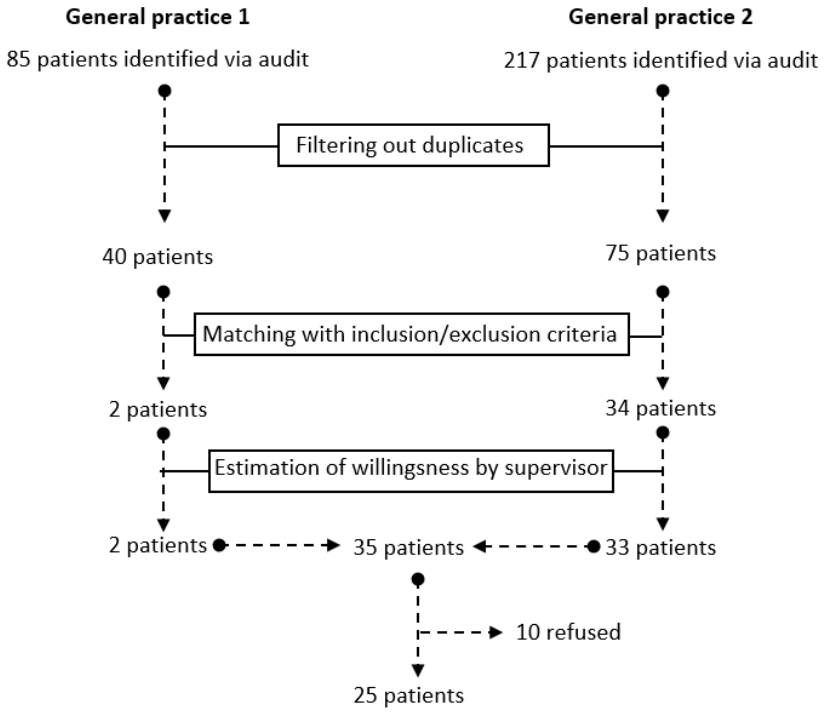
The study was conducted on participants between the ages of 18 and 65 who are mentally competent and able to understand and speak the Dutch language. Participants needed to have a history of sleeping problems or insomnia existing for longer than four weeks (as it is chronic according to the International Classification of Sleep Disorders) (3, 6). In addition, they must have searched or received some kind of information about these problems. These were the inclusion criteria taken into account. Patients were excluded if suffering from chronic insomnia with comorbidities like obstructive sleep apnea syndrome (OSAS), narcolepsy, side-effect medication, restless legs syndrome, psychosis, hyperthyroidism, parasomnia, and periodic leg movement syndrome, because insomnia with these conditions requires a different approach. Patients with a major depression and chronic fatigue syndrome (CFS) were also excluded.

Patient recruitment

Participants were recruited from two general practices where the two female researchers were working as trainees. Patients who consulted their general practitioner (GP) in the last 24 months for a sleep disorder or insomnia were traced through the use of audits. These audits were generated by the medical software system both practices possess. Details of the conducted audits can be found in appendix 1. Figure 1 shows a flowchart of the patient recruitment. The search query yielded 85 patients in general practice 1 (GPx1) and 217 patients in general practice 2 (GPx2). Through the use of Microsoft Excel, the patients whose name returned multiple times were reduced to one which resulted in 40 patients for GPx1 and 75 patients for GPx2. Subsequently the patient files were checked to see if the in- and exclusion criteria for this study were met. The researchers consulted the supervisor of each GPx to estimate the willingness of the patients. This resulted in 2 patients for GPx1 and 33 patients for GPx2. A total of 35 patients were contacted by telephone. The objective of the

study was explained and the engagement to enrol in the study was questioned. Ten participants refused to take part in this study due to two main reasons: lack of time and no interest. A pool of 25 participants made themselves available for the researchers. From these patients a purposeful sample was conducted to get a population with a broad heterogeneity. The interview could only take place after signing an informed consent whereby the aim of the study was explained (see appendix 2). Patients would receive no compensation for participating in the study. The researchers would stop recruiting patients when lines of inquiry in relation to the research questions would be exhausted, or in other words when data saturation was thought to be achieved (27, 28).

Figure 1: Flowchart patient recruitment



Data collection

The semi-structured interviews consisted of a loose structure with open questions that defined the subject to be questioned. It was possible to deviate from this structure to discuss a topic in more detail (29-32). An interview guide was used to conduct the interviews for this study. A topic list was drawn up from a literature study, from which some themes emerged, but also from discussions with other researchers, which covered the main themes of the interview (33). The questions, as mentioned above, could be adjusted to the researcher's own opinion to elicit further elaboration from the interviewee (31, 34). Not all questions were always addressed in each interview, but it was ensured that the main themes were surveyed. The final topic list is listed in appendix 3.

The study was approved on 11/03/2019 by the Research Ethics Committee UZ/KU Leuven (project number: MP009780). The study protocol as well as the approval of the Ethics Committee is listed in appendix 4.

Before conducting interviews with the respondents, a test interview took place performed by one of the researchers. Given that this interview closely followed the later interviews, it was decided to include it in the study. The interviews were conducted in an office room at the general practice where the researcher was working as a trainee or at the patient's home. It was ensured that no one besides the participant and researcher were present at the time the interview took place. All interviews were recorded with an audio recorder and field notes were taken. There were no repeat interviews and the transcripts were not returned to the participants for comment and/or correction.

Data analysis

The acquired data was anonymized, resulting in no ethical implications. All interviews were transcribed verbatim. The data was analysed and coded based on the "Qualitative Analysis Guide Leuven (QUAGOL)" (35). The QUAGOL is a systematic method for qualitative data analysis and coding. First, the researchers aimed at executing ten semi-structured interviews, five interviews for each. Based on the guideline according to Mason, 5 to 25 semi-structured interviews are needed to reach data saturation (36). The interviews were reread multiple times in order to get a good understanding of the data. After that, each researcher made narrative reports of each interview. The narrative reports were exchanged between the two researchers and a mutual conceptual scheme per interview was made. Three consensus meetings took place whereby ten interviews were analysed. The interpretations and insights of the researchers were discussed. An evaluation of data saturation was conducted. However, there was a need to perform more interviews. Each researcher conducted one additional interview, whereby a subsequent analysis was performed. An overall conceptual scheme was drafted and evaluated by the research team. Then, the conceptual scheme was simplified due to the exhaustive details. From this conceptual scheme a concept list was generated. Each interview was reread and every significant passage of the interview was linked to one of the concepts of the list. The list of concepts was continuously adapted. In a next step, a mapping table was created to structure the data (see appendix 5). Finally, this mapping table was used to conceptualize the results.

3 Results

Participants

Table 1 is an overview of the study participants. Every participant is linked to a study ID number; only the researchers know which interview is linked to which participant. In the table below there are three main categories of information: demographic characteristics, children and sleeping problem. The five demographic characteristics are sex, age, marital status, educational level and job occupation. The column 'sex' shows if the participant is male (M) or female (F). Age is expressed in number of years. The marital status can be single, legally cohabiting, married, divorced or widower/widow. The column 'education level' consists of three categories: primary education (PE), high school education (HSE) and educated to degree level (EDL). The fifth demographic characteristic is job occupation and

contains five types of workers. Blue-collar workers perform predominantly manual work (for example a factory worker). White-collar workers are workers who perform predominantly 'brain work' (for example working in administration) (37, 38). The other three types are self-employed (for example a business owner), unemployed and retired. The second main category of information is children, which is divided in two columns. The column 'N°' represents the number of children the participant has. If the children are still living with its parents/participant, it shows as 'Yes'. If they have moved out, it's noted as 'No'. The third and last category is sleeping problem. The duration of the sleeping problem is viewed as 'A', which is longer than 1 year, 'B' if it's longer than 3 months but less than 1 year and 'C' if it's longer than 4 weeks, but less than 3 months (3, 6). The last column 'solved' shows 'Yes' if the participant no longer suffers from a sleeping problem and 'No' if the participant still has a sleeping problem.

Table 1: Characteristics of participants

Study ID	Demographic characteristics					Children		Sleeping problem	
	Sex	Age	Marital status	Educational level	Job occupation	N°	Resident	Duration	Solved
1	F	55	Married	HSE	Unemployed	2	No	A	No
2	F	62	Married	PE	Retired	1	No	B	Yes
3	F	34	Married	EDL	White-collar	3	Yes	B	Yes
4	F	37	Married	EDL	Self-employed	2	Yes	A	No
5	F	53	Married	EDL	White-collar	2	No	B	Yes
6	F	36	Married	HSE	White-collar	1	Yes	B	No
7	F	37	Married	EDL	White-collar	2	Yes	C	Yes
8	M	18	Single	HSE	Blue-collar	0	No	C	Yes
9	F	40	Married	EDL	White-collar	2	Yes	A	No
10	M	27	Single	HSE	Blue-collar	0	No	A	No
11	M	64	Widower	PE	Retired	3	No	B	Yes
12	M	52	Married	EDL	Self-employed	1	Yes	A	No

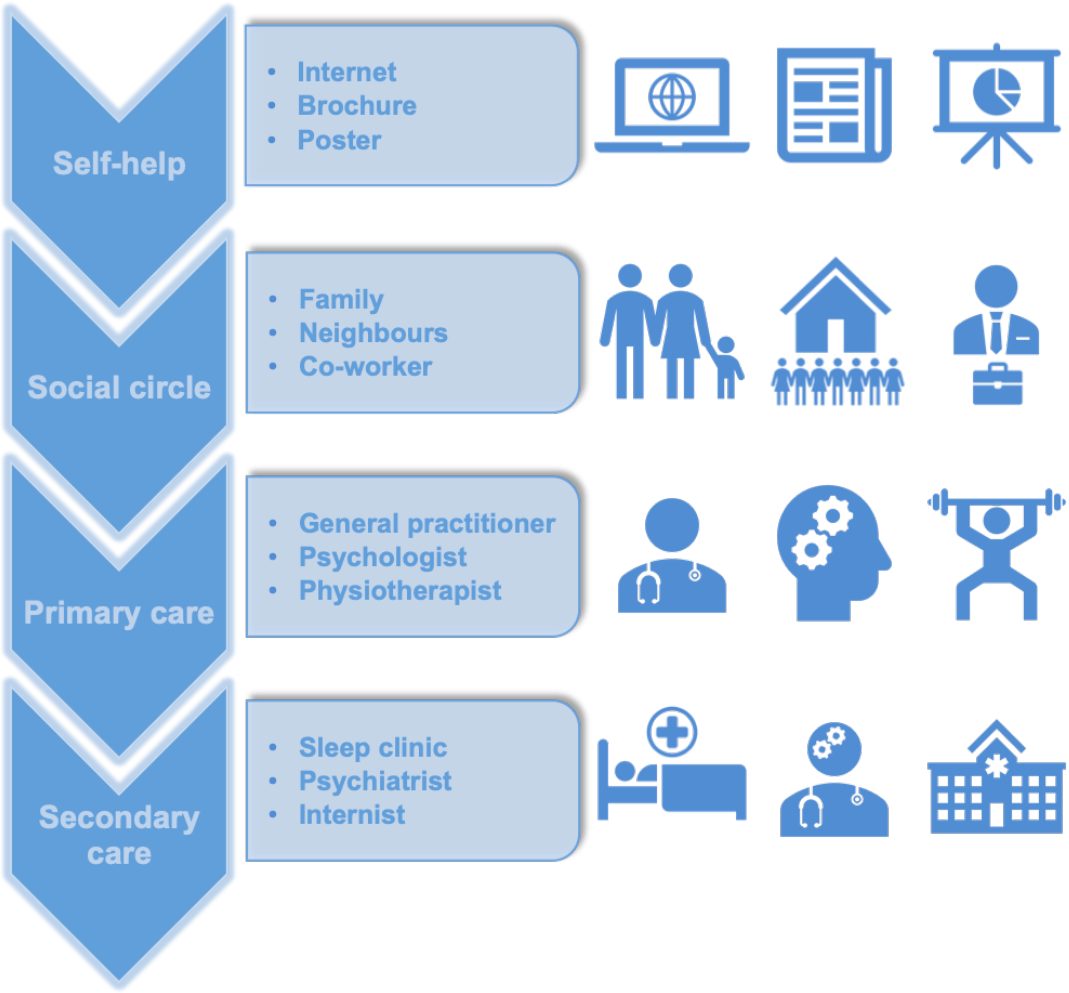
From June to December 2019, a total of 12 interviews were conducted. There were 8 female and 4 male participants between the ages of 18 and 64 with a median age of 37 and an average age of 39,8 (Table 1). Participants all lived in the countryside, surrounding the two practices. There were two participants with a primary school education, four had a high school education and six participants were educated to degree level. Two participants were retired and one was unemployed. The other participants were employed in various sectors, with two participants who were self-employed. The sleeping problem existed longer than a year for most of our participants. Half of our participants no longer suffered from a sleeping disorder.

Information sources

Participants found their information in several places. Most followed a certain pattern when searching for information, as shown in figure 2. Participants first tried to find information and a solution to their problem on their own. This was often through the use of the internet and other written sources

(like brochures, magazines, newspapers and so on). After that, they consulted their social circle. If a solution wasn't found by then, the primary or secondary care was consulted.

Figure 2: conceptual overview information sources



The internet as an information source

The internet was the main and often first-used source of information. The three main search inquiries concerned definition, causes and treatment options. An online self-test was cited to provide an estimate of insomnia.

> "I just searched for sleep problems on Google and what could be done about it." (Patient 7)

> "I often search the internet. I especially wanted to know what to expect when I go to the GP with my sleeping disorder. I am not too fond of taking medicines. So yes, I actually wanted to properly prepare myself." (Patient 11)

People found there are different reasons why one could be having troubles with sleeping. The main cause was stress, but most already knew this. When looking at things people could try for themselves, they described them as 'things you actually already know'. Reducing screen time and tips about nutrition were the two main subjects that were found by most participants. Participants knew using electronics right before bed wasn't encouraged, but they found more specifically how long before bed it wasn't allowed. Furthermore, the internet also provided information about healthy food

and beverages. Others mentioned the importance of a fixed sleep rhythm, relaxation before bedtime, being physically active during the day and basic bedroom hygiene.

> "I read about creating a sort of fixed sleep rhythm. Other things I often encountered on the internet were not using electronics too much in the evening, such as your mobile phone and tablet, and trying to relax before going to bed." (Patient 3)

> "Much of the same is found on the internet. Like that you have to relax enough and that you need to create a daily routine. Another thing was paying attention to your food and drinks." (Patient 5)

Participants found the internet an easy and fast source to use. For some people it was easy to differentiate whether the information they found was applicable to them, for others this was harder. There were some who found the abundance of information a disadvantage, which in turn made them insecure about their possible diagnosis and consequences. Sometimes websites talked about serious illnesses, which made them worry more. Others didn't have a problem with this because they could easily put it into perspective and considered their sleeping problem not to be a serious illness. Some mentioned that every situation is personal, so no complete answer could be found for their sleeping problem. Something participants worried about whether the information was reliable. This was also one of the reasons why a few participants chose not to use the internet as a source.

> "The internet is definitely the fastest way. You can quickly look up this or that, to see if you can't find anything about it." (Patient 5)

> "I think that a lot of information is available on the internet. There may even be too much information available. And then yes, maybe you can even read or do wrong things. Yeah, this makes the internet easy and not easy to use." (Patient 9)

The general practitioner (GP) as an information source

Another key information source for all participants was the GP. The possible causes of the sleeping disorder were discussed whereby emphasis was placed on the multifactorial aspect of a sleeping disorder. Treatment options were given, such as the use of sleep medication, alternative medications, consulting a psychologist or joining a support group. Sleep hygiene tips were provided, such as reducing screen time, a fixed sleep rhythm, relaxation time before going to bed and healthy food. The GP also underlined the effect of a positive mindset to the participant. In some cases the GP decided alone regarding treatment options, in others the opinion of the participant was taken into account. The consultation was experienced as an interactive moment.

> "The doctor suggested two ways to solve my sleeping problem. On the one hand he advised medication, on the other hand he suggested to consult a psychologist to talk about my sleeping problem and to check out if he or she could provide more tips." (Patient 3)

The social circle as an information source

A third source of information that was often mentioned was the participant's social circle. The tips regarded different fields, such as nutrition, physical activity, relaxation and (alternative) medication. Sometimes participants were also provided with additional motivation for seeking out further assistance. The social circle was considered an easy way to exchange experiences. According to the participants it is also a way to break the taboo that still exists concerning sleeping disorders. However,

an often-mentioned disadvantage was that the tips weren't always applicable to the participant's personal situation.

> "I talked about it with some people from work. I mentioned that I slept badly and then there was someone who said she had the same problem. Then yeah, someone else said that she knew something we should drink, like a 'good night tea'. So I suppose that the first source of information are the people around you." (Patient 7)

The psychologist as an information source

The psychologist was another source of information for a few participants. Not only did the psychologist offer a listening ear, he or she also taught certain skills and exercises to facilitate sleep. Other advantages included being able to talk about things that bothered them and that techniques would be evaluated in a follow-up session. Participants said that this council helped them to worry less and put things more into perspective.

> "The psychologist did exercises with me during the first session and I got the advice to continue them at home. I tried to do that every night and then I reflected on which exercises and tips went well and which did not. At subsequent appointments I received other tips so that I could vary and combine." (Patient 3)

Other information sources

The package leaflet of sleep medication was a more specifically used information source. It held information about side effects and the way it should be used. The participation in a support group or an information moment also provided information about sleeping problems. These were considered places where experiences were shared. However, not all participants were equally positive about these social gatherings. Some said they didn't know how to cope with the negativity; others didn't feel comfortable in bigger groups.

A small number of participants also derived their information from their own experiences. They thought of a reasonable explanation for their sleeping disorder and tried to manage it on their own. Other less mentioned sources of information were the sleep clinic, the pharmacist and the physiotherapist who gave more detailed information in their specific fields.

> "I got to know about 'Sleepy Relax' via TV. I saw advertising about this medication and I thought 'Gosh, that could be something for me'. Then I went to the pharmacist and he gave me a more detailed explanation about it." (Patient 9)

When do participants start to look for information?

The threshold to start looking for information or a solution was different for most participants. Some did it because their sleeping problem started to have an impact on their quality of life or because the fatigue was becoming too much of a problem. With others, it was because the tips they already tried were unsuccessful. The threshold for seeking information was also crossed if the problem persisted for too long.

> "Well, I don't care about sleeping badly one night. But if it starts to affect my work and you feel like 'God, I'm so tired, I could fall asleep on the spot.' Yes, then I want to do something about it." (Patient 7)

The processing of information

Applicability and reliability of information

On receiving information about their sleeping disorder, some participants tried to check applicability. Writing down the acquired information was one way of reflecting. Information was also checked for suitability for their own situation. Participants tried to gradually apply the information and reflect at different points if the information was helpful or not.

> "…. It all goes gradually. There's always something that gets stuck in your head and then eventually you apply the stuff that you feel most comfortable doing." (Patient 4)

Information that was found was discussed with friends, family, the GP and colleagues. However, a few interviewees stated that they didn't exchange views about the acquired information because they didn't feel it would be helpful for them. Reliability of information was a key concept for almost all participants and was checked in different ways. Some read reviews about the internet websites they consulted. Others talked about a personal good vibe they experienced when consulting information. Nevertheless, previous positive experiences helped to increase reliability. When the same information was found multiple times, it also raised dependability. Information that was told or written down by a healthcare professional, did also improve reliability.

> "Yes, maybe because you've heard about it before. Like maybe there was a commercial on TV or on a webpage you've searched on before for another health problem. I'm just saying that some people will go to that certain page faster, because they've already had a positive experience with it. It's like when you come across the commercial 'Trivago' on TV. The next time that you are looking for a hotel, you will try it with 'Trivago'. It's the same with 'booking.com', you are already familiar with that one and maybe already have had some good experiences with it." (Patient 7)

Applied treatment options

Most participants applied one or more treatment recommendations. Some aired their bedrooms and made sure the sheets were changed regularly. Creating a fixed sleep rhythm before going to bed and getting up at approximately the same time every day were other applied recommendations. The use of electronics before going to sleep was limited. This seemed to be one of the hardest things to do. One of the major hurdles in this was the fear of missing out regarding social media and text messages.

> "On Facebook, it's one after the other who posts something. In the past when they needed you, they would call you, but now it goes 'ping ping' on 'Messenger' or 'WhatsApp'. And then you get up because you start to worry that maybe there is something wrong with your children or one of your grandchildren... So you get up and look on your cell phone, even though you've said to yourself that you weren't going to do that anymore. Yeah, these days all the communication goes through 'Messenger'. Even my 87-year-old mother-in-law contacts us through the use of 'Messenger'. (Patient 1)

A lot of participants changed their dietary habits, like not drinking caffeinated beverages or not eating past a certain hour or by not eating too much sugary food. Alcohol late at night was avoided altogether. Most participants tried out herbal teas right before bed. Almost all of the interviewees

mentioned that they tried to incorporate moments of relaxation into their busy lives. Even though participants got the concept of why one should relax, it was very hard to put it into practice because they found it hard to let go of the tensions of everyday life. Participants tried to optimize their lifestyle by being more physically active during the day. Finally, a positive mindset was considered to be important as well as a decrease in worrying.

> "I try to work on that now, that I do some more exercise and eat a bit healthier. I also try to make sure I have less stress and worry less. Actually, I need to say that this helps to sleep better." (Patient 4)

Participants encountered a few difficulties in applying information about insomnia. They had troubles finding peace and relaxation, as explained above. Some mentioned that the tips they received were unpredictable and didn't always work. Others said that the tips only worked temporarily. For some participants it was hard to keep applying certain tips because it took them a lot of time and, in their opinion, didn't have the desired effect. Other tips weren't applicable on the personal situation. Another problem that arose was that most of these tips didn't take away the underlying cause. Participants also didn't have enough intrinsic motivation to try the tips or to keep applying the information.

> "You must be able to remove the cause. Like, if you have a toothache, then the first thing you usually do is take a painkiller, but you know that something should actually be done about your tooth." (Patient 11)

> "No, you don't keep doing those tips. It's like when you get exercises from a physiotherapist to do at home… At first, you are highly motivated and start with them. But then a couple of weeks later you give up." (Patient 4)

Some participants got prescription drugs from their GP. The use of benzodiazepine and antidepressants with sleep-inducing effects had different results. The side effect of a hangover was described after taking medication. Others disliked the feeling of losing control associated with a benzodiazepine. In one way or another, almost all participants expressed concern about becoming dependent on sleep medication. However, a few participants didn't perceive benzodiazepines as addictive. Some slept better with the medication, others didn't. Participants often didn't receive the results they expected. Nevertheless, other benefits were also cited by some, such as an increase in sleep, a decrease in worry and feeling better during the day. Most of the participants who saw benefits in taking medication also mentioned that it served to break their negative cycle. In certain cases the intake of sleep medication also helped to alleviate other symptoms, like muscle ache. Taking a pill to sooth your sleeping problems was considered an easy solution because some interviewees felt they were more conscientious about it. A few participants were aware of the possible placebo effect.

> "But you also realize that you can't keep taking sleeping pills. I had gone to a whole pill and of course I could sleep even more. But then I went back to half a pill and that sleep time became shorter again. So it actually gave me some stress to realize that you can't keep taking it. That you somehow quickly become dependent on it." (Patient 12)

> "You know, when you get a prescription from your GP for medication, you go to the pharmacy with it. You bring it home with you and then you just have to take it and you are done." (Patient 5)

Other participants tried alternative non-subscription medication. They acknowledged feeling better with this option because it was on a natural basis. It also helped to break the cycle and to lessen the worrying.

> "Yes, I only used 'Melatonin' for a few days until I felt that I had my 'rhythm' back. Because if you sleep badly for more than a week, then one good night's sleep can already do wonders. You feel like you can get back on track. Then it's like a click in your head or ... Well, It will not only be due to the 'Melatonin'. But this definitely helped me to get out of the negative circle." (Patient 7)

Some participants went to a psychologist. They did this because they had earlier good experiences with a psychologist. A psychologist helped them to find peace and to lessen or handle the worrying. Others didn't consult a psychologist for different reasons. They didn't go because of an earlier bad experience, because they were 'not that much of a talker' or because they didn't see how a psychologist would be able to help them.

> "I've been to a psychologist before because I had difficulties expressing my emotions about my father's death. However, the reason that I couldn't sleep last year was because I had a lot of things on my mind, like taking care of my mother and stress from work. Also, if I were someone who didn't care about other people, then I would also have less to worry about. But I'm just someone who cares about other people. If someone has a problem, I am looking for a solution in my head. I don't think that a psychologist could help me for that." (Patient 12)

4 Discussion

Summary of results and comparison with literature

The first aim of this study was to find out which sources patients used to obtain information concerning sleeping disorders. Patients found their information in different places. The most used source of information was the internet. The second most used source was the general practitioner (GP). Other used sources were the social circle, the pharmacist and the psychologist. Although the internet was the most used source, most participants didn't find a thorough solution to their problem, which made them consult other sources.

The internet has shown to be a widely used source to search answers for health problems (39, 40). When looking at the different studies, it often seemed to depend on the problem whether the internet was the first choice of searching or the second (41, 42). For example, when looking up information on vaccinations for children, parents tended to get their information from their doctor first, before consulting the internet. When looking up information on Marijuana, it was the other way around. This is thought to be linked to the severity of the health problem (42). A sleeping problem was not perceived as a serious illness, as mentioned by different participants. Search results on the internet mainly handled about the causes and treatment options for sleeping problems. This source of information was available at all times, which was suggested to be one of the biggest advantages. However, the abundance of information also created mistrust. A systematic review by Daraz et al.

showed that the quality of information on the internet at the time was suboptimal to be used as a health information source, which was also feared by some participants (20).

The GP was cited as the second major source of information. Information was provided about the multifactoriality of sleeping problems and the possible treatment options. Most patients mainly remembered the drug advices. However, the researchers noted that certain information provided during the consultation with their GP was forgotten. The researchers that conducted the interviews saw some participants themselves during their training and also gave them information about the non-drug approach to sleeping problems. Similarly, McIntosh et al. noticed that patients receiving information on lower back pain thought they did not receive enough information on the definition and cause of lower back problems through their GP, although the GPs thought they did (43).

Another aim of this study was to check how patients processed information on sleeping disorders. Applicability and reliability of information were hereby mainly taken into account. A first thing most participants did was check whether the information provided was reliable. This was mainly the case for information found on the internet. Participants then proceeded to process the information by checking if the information found was applicable to their specific situation. Thereafter, participants applied the information until the problem was either solved or manageable.

The problem most participants had with the internet was that they didn't know if the information they found was reliable or not. Most participants didn’t remember any specific sites, so it was hard to trace if they actually found reliable information. It was very difficult to find what made them trust certain web pages. Participants described it as having a ‘click’ with the web pages based on certain aspects as described in the results. These aspects largely accorded with the aspects found by Sillence et al. They studied what aspects patients rely on when searching for reliable internet sites regarding hormone replacement therapy (44). Although these aspects heightened the reliability for patients, this was very subjective. All participants started their search on the same spot: a search engine. This too made it more difficult to find reliable information, because it gave them access to a lot of information that could possibly be of inferior quality. There is still a high variance in quality of online health information; the overall quality remains low (45, 46).

When applying the information, participants encountered some problems. Reducing screen time was the most found and applied tip, but it was also described as the most difficult to uphold. Fear of missing out played an important role here. This has been researched in a younger population. Social media use has been linked to poor adolescent sleep outcomes. Researchers already examined the links between adolescents' social media habits, fear of missing out and sleep outcomes (47, 48). Another treatment option was psychological guidance. Participants believed that this could be helpful, yet they often didn’t see the advantage for themselves. This could be partially explained due to a lack of awareness about the evidence and knowledge of the cognitive behavioural therapy for insomnia (CBT-I) by the participants. CBT-I is considered the first line treatment for insomnia, however it is still not widely used or available (49-51).

Strengths and limitations

During this study the researchers were constantly aware of the risk of bias. Attempts were made to take this into account. The Quagol method was followed meticulously whereby at each stage results were compared between the two researchers to decrease the risk of interpretative bias. An audit was carried out in two general practices. The included participants all had at least one contact with their GP about sleeping problems. As a result, participants who had only consulted the internet or other information sources were missed. Handpicking participants based on age, gender and social status reached a better level of diversity in the population. Like mentioned above, some of the participants knew the researcher beforehand, which could have led to 'coloured' answers. However, it was discussed in advance that the participants were allowed to answer the researcher's questions in fairness. For some, it could have been easier to talk about a personal problem to a researcher they knew beforehand. This study explores the findings of a small group of participants; caution should be taken with generalizations. Reaching data saturation was difficult, mostly because insomnia is a very complex problem and the possibilities to find information are very extensive. After analysing all the interviews and writing up the results, the researchers noticed that more detail had to be given to where exactly they found their information and why they preferred or disliked a certain information source. The researchers could have asked more questions on which internet sources the participants specifically encountered in their search, for example, ‘thuisarts.nl’ or ‘gezondheidenwetenschap.be’.

Implications for future research

The researchers think it might be helpful to gain more information on where patients find their information on a bigger scale. The internet is the most used source of information. It could be beneficial for the patient to receive trustworthy websites through their health care professional, in most cases the GP. Clinicians could also make more use of supportive materials during their consultation, preferably electronically, like a website or an application. Further research is needed regarding the information patients want to receive about sleeping disorders. This is necessary to close the gap between what clinicians think patients want to know and what patients actually need. This could eventually improve the management of insomnia in the primary care system.

Conclusion

Participants mainly used the internet and the GP as a source of information. The disadvantage of the internet is that it is not always reliable and that there is sometimes too much information available. The GP has the advantage of personal knowledge, but still focuses too much on the use of medication. More research is needed into where people find their information, especially regarding the internet. The quality of this information could also be further investigated.

5 References

1. Van der Heyden J, Charafeddine R. Rapport 1: Gezondheid en Welzijn. Samenvatting van de onderzoeksresultaten. Belgium Health Interview Survey. Belgium: Center for Statistics, University of Hasselt; 2013. p. 26.

2. "Department of general practice, KU Leuven. Intego-project. [Online] 2011 [cited 2018 10the February]. Available from: http://www.intego.be.

3. Thorpy M. Classification of sleep disorders. Neurotherapeutics. 2012;9(4):687-701.

4. Schutte-Rodin S, Broch L, Buysse D, Dorsey C, Sateia M. Clinical guideline for the evaluation and management of chronic insomnia in adults. J Clin Sleep Med. 2008;4(5):487-504.

5. Berry R. Chapter 25 - Insomnia. In: Berry RB, editor. Fundamentals of Sleep Medicine. Saint Louis: W.B. Saunders; 2012. p. 481-514.

6. Regier D, Kuhl E, Kupfer D. The DSM-5: Classification and criteria changes. World Psychiatry. 2013;12(2):92-8.

7. Gisle L, Drieskens S, Demarest S. Geestelijke gezondheid: Gezondheidsenquête 2018. Epidemiologie en volksgezondheid - Levensstijl en chronische ziekten [Internet]. 2020.

8. Mitchell M, Gehrman P, Perlis M. Comparative effectiveness of cognitive behavioral therapy for insomnia: a systematic review. BMC family practice. 2012;13:40-.

9. Barker M, Greenwood K, Jackson M, Crowe S. Cognitive Effects of Long-Term Benzodiazepine Use. CNS Drugs. 2004;18(1):37-48.

10. Matheson E, Hainer B. Insomnia: Pharmacologic Therapy. Am Fam Physician. 2017;96(1):29-35.

11. Wilt T, MacDonald R, Brasure M. Pharmacologic Treatment of Insomnia Disorder: An Evidence Report for a Clinical Practice Guideline by the American College of Physicians. Annals of Internal Medicine. 2016;165(2):103-12.

12. Cloetens H, Declercq T, Habraken H. Aanpak van slaapklachten en insomnie bij volwassenen in de eerste lijn. Werkgroep Ontwikkeling Richtlijnen Eerste Lijn van EBPracticeNet [Internet]. 2018:[82 p.].

13. Slatore C, Kulkarni H, Corn J. Improving Health Literacy. The New American Thoracic Society Guidelines for Patient Education Materials. Annals of the American Thoracic Society. 2016;13(8):1208-11.

14. Heilman C. Readability of Patient Education Materials. World Neurosurgery. 2013;80(5):e109-e10.

15. Hersh L, Salzman B, Snyderman D. Health Literacy in Primary Care Practice. Am Fam Physician. 2015;92(2):118-24.

16. Hoffmann T, Worrall L. Designing effective written health education materials: Considerations for health professionals. Disability and Rehabilitation. 2004;26(19):1166-73.

17. Wittink H, Oosterhaven J. Patient education and health literacy. Musculoskeletal Science and Practice. 2018;38:120-7.

18. Sustersic M, Gauchet A, Foote A. How best to use and evaluate Patient Information Leaflets given during a consultation: a systematic review of literature reviews. Health Expectations. 2017;20(4):531-42.

19. Hansberry DR, Agarwal N, Baker SR. Health Literacy and Online Educational Resources: An Opportunity to Educate Patients. American Journal of Roentgenology. 2014;204(1):111-6.

20. Daraz L, Morrow A, Ponce O. Can Patients Trust Online Health Information? A Meta-narrative Systematic Review Addressing the Quality of Health Information on the Internet. Journal of General Internal Medicine. 2019;34(9):1884-91.

21. Mastroianni F, Chen Y, Vellar L. Implementation of an organisation-wide health literacy approach to improve the understandability and actionability of patient information and education materials: A pre-post effectiveness study. Patient Education and Counseling. 2019.

22. Tille F, Weishaar H, Gibis B. Patients' understanding of health information in Germany. Patient Prefer Adherence. 2019;13:805-17.

23. Cotten S, Gupta S. Characteristics of online and offline health information seekers and factors that discriminate between them. Social Science & Medicine. 2004;59(9):1795-806.

24. Federale overheidsdienst v, veiligheid van de voedselketen en leefmilieu. Slaap en -kalmeermiddelen, denk eerst aan andere oplossingen Belgium2018 [Available from: https://www.health.belgium.be/nl/gezondheid/zorg-voor-jezelf/medicatie/slaap-en-kalmeringsmiddelen.

25. Starks H, T. B. Choose Your Method: A Comparison of Phenomenology, Discourse Analysis, and Grounded Theory. Qualitative Health Research. 2007;17(10):1372-80.

26. Larsson J, Holmström I. Phenomenographic or phenomenological analysis: does it matter? Examples from a study on anaesthesiologists' work. International Journal of Qualitative Studies on Health and Well-being. 2007;2.

27. Pope C, Ziebland S, Mays N. Analysing qualitative data. BMJ. 2000;320(7227):114.

28. Hennink M, Kaiser B, Marconi V. Code Saturation Versus Meaning Saturation: How Many Interviews Are Enough? Qualitative Health Research. 2016;27(4):591-608.

29. Pope C, van Royen P, Baker R. Qualitative methods in research on healthcare quality. Quality and Safety in Health Care. 2002;11(2):148.

30. Kallio H, Pietilä A, Johnson M, Kangasniemi M. Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. Journal of Advanced Nursing. 2016;72(12):2954-65.

31. Bullock A. Conduct one-to-one qualitative interviews for research. Education for Primary Care. 2016;27(4):330-2.

32. DiCicco-Bloom B, Crabtree B. The qualitative research interview. Medical Education. 2006;40(4):314-21.

33. Adams W. Conducting Semi-Structured Interviews. Handbook of Practical Program Evaluation. 2015.

34. Jamshed S. Qualitative research method-interviewing and observation. Journal of basic and clinical pharmacy. 2014;5(4):87-8.

35. Dierckx de Casterlé B, Gastmans C, Bryon E. QUAGOL: A guide for qualitative data analysis. International Journal of Nursing Studies. 2012;49(3):360-71.

36. Mason M. Sample Size and Saturation in PhD Studies Using Qualitative Interviews. Methods for Qualitative Management Research in the Context of Social Systems. 2010;11(3).

37. Schreurs B, Van Emmerik H, De Cuyper N. Job demands-resources and early retirement intention: Differences between blue-and white-collar workers. Economic and Industrial Democracy. 2010;32(1):47-68.

38. Hu X, Kaplan S, Dalal R. An examination of blue- versus white-collar workers' conceptualizations of job satisfaction facets. Journal of Vocational Behavior. 2010;76(2):317-25.

39. Turan N, Kaya N, Aydın G. Health Problems and Help Seeking Behavior at the Internet. Procedia - Social and Behavioral Sciences. 2015;195:1679-82.

40. Morahan-Martin J. How Internet Users Find, Evaluate, and Use Online Health Information: A Cross-Cultural Review. CyberPsychology & Behavior. 2004;7(5):497-510.

41. Eller N, Henrikson N, Opel D. Vaccine Information Sources and Parental Trust in Their Child's Health Care Provider. Health Education & Behavior. 2019;46(3):445-53.

42. Ishida J, Zhang A, Steigerwald S. Sources of Information and Beliefs About the Health Effects of Marijuana. J Gen Intern Med. 2020;35(1):153-9.

43. McIntosh A, Shaw C. Barriers to patient information provision in primary care: Patients' and general practitioners' experiences and expectations of information for low back pain. Health expectations: an international journal of public participation in health care and health policy. 2003;6:19-29.

44. Sillence E, Briggs P, Harris P. How do patients evaluate and make use of online health information? Social Science & Medicine. 2007;64(9):1853-62.

45. Diviani N, van den Putte B, Meppelink C. Exploring the role of health literacy in the evaluation of online health information: Insights from a mixed-methods study. Patient Education and Counseling. 2016;99(6):1017-25.

46. Sun Y, Zhang Y, Gwizdka J. Consumer Evaluation of the Quality of Online Health Information: Systematic Literature Review of Relevant Criteria and Indicators. J Med Internet Res. 2019;21(5).

47. Franchina V, Abeele M, Rooij A. Fear of Missing Out as a Predictor of Problematic Social Media Use and Phubbing Behavior among Flemish Adolescents. International Journal of Environmental Research and Public Health. 2018;15:2319.

48. Scott H, Woods H. Fear of missing out and sleep: Cognitive behavioural factors in adolescents' nighttime social media use. Journal of Adolescence. 2018;68:61-5.

49. Davy Z, Middlemass J, Siriwardena A. Patients' and clinicians' experiences and perceptions of the primary care management of insomnia: qualitative study. Health Expectations. 2015;18(5):1371-83.

50. Anderson K. Insomnia and cognitive behavioural therapy—how to assess your patient and why it should be a standard part of care. Journal of Thoracic Disease. 2018;10(1).

51. Siebern A, Manber R. New developments in cognitive behavorial therapy as the first-line treatment of insomnia. Psychol Res Behav Manag. 2011;4:21-8.

Abstract in Dutch

Ondersteunde informatie over de aanpak van slaapstoornissen en insomnia voor volwassen patiënten in de eerste lijn: waar vinden patiënten hun informatie en hoe verwerken ze deze? Een kwalitatief onderzoeksproject.

Huisartsen in opleiding: Meier Audrey en Geerlings Anneke (Katholieke Universiteit Leuven)

Promotor: Prof. Dr. Vermandere Mieke (Katholieke Universiteit Leuven)

Co-promotor: Prof. Dr. Van Nuland Marc (Katholieke Universiteit Leuven)

Praktijkopleiders: Respectievelijk Dr. Claes Patrick en Dr. Schurgers Piet

Inleiding: Slaapproblemen zijn een vaak voorkomende klacht in de huisartsenpraktijk. Patiënten kunnen via allerlei kanalen aan informatie hieromtrent geraken. Informatiebrochures en -campagnes in België focussen zich op dit moment vooral op het gebruik van benzodiazepines en niet zo zeer op het ontstaan en de niet-medicamenteuze behandeling ervan. Het is belangrijk te weten waar patiënten hun informatie vinden en hoe ze hiermee omgaan.

Onderzoeksvraag: Deze studie onderzoekt waar patiënten hun informatie over slaapproblemen zoeken en hoe ze deze informatie verwerken.

Methode: Er werd gekozen voor een kwalitatief onderzoek met een fenomenologische aanpak waarbij semi-gestructureerde interviews werden afgenomen bij patiënten die zelf slaapproblemen (doorgemaakt) hebben en hierover hun huisarts geconsulteerd hebben.

Resultaten: 12 semi-gestructureerde interviews werden afgenomen om de ervaringen rond het opzoeken en toepassen van informatie rond slaapproblemen na te gaan. De deelnemers vonden hun informatie vooral via het internet en de huisarts. Informatie via het internet werd snel en gemakkelijk bekomen. Veel deelnemers hadden moeite met de overdaad aan informatie en het inschatten van de betrouwbaarheid ervan. De huisarts kon meer informatie geven die toegepast was op de eigen situatie, maar focuste helaas nog teveel op de medicamenteuze behandeling. Slaaphygiënetips waren vaak moeilijk vol te houden en gaven veelal geen volledige oplossing van hun slaapprobleem. Veel deelnemers hadden het moeilijk om rust te vinden voor het slapen gaan. Vaak ontbrak ook de motivatie om de behandelingen op lange termijn vol te houden.

Conclusie: Deelnemers maakten vooral gebruik van het internet en de huisarts als informatiebron. Het internet heeft als nadeel dat het niet altijd betrouwbaar is en dat er soms teveel informatie beschikbaar is. Achtergrondkennis hebben van de patiënt is een groot voordeel voor de huisarts. Op dit moment legt de huisarts nog te veel nadruk op het gebruik van slaapmedicatie. Meer onderzoek is nodig naar waar patiënten informatie vinden over slaapproblemen, vooral met betrekking tot het internet. Verder kan ook de kwaliteit van deze informatie verder bestudeerd worden.

ICPC-code: P06 – Slaapstoornis

Appendices

Appendix 1: Conduction of the audits

Appendix 2: Informed consent

Appendix 3: Questionnaire (topic list)

Appendix 4: Ethics committee

Appendix 5: Mapping table

Appendix 1: Conduction of the audits

The software system that both the general practices (GPx) used was 'Careconnect'. Following is a description of the GPx where the audits were conducted:

- GPx1: solo practice with 1 senior practitioner with a supervision function on the trainee: Drievekkenweg 45, 3680 Neeroeteren – patient population with a GMD in 2018: 2115
- GPx2: group practice with 2 senior general practitioners with both a supervision function and two trainees. Tongerlostraat 16, 3960 Opitter – patient population with a GMD in 2018: 3145

A construction of three audits was made to conduct a list of patients that would meet the in- and exclusion criteria for this study. The three audits were performed at each general practice and consisted of the following characteristics:

- Parameter: date is greater than or equal to 20/06/2019
- Patient administration: age is greater than or equal to 65 and patient administration: age is smaller than or equal to 65

The third inclusion criteria varied among the three audits. In a first audit called Sleep 1 the third inclusion option was 'reason: title consists of sleep'. This resulted in GPx1 of 0 patients and in GPx2 104 patients could be found. The second audit (Sleep 2) had the characteristic 'evaluation: title consists of sleep'. This produced 34 patients in GPx1 and 53 patients in GPx2. A third and last audit (Sleep 3) had 'care element ICPC-2 code is equal to P06'. This search query delivered 51 patients out of GPx1 and 60 in GPx2. This resulted in a total of 85 patients for GPx1 and 217 for GPx2.

Appendix 2: Informed consent

Titel van de studie: Ondersteunende informatie over de aanpak van slaapstoornissen en insomnie voor volwassen patiënten in de eerste lijn: waar vinden ze de informatie en welke informatie hebben ze nodig? Een kwalitatief onderzoeksproject.

Opdrachtgever van de studie: *KULeuven*

Onderzoeksinstelling: KULeuven

Ethisch comité: *OBC KULeuven*

Plaatselijke artsen-onderzoekers: *Meier Audrey en Geerlings Anneke*

Inleiding

Ongeveer een derde van de Vlaamse mensen heeft wel eens te kampen gehad met slaapproblemen. Onlangs is er een nieuwe richtlijn uitgebracht over de aanpak hiervan. Tot nu toe werd er nog teveel de aandacht gegeven aan medicatie. In deze nieuwe richtlijn wordt er echter meer de nadruk gelegd op manieren anders dan medicatie om een slaapprobleem te verhelpen. Er is via verschillende wegen informatie beschikbaar over de aanpak van slaapproblemen, maar vaak wordt de nadruk wordt gelegd op de afbouw van slaapmedicatie. Met dit onderzoek proberen we in kaart te brengen waar patiënten gaan zoeken naar ondersteunende informatie over slaapproblematiek en wat ze vervolgens met deze informatie doen. Verder willen we graag inspelen op de noden van de patiënt. We willen nagaan welke informatie omtrent de aanpak van slaapklachten zij willen krijgen maar ook op welke manier deze vervolgens het best beschikbaar gesteld zal worden. Zo hopen we dat er als er in de toekomst informatiemateriaal ontwikkeld wordt voor patiënten er meer rekening gehouden kan worden met de exacte behoeften van de patiënt.

U wordt gevraagd om te overwegen om dr. Meier of dr. Geerlings toe te laten informatie over uw ervaring over slaapproblemen te verkrijgen in een interview.

Wij vragen u de volgende pagina's met informatie aandachtig te lezen. Hebt u vragen, dan kan u terecht bij de arts-onderzoeker of zijn of haar vertegenwoordiger.

Doelstelling

De interviews worden gebruikt om ideeën van patiënten te achterhalen en wat hun noden en meningen zijn in verband met informatie over de aanpak van slaapproblemen en insomnia. De resultaten van de interviews zullen gebundeld worden in een MANAMA thesis van twee studenten huisarts-in-opleiding. Deze informatie kan verspreid worden als een publicatie, in geprinte versie of via internet, in vakliteratuur. Het doel hiervan is om collega-artsen alsook onderzoekers te informeren om in de toekomstig educatie-materiaal te voorzien op maat van de patiënt met slaapklachten.

Beschrijving van de risico's en van de voordelen

U zal geen gevolgen, nadelen noch voordelen, ondervinden door deel te nemen aan dit Interview. Door het delen van deze informatie onder gezondheidswerkers, kan de zorg voor anderen in de toekomst wel verbeterd worden.

Intrekking van uw toestemming

Toestemmen om de gegevens te gebruiken in een interview is volledig uw keuze en verloopt volledig vrijwillig. Uw beslissing zal op geen enkele manier invloed hebben op de kwaliteit van de verdere zorg voor u. U kan kiezen tot deelname of niet, en u kan dit op elk moment herroepen. Eens de gegevens uit het interview verwerkt en gepubliceerd zijn, kunt u dit echter niet meer herroepen.

Contact

Als u bijkomende informatie wenst, maar ook in geval van problemen of als u zich zorgen maakt, kan u contact opnemen met de arts-onderzoekers Audrey Meier (audrey.meier@student.kuleuven.be) of Anneke Geerlings (anneke.geerling@student.kuleuven.be) of een medewerker van zijn/haar studieteam met name de promotor, dokter Mieke Vermandere (mieke.vermandere@kuleuven.be)

Aanvullende informatie over de bescherming en de rechten van de deelnemer aan een klinische studie

Ethisch comité

Dit protocol met referentienummer MP009780 werd goedgekeurd door een onafhankelijke ethische commissie (Ethische Commissie Onderzoek UZ/KU Leuven). In geen geval dient u deze goedkeuring te beschouwen als een aansporing tot akkoord met onze vraag.

Kosten

Uw toestemming om gegevens te verwerken in dit interview zal op geen enkele manier kosten voor u met zich meebrengen. U zal geen compensatie ontvangen indien u uw toestemming geeft om de gegevens te gebruiken.

Vertrouwelijkheidgarantie

Uw deelname aan de studie betekent dat u ermee akkoord gaat dat de arts-onderzoeker gegevens over u verzamelt en die gebruikt in het kader van wetenschappelijke en medische publicaties. U hebt het recht om aan de arts-onderzoeker te vragen welke gegevens hij/zij over u heeft verzameld. De arts-onderzoeker is verplicht om deze verzamelde gegevens vertrouwelijk te behandelen en uw identiteit te beschermen. Dit betekent dat hij zich ertoe verbindt om uw identiteit nooit bekend te maken in het kader van een publicatie of een conferentie. Als u vragen hebt met betrekking tot uw rechten als deelnemer aan de studie, kan u contact opnemen met de Ethische Commissie Onderzoek UZ/KU Leuven (ec@uzleuven.be; 016 34 86 00 (werkdagen tussen 10 en 11 uur))

Toestemming

Als u akkoord bent dat we uw gegevens zullen beschrijven in een case report, dan horen wij dat graag en vragen wij u vriendelijk om hieronder voor akkoord te tekenen. Indien u voor akkoord tekent, betekent dit dat u alle bovenstaande informatie heeft gelezen, dat u de kans heeft gekregen om vragen te stellen en dat u toestemming geeft tot het gebruik van uw gegevens. Indien u graag op de hoogte wilt gehouden worden van de resultaten van dit onderzoek of het eindrapport wilt ontvangen kunt u de arts-onderzoek vrijblijvend contacteren.

Deelnemer

Ik teken hierbij voor akkoord:

Naam: ……

Voornaam: ……

Datum:……

Handtekening: ……...

Arts-onderzoeker

Ik ondergetekende [naam, voornaam], arts-onderzoeker verklaar de benodigde informatie inzake deze studie mondeling te hebben verstrekt evenals een exemplaar van het informatiedocument aan de deelnemer te hebben verstrekt. Ik bevestig dat geen enkele druk op de deelnemer is uitgeoefend om hem/haar te doen instemmen met deelname aan de studie en ik ben bereid om op alle eventuele bijkomende vragen te antwoorden.

Naam: ……

Voornaam: ……

Datum:……

Handtekening: ……...

Appendix 3: Questionnaire (topic list)

Questions for each research question

Where do patients find information?

- How did you get information about sleeping problems?
- How did you find information about sleep problems?
- What went well when looking for information?
- What went wrong whilst looking for information?
- What different forms of information have you encountered?
- If using the Internet: What words did you use when looking up the information?

How do patients process the information?

- What have you done with the information you have obtained?
- What of the acquired information have you applied?
- How did you apply that information?
- What were the difficulties you encountered in applying the information?
- What made it easy to apply the information?
- With whom did you discuss the information found?

What do patients want from information?

- What would you like to know about the onset of sleep problems?
- What would you like to know about a possible treatment with medication?
- What would you like to know about tackling sleep problems that don't involve medication?
- Is there any other information that could help you treat sleep problems

How do they want the information?

- In what form do you want to receive this information?
- Why do you prefer this?
- What prevents you from choosing another option and why?
- What should that information look like for you?
- How do you think the information best reaches the patient?
- How much time would you like to spend using the supporting information?

Appendix 4: Ethics committee

The following appendices are the submitted protocol for the ethics committee and the ethical approval that was subsequently obtained.

MASTERPAPER PROTOCOL: PROSPECTIVE STUDY

1. Applicants

Protocol - full title	Supporting information about the approach to sleep complaints and insomnia for adult patients in the primary care setting: where do they find this information and what do they need? A qualitative research project
Version 1: Date submission	Date:12/02/2019
Version 2: Date resubmission	/Click here to enter a date.
Version 3: Date third submission	/Click here to enter a date.
Principal Investigator – Promoter	Name: Dr. Mieke Vermandere
	Telephone: +32 16 37 72 81
	E-mail: mieke.vermandere@kuleuven.be
The principal investigator is a health professional according to the Law of 10 May 2015. **YES** □	
Co-Investigator – Co-Promoter	Name: Marc Van Nuland
	Telephone:+32 49 52 37 252
	E-mail: marc.vannuland@kuleuven.be
The co- investigator is a health professional according to the Law of 10 May 2015. **YES** □ ~~NO □~~	
Sub-investigator – Student(s)	Name: Anneke Geerlings
	Student number: R0582239
	Telephone: +32 49 67 47 568
	E-mail: anneke.geerlings@student.kuleuven.be
	Name: Audrey Meier
	Student number: r0580116
	Telephone: +32 478 26 69 36
	E-mail: audrey.meier@student.kuleuven.be

2. Background and rationale

Sleep disorders and insomnia are getting more prevalent each year. In Belgium alone, almost one third of the population had ever had trouble sleeping. The intego database shows an increase in incidence over the last 5 years from 5.260 per 1000 patients in 2010 to 6.873 per 1000 patients in 2015[1].

Furthermore, Belgium has been known to be a country with a high (chronic) use of benzodiazepines. Almost 13% of Belgian adults have used benzodiazepines or Z-drugs in the past 2 weeks, according to the 2013 National Health Survey[2].

In 2018 a new guideline was developed by Domus Medica to try to change this. The focus in this guideline is on the non-medicinal approach to sleeping disorders and insomnia. For example, cognitive behavioral therapy plays a major role in this[3]. One problem in getting this information to the patient is that there is insufficient adequate educational material.

The material that is present mostly focuses on the discontinuation of benzodiazepines. The lack of information makes it difficult for primary caregivers, as well as for patients to set up a proper treatment plan. In this study, we hope to find out where patients find their information and what they do with it. In the second part we will try to find what patients would like to know and what kind of educational information would work best for them. This study will be conducted alongside a bigger project, where educational material will be made in co-design with patients.

3. Study objectives

The aim of this study is to find an answer to the following questions:

- Where and in what way do adult patients find supporting information in the approach to sleep complaints or insomnia in the primary care setting and how is this information processed by them?
- What supporting information about the approach to sleep complaints and insomnia do adults need and how do they want to obtain it?

4. Research Method

We will be conducting a qualitative study. Semi-structured interviews will be taken from the participants. An informed consent (see adnex) will be present and explained to the participant. The interview can only take place after signing the informed consent. The acquired data will be anonymised as described below. There will be no ethical implications.

5. Selection and withdrawal of participants

5.1 Inclusion and exclusion criteria

We are hoping to include between 12 and 20 participants.

Inclusion criteria:

- Adult (between the ages of 18 and 65)
- Mentally competent
- History of sleep disorder or insomnia
- Able to understand and speak the Dutch language
- Ever having received or searched for information about sleep disorders or insomnia

Exclusion criteria

- Aged 18 and under
- Ages 65 and over

5.2 Expected duration

The project will be conducted from April 1st 2019 until May 1st 2020. Participants will be recruited and interviewed from April 1st 2019 until January 1st 2020. The study ends for the participant when the interview ends.

5.3 Recruitment

Participants will be recruited through an audit in the 2 practices where the researchers are working as trainees. We will be looking for patients who consulted their GP in the last 24 months for a sleep disorder or insomnia. Every person on that list will receive an invitation for the study via telephone. The objective of the study will be explained to them. Subsequently the first 20 positive responders will be invited for an interview and an appropriate moment will be scheduled.

An informed consent is written in analogy with the template that is provided by the OBC. At each start of an interview, the researcher will review the informed consent together with the participant. Only when the patient agrees and signs the informed consent will the interview continue. The patient is not obliged to participate, this is clearly stated in the informed consent and will be stated at the start of each interview. There are no negative consequences for the patients if he or she chooses to participate, not participate or if there is an early termination of the interview/study. In addition, the interview can be terminated at any time at the request of the patient. The data from unfinished interviews will not be included in the data analysis and will be destroyed.

Nb. The addresses of the two practices:

- Practice of researcher Audrey Meier: Drievekkenweg 45, 3680 Neeroeteren
- Practice of Anneke Geerlings: Tongerlostraat 16, 3960 Bree

6. Analysis

We aim at a sample size of 20 participants. We are expecting to conduct about 12 interviews to get saturated information. We recruit 8 more people in case one of the participants decides to decline the invitation or is unable to participate in the last moment. The QUAGOL method will be used for data analysis[4]

7. Data handling and management

7.1 Data storage and management

All data will be handled with the utmost confidentiality. Everything that the respondents tell during the interview will be recorded through the use of 1 audio-recorder. No images will be made. In addition, the recorded interviews will only be listened to and typed by the researchers. Transcripts from the interviews will be completely anonymised. In the actual master thesis some fragments of the interviews would be cited in a completely anonymous. The unique code that will be given to each recording comprises out 4 different symbols. The first symbol is a letter that will refer to the person who conducted the interview. The second symbol will be a number, referring to the gender of the participant. The last two symbols are also numbers starting from 01 going up. This number will be linked to the information about the participant, which will hold this name, date of birth, phone number and mail address. During the research the sound recordings and transcripts will be stored in a secure way. The participant data will be saved in an Excel file with the name ‘patiënt informatie en codering’. It will be saved on the personal computer of Audrey Meier, which is password protected. The coded audio files will be saved on the personal computer of Anneke Geerlings, which is also password protected. Once the analysis has been done en the transcripts are ready, the audio files and the personal notes of the interviewers will be destroyed. When the study has been conducted, the transcripts and the Excel files will be handed over to the promoter for safe storage and conform the KULeuven policy, they will be kept for at least 5 years.

7.2 Declaration of Confidentiality and Careful Management of Information and Personal Data

In the framework of his / her Master's thesis, the student(s) will have access to all kinds of data, information, results and documents, including personal data which is not exclusively limited to patient data (the "Information"). In order to ensure the confidentiality of this Information and the privacy of those involved, within the framework of his / her Master's thesis the student(s) should always deal with the Information with the greatest care and discretion.

Data collected in the framework of a Master’s thesis, in particular research related to patients and including the collection and analysis of personal data, requires the utmost of care and discretion. Therefore, at all times the student must observe complete confidentiality with respect to the Information he / she has collected during the course of his / her Master’s thesis.

In performing this research, the student(s) commit(s) him/herself to the following confidentiality obligations:

- He / she accepts, during and after the completion of the Master's thesis, the obligation to strictly observe the confidentiality of the Information he / she has collected and the activities to which he / she has participated, and regarding the patients, healthy volunteers and the staff members with whom he / she comes into contact;
- He / she will only process and collect data that is relevant and necessary for his / her Master's thesis;
- He / she will not share information with persons not directly involved within the framework of his / her research;
- He / she will take all necessary steps to protect the confidentiality of Information and the privacy of those involved;
- He / she will handle with care and responsibility the Information and the access granted to him/her to information systems and digital media.

All investigators shall treat all information and data relating to the study as confidential and shall not disclose such information to third parties or use such information for any purpose other than the performance of the study. The collection, processing and disclosure of personal data, such as participants' health and medical information, is subject to compliance with applicable personal data protection legislation.

8. Of risks and Safety

The researchers of this project don't expect any safety issues. After termination of the interview, patients can always contact the researchers with their remaining questions. The email addresses will be made available on the information letter

9. Approval

Hereby we confirm that data collection is performed with approval of the head of the respective unit(s) or department(s) where data collecting is taking place

10. Publication Policy

Publications will be coordinated by the Principal Investigator. Authorship to publications will be determined in accordance with the requirements published by the International Committee of Medical Journal Editors and in accordance with the requirements of the respective journal

11. Direct access to source data and documents

The investigator(s) and the institution(s) will permit study-related monitoring, audits, ethical review and regulatory inspections (where appropriate) by providing direct access to source data.

12. References

1. Department of general practice, KU Leuven. Intego-project. [Online]. 2011 [cited 2019/02/10]; Available from: URL:http://www.intego.be
2. WIV-ISP.Gezondheidsenquête 2013. Rapport 1: gezondheid en welzijn samenvatting van de onderzoeksresultaten. https://his.wivisp.be/nl/Gedeelde%20%20documenten/summ_HS_NL_2013.pdf. (laatst geraadpleegd op 10/02/2019)
3. Cloetens, H., Declerq, T., Habraken, H., Callens, J., & Van Gastel, A. (2018). Aanpak van slaapklachten en insomnie bij volwassenen in de eerste lijn. Leuven: EBPracticenet
4. Dierckx de Casterlé B, Gastmans C, Bryon E, Denier Y. QUAGOL: A guide for qualitative data analysis. International Journal of Nursing Studies. 2012;49(3):360-71

GROEP BIOMEDISCHE WETENSCHAPPEN
HERESTRAAT 49, O&N II – BUS 700
BE-3000 LEUVEN

Ons kenmerk: MP009780
Uw kenmerk: Masterproef studie: Supporting information about the approach to sleep complaints and insomnia for adult patients in the primary care setting: where do they find this information and what do they need?
Leuven, 11-03-2019

DEFINITIEF GUNSTIG ADVIES

Geachte Mieke Vermandere
Geachte Anneke Geerlings, Audrey Meier

De Ethische Commissie Onderzoek UZ/KU Leuven verleent hierbij een gunstig advies aan de voorgestelde studie, zoals ze werd beschreven in het protocol. De Commissie is van oordeel dat er vanuit ethisch standpunt geen bezwaren zijn bij de voorgestelde studie. De studie werd goedgekeurd op 11-03-2019

De Commissie keurt de aanvraag goed. We raden aan om de koppeling van de codes met de identiteitsgegevens en de verzamelde data niet alleen op een verschillende locatie, maar wel degelijk op verschillende computers te bewaren. Wij vragen nog

Aangezien het om een Masterproefproject binnen de Groep Biomedische Wetenschappen van de KU Leuven gaat, werd de aanvraag tot de Ethische Commissie Onderzoek UZ/KU Leuven ingediend via de Onderwijs-Begeleidings-Commissie.

De Commissie heeft geen bezwaar tegen het project mits vertrouwelijke behandeling van de gegevens en naleving van de Belgische wetgeving omtrent privacy. De Ethische Commissie Onderzoek UZ KU Leuven wenst de hoofdonderzoeker/promotor van de studie te wijzen op zijn/haar verantwoordelijkheid betreft de privacy van de persoons-/patiënt-gegevens bij contact met levende personen, patiënten en/of inzage in het elektronisch medisch dossier, inclusief de correcte implementatie hiervan door medewerkers en studenten.

Dit gunstig advies betreft de indiening van 21-02-2019 en wordt gegeven voor de duur van de Masterproef van de betrokken student(en). Elke wijziging aan het protocol doet dit gunstig advies vervallen. U dient in dat geval tijdig een amendement voor advies voor te leggen aan de commissie die eerder uw dossier goedkeurde.

De Commissie bevestigt dat ze werkt in overeenstemming met de ICH-GCP principes (International Conference on Harmonization Guidelines on Good Clinical Practice), met de meest recente versie van de Verklaring van Helsinki en met de van toepassing zijnde wetten en regelgeving.

De Commissie bevestigt dat in geval van belangenconflict, de betrokken leden niet deelnemen aan de besluitvorming omtrent de studie.

Met vriendelijke groet,

Prof. dr. Minne Casteels
Voorzitter

Ethische Commissie Onderzoek UZ/KU Leuven

Prof. Dr. Pascal Borry
Voorzitter
Onderwijs-BegleidingsCommissie voor Medische Ethiek KU Leuven

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Aandachtspunten (indien van toepassing)

De Ethische Commissie UZ KU Leuven wenst de hoofdonderzoeker/promotor van de studie te wijzen op zijn/haar verantwoordelijkheid betreft de privacy van de persoons-/patiëntgegevens bij contact met de patiënt en/of inzage in het elektronisch medisch dossier, inclusief de correcte implementatie hiervan door medewerkers en studenten. Het EC verwijst naar de richtlijnen van ICH/GCP hierover op de website, en benadrukt dat een GCP-opleiding van elke hoofdonderzoeker verwacht wordt voor studies die vallen onder de Wet op Medische Experimenten. Het EC verwijst tevens naar de Belgische wetgeving (Wet van 8/12/1992 ter bescherming van de persoonlijke levenssfeer en Wet van 22/8/2002 betreffende de rechten van de patiënt), en de Algemene Verordening Gegevensbescherming (van toepassing op 25 mei 2018).

Bij gebruik van elektronisch medische gegevens is een formeel akkoord van de dienstraad vereist. De opdrachtgever is verantwoordelijk voor de conformiteit van de anderstalige documenten met de Nederlandstalige documenten.

Onderzoek op embryo's in vitro valt onder de wet van 11 mei 2003. Voor dergelijk onderzoek is er naast een positief advies van het EC Onderzoek UZ/KU Leuven ook een goedkeuring van de Federale Commissie voor medisch en wetenschappelijk onderzoek op embryo's in vitro noodzakelijk vooraleer dit onderzoeksproject kan doorgaan.

Vooraleer u dierexperimenten mag opstarten is een goedkeuring vereist van de Ethische Commissie Dierproeven (ECD). U dient zich bijgevolg aan te melden bij deze commissie voor het onderdeel met dierproeven en hun adviezen te volgen. Gelieve te noteren dat u het onderzoek pas mag starten nadat u een definitief gunstig advies van deze commissie heeft verkregen.

Onderzoek op humane kadavers vereist een goedkeuring van het Ethisch Comité voor Zorg en Begeleiding. U dient zich bijgevolg aan te melden bij deze commissie en hun adviezen te volgen. Gelieve te noteren dat u het onderzoek pas mag starten nadat u een definitief gunstig advies van deze commissie heeft verkregen

Dit gunstig advies van de Commissie houdt niet in dat zij de verantwoordelijkheid voor de geplande studie op zich neemt. U blijft hiervoor dus zelf verantwoordelijk. Bovendien dient u, als betrokken hoofdonderzoeker, erover te waken dat de resultaten van dit onderzoek, correct worden weergegeven in publicaties, rapporten voor de overheid enz.

U wordt eraan herinnerd dat bij klinische studies iedere door u waargenomen ernstige verwikkeling onmiddellijk zowel aan de opdrachtgever (desgevallend de producent) als aan het EC Onderzoek UZ/KU Leuven moet worden gemeld, ook al is het oorzakelijke verband met de studie onduidelijk.

Our reference: MP009780
Your reference: Master's thesis study: Supporting information about the approach to sleep complaints and insomnia for adult patients in the primary care setting: where do they find this information and what do they need?
Leuven, 11-03-2019

DEFINITIVE FAVOURABLE ADVICE

Dear Mieke Vermandere
Dear Anneke Geerlings, Audrey Meier

The Research Ethics Committee UZ/KU Leuven hereby grants favourable advice to the proposed study, as it was described in the protocol. The Commission is of the opinion that from an ethical standpoint there are no objections to the proposed study. The study was approved on 11-03-2019

De Commissie keurt de aanvraag goed. We raden aan om de koppeling van de codes met de identiteitsgegevens en de verzamelde data niet alleen op een verschillende locatie, maar wel degelijk op verschillende computers te bewaren.
Wij vragen nog

Given that the study takes the form of a Master's thesis within the Group Biomedical Science, the application to the Research Ethics Committee UZ/KU Leuven was submitted to the Educational-Support Committee.

The Committee has no objection to the project on the basis of confidential treatment of the data and compliance with the Belgian legislation concerning privacy. The Research Ethics Committee UZ/KU Leuven wishes for the head researcher / promoter of the study to be aware of their responsibilities with regard to the privacy of personal / patient details, when in contact with living persons, patients, and / or contained within electronic medical records, including the correct implementation by employees and students.

This favourable advice concerns the submission of 21-02-2019 and is given for the duration of the Master's thesis of the student(s) concerned. Any amendment to the protocol will invalidate this favourable advice. In that case, you must submit an amendment for advice to the committee that previously approved your file.

The Committee confirms that they work in accordance with the ICH-GCP principles (International Conference on Harmonisation Guidelines on Good Clinical Practice), with the most recent version of the Helsinki Declaration, and with applicable laws and regulations.

The Committee confirms that in case of a conflict of interest, the members concerned have not participated in decision regarding the study.

Kind regards,

Prof dr. Minne Casteels
President / Chairperson
Research Ethics Committee UZ/KU Leuven

Prof. Dr. Pascal Borry
President / Chairperson
Education-Support Committee for Medical Ethics KU Leuven

Points of Interests (if applicable)

The Research Ethics Committee UZ/KU Leuven wishes for the head researcher / promoter of the study to be aware of their responsibilities with regard to the privacy of personal / patient details, when in contact with living persons, patients, and / or contained within electronic medical records, including the correct implementation by employees and students. The Ethics Committee refers to the guidelines of the ICH/GCP here on the website, and emphasises that GCP-training is expected from every head-researcher for studies that come under the Law on Medical Experimentation. The Ethics Committee refers at the same time to the Belgian legislation (Law from 8/12/1992 for the protection of personal privacy and Law from 22/8/2002 regarding the rights of the patient), and the General Data Protection Regulation (which comes into effect on May 25th 2018).

For use of electronic medical data, a formal agreement from the clinical board is required. The study promotor is responsible for the conformity of foreign language documents with the Dutch language version.

In vitro research on embryos comes under the Law of 11 May 2003. For such research, besides positive approval from the Ethics Committee, approval by the Federal Committee for Medical and Scientific Research on Embryos In Vitro is also necessary before a project can commence.

Before you may commence animal experimentation, approval is required from the Animal Ethics Committee. You must register with this committee for the animal testing component and follow their advice. Please note that you may start the investigation only after you have obtained a definitive favourable opinion from this committee.

Research on human cadavers requires approval of the Care and Support Ethics Committee. You must therefore register with this committee and follow their advice. Please note that you may start the investigation only after you have obtained a definitive favourable opinion from this committee.

This favourable opinion from the Commission does not mean that it takes responsibility for the planned study. You remain responsible for this yourself. In addition, as the principal investigator, you must ensure that the results of this research are correctly displayed in publications, reports for the government, etc.

You are reminded that any serious complication you observe must be reported immediately to both the study promotor (if applicable, the producer) and the Ethics Committee, even if the causal link with the study is unclear.

Appendix 5: Mapping table

No	Code description
1	Internet
2	Expectations
3	Definitie
4	Ontstaan /oorzaak
5	Behandeling
6	Online zelftest
7	Zoekresultaat oorzaak
8	Zoekresultaat stress
9	Zoekresultaat Schermtijd
10	Zoekresultaat Ontspannen
11	Zoekresultaat Bewegen
12	Zoekresultaat Slaapkamer Hygiëne
13	Zoekresultaat Ritme
14	Zoekresultaat Voeding
15	Medicatie
16	'Dingen die je eigenlijk al weet'
17	Voordeel internet als bron: Gemakkelijk
18	Voordeel internet als bron: Toepasbaarheid
19	Nadeel internet als bron: Overdadige informatie
20	Nadeel internet als bron: Toepasbaarheid
21	Nadeel internet als bron: Betrouwbaarheid
22	Nadeel internet als bron: Relativeren, onzekerheid
23	Huisarts als informatiebron
24	Huisarts als informatiebron: Informatie over oorzaak
25	Informatie over oorzaak: Multifactorieel
26	Huisarts als informatiebron: Advies over behandeling
27	Arts beslist zonder samenspraak
28	Patient shared decision making
29	Huisarts als informatiebron: Aanbieden behandelingsopties
30	Aanbieden behandelingsopties door HA: Medicatie
31	Aanbieden behandelingsopties door HA Melatonine
32	Aanbieden behandelingsopties door HA gebruik GM
33	Aanbieden behandelingsopties door HA Psycholoog
34	Aanbieden behandelingsopties door HA: Tips slaapproblemen
35	Tips slaapproblemen door HA: Schermtijd
36	Tips slaapproblemen door HA: Ontspannen
37	Tips slaapproblemen door HA: Bewegen
38	Tips slaapproblemen door HA: Slaaphygiëne tips
39	Tips slaapproblemen door HA: Ritme
40	Tips slaapproblemen door HA: Voeding
41	Tips slaapproblemen door HA: Positief denken
42	Aanbieden behandelingsopties door huisarts: Praatgroep
43	Aanbieden behandelingsopties door huisarts: 2 sporen beleid
44	Voordeel huisarts als informatiebron: Interactief
45	Voordeel huisarts als informatiebron: persoonlijk
46	Psycholoog
47	Psycholoog: Luisterend oor
48	Psycholoog: Aanleren technieken
49	Psycholoog: Evaluatie technieken
50	Psycholoog: Relativeren
51	Psycholoog: Opvolging
52	Bijsluiter medicatie
53	Bijsluiter medicatie Bijwerkingen
54	Bijwerkingen: Verslavend karakter
55	Bijsluiter medicatie: Medicatiegebruik
56	Praatgroep
57	Nadeel praatgroep als bron: Focus op negatieve
58	Nadeel praatgroep als bron: Minder geschikt voor introverten
59	Reclame
60	Persoonlijke kring
61	Persoonlijke kring: Tips
62	Tips: Voeding
63	Tips:Beweegtherapie

No	Code description
64	Tips:Ontspannen
65	Tips:medicatie
66	Persoonlijke kring: Motivering tot hulp zoeken
67	Voordeel persoonlijke kring als bron: Ervaringen delen
68	Voordeel persoonlijke kring als bron: Taboe doorbreken
69	Nadeel persoonlijke kring als bron: Toepasbaarheid
70	Eigen ervaring
71	Eigen ervaring: Oorzaak zoeken
72	Eigen ervaring: Oplossing zoeken
73	Slaapkliniek
74	Apotheek
75	Apotheek advies: Alternatieve medicatie
76	Apotheek advies: geneesmiddelengebruik
77	Kinesist
78	Infomoment
79	Neerschrijven
80	Toepasbaarheid nagaan
81	Reflecteren
82	Geleidelijk
83	Betrouwbaarheid tekst: Recensies bekijken internetbronnen
84	Betrouwbaarheid tekst: Persoonlijke inschatting
85	Betrouwbaarheid tekst: Eerdere positieve ervaringen
86	Betrouwbaarheid tekst: Herhalende informatie
87	Betrouwbaarheid verhoogt als door professional
88	Toegepaste informatie: Slaapkamer Hygiëne
89	Toegepaste informatie: Ritme
90	Toegepaste informatie: Schermtijd
91	Toegepaste informatie: Voeding
92	Toegepaste informatie: Ontspannen
93	Toegepaste informatie: Bewegen
94	Toegepaste informatie: Positieve mindset
95	Toegepaste informatie: Medicatie
96	Medicatie: benzodiazepine
97	Medicatie: Antidepressiva
98	Placebo-effect
99	Nadelen medicatie: Hangover
100	Nadelen medicatie Controle verlies
101	Nadelen medicatie: Afhankelijkheid
102	Nadelen medicatie: Schrik voor afhankelijkheid
103	Voordelen medicatie
104	Voordelen medicatie: Afname piekeren
105	Voordelen medicatie: Toename slaap
106	Voordelen medicatie: Cyclus doorbreken
107	Voordelen medicatie: Beter voelen overdag
108	Voordelen medicatie: Gemakkelijk
109	Voordelen medicatie: Plichtsbewust
110	Voordelen medicatie: Pilmoeheid
111	Voordelen medicatie: Helpt ook voor andere klachten
112	Alternatieve medicatie
113	Alternatieve medicatie Voordelen
114	Alternatieve medicatie Voordelen: Cyclus doorbreken
115	Alternatieve medicatie Voordelen: Helpt voor piekeren
116	Stap naar psycholoog
117	Stap naar psycholoog: Niet t.g.v. (eerdere) negatieve ervaring
118	Stap naar psycholoog: Niet t.g.v. karaktertrek
119	Stap naar psycholoog: Niet - hoe kan dit helpen?
120	Stap naar psycholoog: Wel t.g.v. (eerdere) positieve ervaring
121	Positieve ervaring psycholoog: Rust zoeken
122	Positieve ervaring psycholoog: Omgaan met piekeren
123	Moeilijkheden toepassen (tips): volhouden
124	Moeilijkheden toepassen (tips): FOMO
125	Moeilijkheden toepassen (tips): Niet tot rust kunnen komen
126	Moeilijkheden toepassen (tips): Werken niet altijd
127	Moeilijkheden toepassen (tips): Tijdelijk
128	Moeilijkheden toepassen (tips): Kosten-baten
129	Moeilijkheden toepassen (tips): Toepasbaarheid

No	Code description
130	Moeilijkheden toepassen (tips): Vrijblijvend
131	Moeilijkheden toepassen (tips): Niet oorzakelijk
132	Moeilijkheden toepassen (tips): balans gezonde & ongezonde stress
133	Informatie bespreking: Met niemand
134	Informatie bespreking: Vrienden
135	Informatie bespreking: Familie
136	Informatie bespreking: Met arts
137	Informatie bespreking: Met collega's
138	Drempel om er iets aan te doen: Impact QOL
139	Drempel om er iets aan te doen: Langdurig probleem
140	Drempel om er iets aan te doen: Bij onvoldoende verbetering met tips
141	Drempel om er iets aan te doen: Positieve ervaring omgeving
142	Drempel om er iets aan te doen: Doemdenken
143	Drempel om er iets aan te doen: Vermoeidheid
144	Drempel om er iets aan te doen: Taboe doorbreken
145	Informatie Op de Belgische context toepasbaar
146	dingen die je eigenlijk al weet
147	Ontstaan slaapproblemen: Koppeling naar oplossing
148	Ontstaan slaapproblemen: Oorzaken
149	Ontstaan slaapproblemen: Multifactorieel
150	Ontstaan slaapproblemen: Rol van stress
151	Ontstaan slaapproblemen: Rol van piekeren
152	Ontstaan slaapproblemen: Interindividuele variatie
153	Ontstaan slaapproblemen: Recidiverend karakter
154	Ontstaan slaapproblemen: Slepend karakter
155	Ontstaan slaapproblemen: Verstoring biologisch ritme van de mens
156	Ontstaan slaapproblemen: Verschil t/s diepe & oppervlakkige slaap
157	Ontstaan slaapproblemen: Verschil t/s fysieke & psychische vermoeidheid
158	Ontstaan slaapproblemen:
159	Behandelingsopties: oorzakelijk
160	Behandelingsopties: Eerst zelf proberen
161	Behandelingsopties -Medicatie: Geen informatie wensen
162	Medicatie: Wel informatie wensen
163	Medicatie: Informatie indien arts dit nodig acht
164	Informatie rond slaapmedicatie: Soorten
165	Informatie rond slaapmedicatie: werking
166	Informatie rond slaapmedicatie: Geneesmiddelgebruik
167	Informatie rond slaapmedicatie: Bijwerkingen
168	Bijwerkingen slaapmedicatie: Verslavend
169	Bijwerkingen slaapmedicatie: Ontwenningsverschijnselen
170	Bijwerkingen slaapmedicatie: Hangover
171	Bijwerkingen slaapmedicatie: Nocebo-effect
172	Informatie over stop medicatie
173	Medicatie: Tijdelijk hulpmiddel
174	Alternatieven slaapmedicatie
175	Alternatieven slaapmedicatie: Veilig
176	Alternatieven slaapmedicatie: Werking
177	Alternatieven slaapmedicatie: Placebo-effect
178	Alternatieven slaapmedicatie: samenstelling medicijn
179	Niet-medicamenteuze behandeling
180	Niet-medicamenteuze behandeling: Beweegtherapie
181	Niet-medicamenteuze behandeling: Slaaphygiëne tips
182	Niet-medicamenteuze behandeling: Ontspannen
183	Niet-medicamenteuze behandeling: Gezonde levensstijl
184	Gezonde levensstijl: Voeding
185	Gezonde levensstijl: Gewicht optimaliseren
186	Niet-medicamenteuze behandeling: Schermtijd
187	Niet-medicamenteuze behandeling: Psychologische begeleiding
188	Psycholoog: Leren luisteren naar lichaam
189	Psycholoog: Aanpakken van vermijdbare stressoren
190	Psycholoog: Omgaan met onvermijdbare stressoren
191	Psycholoog: Positieve mindset
192	Psycholoog: Kadering door huisarts
193	Niet-medicamenteuze behandeling: Slaapcoach
194	Niet-medicamenteuze behandeling: Praktisch
195	Niet-medicamenteuze behandeling: Geruststelling

No	Code description
196	Opvolging
197	Evidence based behandelingen
198	Persoonlijke kring
199	Internet
200	Internet: Informatie moet gefilterd zijn
201	Internet: Niet meteen naar medicatie verwijzen
202	Internet: Beknopt
203	Internet: Mensentaal
204	Internet: Vlot leesbaar
205	Internet: snel
206	Internet: makkelijk
207	Internet: beschikbaar
208	Internet: Vlot leesbaar niet betrouwbaar
209	Applicatie
210	Applicatie: beschikbaar
211	Applicatie: Motiverend
212	Applicatie: persoonlijk
213	Applicatie: gemakkelijk
214	Applicatie: Mogelijkheid tot opslaan registraties
215	Applicatie: koppeling van opdrachten aan registraties
216	Applicatie: interactief met app
217	Applicatie: interactief met andere gebruikers
218	Applicatie: Uniek
219	Applicatie: Gratis
220	Mail
221	Mail: Beschikbaar
222	Mail: Persoonlijk
223	Mail: Drempelverlagend
224	Mail: Interactief
225	Geen voorkeur voor brochure
226	Geen voorkeur voor brochure: Algemeen
227	Geen voorkeur voor brochure: Beschikbaarheid
228	Geen voorkeur voor brochure: Onpersoonlijk
229	Geen voorkeur voor brochure: Zelfdiscipline , tijdintensief
230	Geen voorkeur voor brochure: niet interactief
231	Brochure: Mogelijke ondersteuning
232	Gesprek arts
233	Gesprek arts: Vertrouwensband
234	Gesprek arts Laagdrempelig
235	Gesprek arts Sociaal contact
236	Gesprek arts Toegepast
237	Gesprek arts interactief
238	Gesprek arts Patient shared decision making
239	Gesprek arts Arts volledige eindverantwoordelijkheid
240	Gesprek arts Voldoende tijd
241	Gesprek arts – opvolging: Verantwoordelijkheid bij arts
242	Gesprek arts – opvolging Verantwoordelijkheid bij patiënt
243	Gesprek arts Efficiënt
244	Gesprek arts Mensentaal
245	Gesprek arts Tijdsintensief
246	Boek
247	Boek: Klik
248	Boek: Waargebeurde verhalen
249	Boek: Ouderwets
250	Boek: Slechte beschikbaarheid
251	Social media
252	Social media: Ervaringen delen
253	Social media Toepasbaar
254	Social media Controle
255	Social media Twijfelachtig over betrouwbaarheid
256	Social media Privacy
257	Algemeen infomoment
258	Algemeen infomoment: Interactief
259	Algemeen infomoment: Groepsgevoel
260	Algemeen infomoment: Vrijblijvend
261	Vormgeving algemeen: Gebruik van afbeeldingen indien relevant

No	Code description
262	Vormgeving algemeen: Neutraal uitzicht
263	Vormgeving algemeen: Overzichtelijk
264	Vormgeving algemeen: Aantrekkelijk
265	Vormgeving algemeen: Handig
266	Vormgeving algemeen: Medische termen
267	Vormgeving algemeen: Mensentaal
268	Verspreiding informatie: Afhankelijk van duur slaapprobleem
269	Verspreiding informatie: Via arts
270	Verspreiding informatie: Via Reclame/poster
271	Via Reclame/poster: Nieuwsgierigheid aanwakkeren
272	Via Reclame/poster: Kortdurend effect
273	Verspreiding informatie: Reclame op TV/radio
274	Best op moment dat veel mensen kijken/luisteren
275	Na informatief programma
276	Verspreiding informatie: Campagne FOD gezondheid
277	Campagne FOD gezondheid: Niet geïndividualiseerd
278	Campagne FOD gezondheid :Persoonlijk aangeschreven
279	Verspreiding informatie: Via omgeving
280	Verspreiding informatie: Gezondheidsgerelateerde plaatsen
281	Gezondheidsgerelateerde plaatsen: Apotheek
282	Gezondheidsgerelateerde plaatsen: Kind en Gezin
283	Verspreiding informatie: Sociale media
284	Verspreiding informatie: Via dagbladen
285	Verspreiding informatie: Appstore
286	Tijdsbesteding
287	Tijdsbesteding: Informatie opzoeken
288	Tijdsbesteding: Informatie toepassen