Supporting information about the approach to sleep complaints and insomnia for adult patients in the primary care setting: what are their needs concerning this information and how do they want to receive it? A qualitative research project

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Abstract

Supporting information about the treatment of sleep disorders and insomnia for adult patients in primary care: what are their needs concerning this information and how do they want to receive 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 what the patient's view is on information concerning sleeping disorders and in which form it is best made available.

Research question: This study examines which information patients want to receive about sleeping problems and how they want to receive it.

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 (GP).

Results: 12 semi-structured interviews were conducted to learn which information patients wanted to receive about sleep problems and how they wanted to receive it. Participants only wanted information about the origin if it would help them solve their sleeping problem. It had to be emphasized that a sleeping disorder could be multifactorial. A non-drug approach was preferred. Information about drug therapy was best viewed per patient. Although cognitive behavioural therapy for insomnia is preferred in the literature, this was often not the case with the participants. This was probably because participants did not know what it included. Participants preferred to receive the information via an app, an internet site or their GP. Information had to be clear, understandable and applicable.

Conclusion: More attention should be paid to the use of cognitive behavioural therapy for the treatment of insomnia, not only for patients but also for physicians. Doctors should pay more attention to the information the patient wants to receive. An internet site or app is best proposed by a health care professional to guide the patient to the correct information.

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.

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

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

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

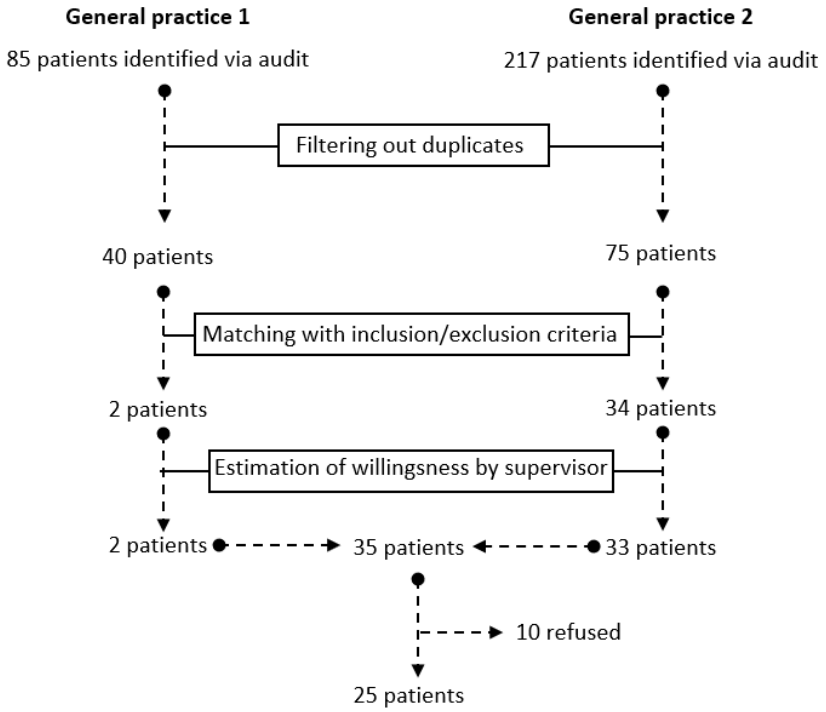
The study was conducted on participants between the ages of 18 and 65 who are mentally competent and able to understand and speak the Dutch language. Participants needed to have a history of sleeping problems or insomnia existing for longer than four weeks (as it is chronic according to the International 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 apnoea 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 patients desire

Information concerning the emergence of sleeping disorders

When asked what patients wanted to know about sleeping problems, the majority answered with 'things you already know'. They clarified this as tips and information they could apply, such as limiting screen time and relaxing before bed. Reading this information would give them a sense that they were on the right track.

> “The tips concerning reducing screen time, you actually know them... But then, yes, you realize once again that we use our electronic devices a lot. Like just before I fall asleep, I tell myself ‘Wait just one quick look at my cell phone to see if a message has come in’. My mobile phone is also my alarm and then sometimes I start to doubt whether I have set my alarm or not and again have a quick look on my cell phone. You know that all these things do not ensure a good night's sleep. But when you read them you get faced with the facts again, with how much you are doing it.” (Patient 7)

A lot of participants desire information about sleeping disorders that is directly linked to a solution. However, the interviewees realized that to receive useful information to treat their insomnia, the participants first needed to have an understanding of the possible causes of sleeping problems.

> “Actually… I would rather like to know how you solve them. But okay, to solve them you also need to know how they arise.” (Patient 5)

A few also emphasized the aspect that the cause of sleeping disorders can be multifactorial. The role of stress and worry was considered important for many of the participants. Citing inter-individual variation is another key aspect. Information about the different sleep phases and the importance of each is considered to be of value. Some want to gain more understanding about the biological rhythm and how it can be disrupted. The difference between physical and mental fatigue is also important to mention.

> “I wonder how sleeping problems actually arise and why there is so much difference between people. Is it perhaps that certain people just keep going over things in their heads? Or are other things involved? Like my husband, he just has to hit his pillow and he’s gone. He also never dreams. I sometimes think, "How blissful would that be?" Is it perhaps that I just have too much to worry about or… I don’t know.” (Patient 2)

Sleeping problems may recur. Moreover it’s often a lingering problem that cannot be solved in one day and this should be made clear to patients. A general statement that was cited was that information must be applicable to the Belgian population at all times. Others were also interested in the consequences of insomnia.

> “People need to know that if they’ve had a sleep problem, it can always reappear. I think that is also interesting to mention.” (Patient 3)

> “I don’t like information that comes from Dutch pages with ‘dot NL’. I mean, I am a Belgian citizen and I would like information from our country.” (Patient 7)

Information concerning the treatment options

Above all, participants agree that they should try to manage the problem by themselves before consulting a healthcare professional. They think it is important to look up information and apply it first. Participants prefer a causal treatment. Almost everyone believes that the treatment options should, above all, be practical and feasible. Patients should be reassured by their healthcare professional that it concerns a temporary and non-lethal problem.

> “First try to figure out why you got a sleeping problem. And then yes, uhm, try to apply things that you know yourself, like going to sleep on time and stuff like that. If it doesn’t get better, you need your GP or do something else.” (Patient 8)

> “Yes, it often happens that you worry about something 'innocent'. Like, yes, I did suffer from palpitations for a while. I know it is not something serious but after a while it started to bother me and I got scared. I went to see my doctor and he reassured me. I was reassured and it passed. I think it’s the same for sleeping problems.” (Patient 7)

There are different opinions about whether or not to receive information about a drug treatment for sleeping problems. A few interviewees don’t want to receive any information about drug therapy. Other participants desire to get a full picture about treatment options and want to get information about sleeping medications. Most participants prefer that the doctor decides whether or not to provide information about drug treatment, if necessary for them. The addictive nature and possibility of withdrawal symptoms upon stopping is something that definitely has to be mentioned. Bringing up the potentially addictive character in advance is considered very important, as well as the possibility to have a hangover the morning after taking a sleeping pill. Mentioning withdrawal symptoms that can be expected after long-term intake was also considered to be of value by one participant. Some think it is important to emphasize the temporary support effect of a sleeping pill. On the other hand, there is a participant who believes that side effects should not be told to people because of the occurrence of the nocebo effect.

> “For me, it was mainly knowing the withdrawal symptoms and how it would affect me in the long term. Like, yeah, are you going to notice that you get addicted? Is it going to be something that you always have to keep taking? I think those were the first things I asked when they suggested to take sleep medication. So, I definitely want them to tell you these things when they advise a sleeping pill.” (Patient 3)

Alternative medication, such as sleep teas and melatonin, is something worth mentioning. Participants feel safer with this option than with actual medication. It is important that the composition of the medication is listed on the packaging.

> “I'd rather not get any medication suggestions… I'd rather drink an herbal tea or something like that if it would help me. I’d prefer something on a herbal basis or something natural if that would already exist” (Patient 1)

Most of the participants believe that the non-drug tips should be explained and tried out. The opportunity to take part in sports and keep fit is a recommendation which interviewees attach great value to. Bedroom hygiene tips should also be mentioned, even though for most these are only considered as supportive measures. Finding ways to relax and learning to free your mind from worry is another treatment option that needs to be addressed in more depth. Other suggestions are trying to strive for a healthy lifestyle and avoidance of being overweight. So attention must be given to creating healthy eating and drinking habits. Another aspect is to reduce screen time in the evening.

> “I don't know if this will be a good answer, but teach yourself to sleep with positive thoughts. At least half an hour before you to bed, you need to clear your head. I think that's very important and this is a problem for many people. For myself this is still a working point, I often worry at night. Like many women, I get up in the morning and start working and then prepare the food. In bed I often think 'what would I prepare tomorrow?' or I still have to go to the store but 'what should I bring?'. Before I go to sleep I make a schedule like ‘Oh yes, tomorrow I have to do this and

that.…' I would find it very important that useful tips could be given to clear your head. That way, you can actually go to sleep peacefully without the use of medication." (Patient 2)

Psychological support is also mentioned by a lot of the participants. On the one hand, one can look for how certain stressors can be avoided. On the other hand, one must find a way to learn how to cope with unavoidable stressors. Participants cite that it is of great importance to learn to notice signals from your body and dare to listen to them. Obtaining a positive mindset will also have an advantage in solving sleep problems. Psychological treatment should be addressed by the GP because of the taboo that still resides. Consulting a sleep coach was also mentioned as a possible alternative.

"What sometimes also helps in handling sleeping problems, as in my case, was referring to someone to talk. Because, yeah, sometimes you're not feeling like yourself or you have some relationship problems or some other stuff at work or who knows… this can also affect your sleeping problems. Yes, I think that psychological counselling can help for these problems." (Patient 4)

"I definitely think that psychological counselling should be mentioned. However, I think many people will act surly when they hear "a conversation with the psychologist". I think that if the doctor properly explains this option, people will be more open to this option. I also think that the younger generation is more okay with going to a psychologist. If the doctor invests in explaining this option well, then I think more people will go." (Patient 5)

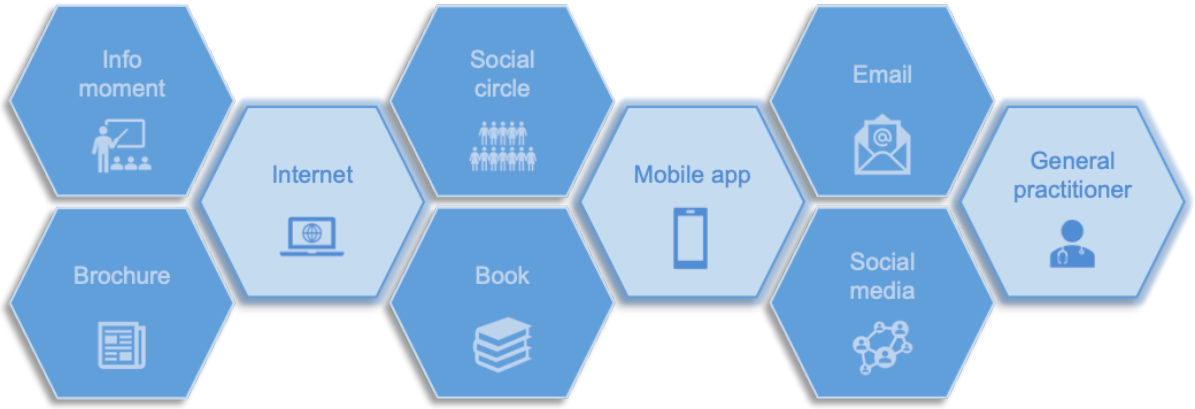
Follow-up is another concept that several participants have mentioned. Some said that they need this as some sort of extra motivation whereby a re-evaluation can take place. "Yes, maybe there is need for a follow-up. I think that would actually be a very good thing. We agree on a term and try out a few things first. Of course not too short of a term, you also need to have time to fit it into your schedule and daily routine." (Patient 5)

Receiving the information

Sources for obtaining information concerning sleeping disorders

Our participants mentioned a number of sources in which they preferred to receive information concerning sleeping disorder or insomnia (Figure 2: overview of receiving information sources).

Figure 2: overview of receiving information sources



Sleeping problems are often first mentioned in the social circle of the participants. This topic of conversation can easily be discussed with their confidential advisers.

> "Nobody knows that you have a sleeping problem if you don't bring it up yourself. So yeah, you start talking about it and with who do you start… well, you start with your loved ones first, with your neighbours and also with friends." (Patient 11)

The internet is also a major source. The information should be filtered so only correct information is displayed. It is expected that a healthcare provider, as a reliable source preferably, provides the information. Sites shouldn't immediately refer to medication and give sufficient reassurance. Information has to be structured and short. Medical terms are allowed, but they need to be properly explained. The internet is ubiquitous, increasing the availability of information on sleep problems. A few find this disadvantageous, as it is difficult to check who is the source of information on the internet, which in turn reduces reliability. This is the main reason why some participants don't prefer the internet as a primary source.

> "You are experiencing the problem that evening or that night. The next day you will start working again. You also have your children and your household to worry about. And then, unfortunately, that evening comes back. Yes… you already feel a bit hopeless. So, yeah, you will take a quick look at the internet about what you can do about your sleeping problem. It's easy and fast." (Patient 7)

Another way to receive information about sleeping disorders is in the form of an application. The availability of such an application at all times appeals to many participants. It is impossible to imagine today's society without using electronics such as mobile phones, tablets and computers several times a day. Some find it motivating when they have such a tool in order to prove and evaluate them. An application could respond to the lives of the participants. Ideally, the app tries to record certain life habits and then gives tips to improve sleep quality. Certain participants also want an interactive part to be linked to the application. An app should be unique and distinguish itself from other pre-existing health applications. If possible, the app should also be free of charge.

> "Developing an application would be great, nowadays everyone is busy with their cell phone. So yes, you can use the app anyplace, anytime. Like when I'm on the toilet, I do a lot there, like checking my emails. So I will definitely make time to check an app. I also think that when there's an app, you would want to proof to yourself how many steps you have taken, how often you have been standing up and did some exercise and how good you've slept. Also, another advantage is that the app is mine. Nobody necessarily needs to know about it and nobody sees it, unless I want him or her to. Not that I'm ashamed of my sleeping disorder, but I can control it myself." (Patient 12)

Information about sleep disorders could also be obtained by email. It has similar advantages to the internet and an application. It's easy to use, always available and personal. Many would store such an email in their account and then retrieve it when they need it. Others would also like to have the possibility of sending questions, whereby a professional could formulate a fitting response.

> "If you get an email and you're able to save it, you could come back to it. Then you can consult it again if you need it. Of course you can always delete the email, but yeah…" (Patient 4)

The use of a brochure or a book is considered the least appealing form of getting information. Participants find the information too general and often not applicable to their situation. Almost all interviewees believed that a brochure or a book is more difficult to use, because it's a physical paper that is easily thrown away or it can't be found when needed. Reading a brochure is considered time-consuming and it takes a lot of self-discipline for some. There is also no option to ask questions. Despite these disadvantages there are a few participants who don't mind getting a brochure from their doctor. Some do think it can be used as supportive information when consulting a healthcare professional. When reading a book, they prefer to read true stories from which tips can be drawn from the experiences of others. Having a certain good vibe within the first pages of a book is of importance to continue reading it. However, most interviewees find reading a book out-dated.

> "Look, I empty the letterbox, there is like an enormous pile of mail. I take off the plastic and look at the letters in my name or my wife's name and everything else that is not addressed I throw away. I think 90% of the people, at least 90% of the day, have their mobile phone in hand. But I don't think 5% of the day people have a folder in their hands." (Patient 12)

> "I would have liked to read, but I couldn't find the right books. I need to have a positive vibe with the story. I stop reading if don't get that by page three or four. I wanted a book that told the experiences of others with sleeping disorders. Then I could read and reflect if there were advices and things that I could apply to my own situation. But I did not find that in the library." (Patient 1)

A consultation with the GP is also an optional information source. Some think it should be used when the previously mentioned sources don't suffice. Others think it should be the main source of information. A conversation with your GP is very approachable. The relationship of trust that exists between the patient and the GP is regarded as something very valuable. The information should be efficient and understandable. Another mentioned advantage is that for most the received information will be more personally applicable because the GP can take into account their personal situation. The upside of a conversation is that there's social interaction and patients are able to ask questions. Enough time should be provided. Some participants believe the GP should take all responsibility in deciding which treatment would be best, others like it when their opinion is asked on the matter. Some participants want the doctor to stay informed about their insomnia and address them about this during follow-up visits. Others believe that the responsibility for follow-up should lay with the patient.

> "You know, when I go to the osteopath, for example, he opens up my file and he sees what I was treated for last time. Then he often makes a remark about it, to check how the treatment had an effect. I think it would be great if my GP would also do that. Like when he opens up his computer and then quickly checks before every patient why he or she consulted him the last time and picks up on it… Well, it's not necessary for bronchitis or a cold, of course. But if it is for a sleeping problem, I think it is a good idea, yes." (Patient 4)

Social media can be used to exchange information on sleeping disorders. An advantage of this source is sharing experiences with others and reading about them in order to gain more insight in their own personal sleeping troubles. Interviewees are interested in certain groups on social media that connect people with similar problems. Participants like to control what they want to read, follow and decide to post on social media about their own personal situation. Some asked themselves questions

about the reliability of the information provided by others. In addition, there were also concerns about the privacy when enlisted on social media.

> "On Facebook you have groups where people come together with the same problem. You can join such groups. If someone posts something, you can choose to reply on it when it's interesting to you. You also have the possibility to chat in private with a member of the group and give more detailed information, for example. So, this way you don't have to tell everything to everyone if you don't want that. I think that is actually quite nice." (Patient 1)

Some participants think a general information moment could be beneficial. People would have the option to ask questions and would be more likely to attend this than to have a one-on-one conversation with a healthcare professional.

> "An information evening is also nice. You know, from experience I am, like, when you read something, you've read that okay. But I think that if you hear something and get examples, then it sticks better." (Patient 3)

> "I once went to an info night about insomnia. I got some practical tips there. It was a one-off lecture by a psychologist who was specialized in sleeping problems. I find that slightly more non-committal than a one-on-one with a psychologist. So I prefer this option." (Patient 11)

General design of information

The design of the written information sources should be simple, structured, neutral and clear. Pictures can be used, but they should be relevant, according to the participants. Layout should be handy and visually attractive. Medical terms can be used, but preferably have to be explained. Information has to be understandable for the general public.

> "Everyone finds a simple page more interesting than a page that you have to click on continuously. For example like 'click for next' and 'click again'. Like those pages on Wikipedia, that is so annoying. When I look something up, I don't want all those things to come one under the other and that I have to click on it for further information. I think that people want a good overview of their problem." (Patient 7)

> "And, umh, yes in human language, not too medical. I think something like that. So that a farmer can also read it, so to speak. ." (Patient 10)

The spreading of information

The GP is seen as a key figure in this. Using a poster as an advertising tool can also be enough to spark curiosity, but many believe that this will only have a short-lived effect. Commercials on TV or the radio are another mentioned way of spreading information concerning sleeping disorders. However, these commercials should take place at a time that a lot of people watch television, for example after the news broadcast. A campaign organised by the federal government is also a way of disseminating information, though some find this not an attractive way because it is not individualised. The personal circle of people, as mentioned before, is often the first source people contact to talk about their health problems and is also considered as an accessible source to distribute information. Other ways to spread information about insomnia is through healthcare related places, such as the pharmacy but also through the daily newspaper and the app store.

> "Well, those posters and commercials ... I think that those things are kind of like snapshots. You see such a poster and then you're in your head like 'Oh yeah, that's interesting' and then when you walk out the door, it is already gone." (Patient 11)

> "The distribution of information can be in places where people have to come regularly, like your GP, or the consultation centres of '*Kind en Gezin'*. Places where people actually go automatically once or twice a year." (Patient 2)

> "When you see how many people over 70 are on Facebook and are chatting with their grandchildren, then I think that's a much easier way to distribute information than a regular newspaper ad." (Patient 11)

Time commitment

Participants mainly want to invest time in solving their sleeping problem. Some said that they had little sense of time once they started looking up information about sleep problems. This also depended on whether they found the information interesting enough. Others said they wanted the information to stick in their head and that they could process and reflect on the information. The time taken to apply the acquired information for sleeping problems varied from five minutes to half an hour per day.

> "Well, if I'm really into something, then I'll make time for that. Uhm, and then it's not something I'd spread over a few days. No, then I will stick around and I will really look further, so I can spend a few hours on it. If I have to, I'll do it for a few days in a row. Usually, you will have found the information you need. Yeah, you know how it is on the internet. You are looking for something and you roll from one thing to the other. Before you know it, you will be working on it for half an hour or even more." (Patient 6)

> So I learned that I need a fixed sleep rhythm. I would like to spend half an hour or so on my sleep issues each day. So if you really say 'I am going to sleep at 11 pm', then you can start with tips from 10.30 pm. Like for me, I would read something that makes me very positive so I don't need medication." (Patient 2)

4 Discussion

Summary of results and comparison of literature

The first aim of this study was to find out what patients' needs are regarding the information on sleeping disorders. Patients liked to know what they could do themselves about the sleeping problem first. This included tips, preferably with a causal solution. Information on the causes should be linked to the treatment. Drug treatment should be mentioned when the doctor finds it necessary. Psychological assistance was preferably proposed by the GP.

No qualitative research has been done on the information patients need when suffering from a sleeping disorder. Studies have been conducted regarding the information need, but they mostly focus on patients with cancer (39, 40). These patients mostly require information on the disease itself (nature, influencing factors) and the prognosis. Their first source is often a health care worker. If information is not sufficient, they consult a secondary source such as the internet (39, 40). Comparative studies on educational material for insomnia were not found. Trials with the use of

cognitive behavioural therapy for insomnia (CBT-I) have been conducted, but didn't specify the content of their used materials and focused on the treatment part (41, 42). However, CBT-I is recommended as the first-line treatment for sleeping problems (43-45). The sleeping hygiene tips most participants talked about are actually a part of this treatment. Participants often described going to a psychologist as a good treatment option but not for themselves, because they didn't see the added value of it. Participants did not really know what cognitive behavioural therapy entailed. They think going to a psychologist is merely to talk about your problems. A possible alternative option suggested by the researchers could be an internet-delivered CBT, which could be a more approachable solution. It has been proven to be a useful strategy due to the increased convenience and accessibility of this treatment intervention (46-49). Other studies suggest brief behavioural treatment (50, 51). The treatment consists of four sessions, which can be conducted via telephone and don't require an extensive psychological education. This treatment option is also less time-consuming and cheaper for the patient. It may avoid some of the perceived stigma associated with psychological treatments (50, 51). Our participants mentioned the still on-going taboo concerning mental health issues.

Furthermore, we noticed that participants didn't always get the information they wanted from their GP. Multiple studies show that healthcare workers aren't always up-to-date on the possible treatment options and are prone to under-recognize the problem (52, 53). A lot of doctors still tend to use sleeping medication as the main therapy; this idea also resides with our participants (54-57). This can be explained by the fact that healthcare workers don't get enough education on the treatment of insomnia (58).

Participants showed interest in alternative remedies for insomnia, mostly because they were perceived safer. Alternative medications, such as melatonin are proven to improve the synchronisation of circadian rhythm and improve the onset, duration and quality of sleep. It has no obvious short- or long-term adverse effects (59, 60). However, studies show that melatonin doesn't have a significant effect on improving sleep outcomes in people with insomnia (61). Other alternative options, such as mindfulness and herbal remedies, could have a complementary roll, but have not been proven to be effective on their own (62). Participants also tried to search for their own non-pharmacological therapies.

Patients mostly desire to treat the underlying causes of insomnia. This requires personalised strategies imbedded in their daily routines. This will make it easier to adhere to these strategies and achieve positive long-term results (63).

The second aim of this study was to check how participants want to receive information concerning sleeping disorders. Our participants had a preference for an internet site, a consultation with their GP or an application. The internet has been shown to be the most used source to look up health information (64). Trust and credibility were the two main properties where participants attached importance to. At the moment, the quality of health information on internet websites found through the use of a search engine remains low (65, 66). Participants suggested that the GP could deliver reliable websites concerning information on sleeping disorders. The GP remained a preferred source for participants who didn't trust the internet (67). Besides, a mobile application can work motivating

because of its dynamic complexity in which it can be adjusted to the personal situation of a participant (68).

The visual design of an internet website or application had to be simple, easy to use and attractive-looking according to the participants. This is similar to the results of Kim in 2017 (68). Participants mentioned that the language had to be understandable. Medical terms could be used, but they would have to be explained. Not much research has been done on the visual aspects of an internet site or app. Visual presentation is mostly used by patients to check the reliability of a source. The better it looks visually, the more reliable it seems for the patient (69, 70). The use of brands heightens the credibility and visual design. It is difficult to make a framework for the visual presentation of an online source, because the layout depends on the device used (71).

Readability was something that was important to every participant. Readability literally means that the information is brought in a simple, understandable way so the general population can read it. When developing information, one should also account for the health literacy. This means that people have to be able to read, understand and apply the information on their own health (72). This has been researched extensively over the past decade because it has become more relevant through the use of the internet (73-75).

A few participants discussed the use of government campaigns. Some thought it would be a good idea, others thought it was too general and wouldn't be helpful. As mentioned, the current Belgian government campaigns focus on the use benzodiazepines for insomnia and mostly give information about how to stop the medication (24). Government campaigns could be a useful way to bring the information to the public. Comparing different campaigns is difficult because most campaigns have different outcomes and the results are hard to measure. A study by Rekhy et al. stated that for government campaigns to be successful, it would be important to have a good collaboration between industry, retail, government and not-for-profit organisations promoting public health (76). It is a great way to reach a lot of people, as almost two thirds of the population can be reached through such a campaign. However, the people that exhibit unhealthy behaviour are often more resistant to health-related campaigns (77).

None of our participants were offered a follow-up consultation to evaluate their sleeping disorder, although participants would have liked this. Follow-up consultations have been proven to increase patient, parent, and physician satisfaction with the consultation, but also may improve health outcomes (78). As some of our participants mentioned, a follow-up consultation motivates them to actually apply the tips. Follow-up should be a shared decision between patient and doctor (78, 79).

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 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

There is a further need to check the quality of current educational material concerning sleeping disorders, with an emphasis on the internet sites. High-quality internet sites should be developed and recommended by healthcare professionals so patients don’t get misinformed by information found through a general search engine. GPs should be better educated in the treatment options of insomnia, other than medication. According to current guidelines CBT-I is the first-line treatment (45, 80). This study shows that currently there is still insufficient awareness concerning CBT-I. When deciding on a treatment option, the patients’ views and opinions need to be taken into account so a shared decision can be made to improve treatment outcomes. Follow-up consultations should be considered.

Conclusion

More attention should be paid to the use of cognitive behavioural therapy for the treatment of insomnia, not only for patients but also for physicians. Doctors should pay more attention to the information the patient wants to receive. An internet site or app could be proposed by a healthcare professional to guide the patient to the correct information.

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Abstract in Dutch

Ondersteunde informatie over de aanpak van slaapstoornissen en insomnia voor volwassen patiënten in de eerste lijn: wat willen patiënten graag weten en hoe willen ze deze informatie liefst krijgen?

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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 wat de visie is van de patiënt op de informatie omtrent slaapproblemen en in welke vorm deze best ter beschikking gesteld wordt.

Onderzoeksvraag: Deze studie onderzoekt welke informatie patiënten over slaapproblemen willen krijgen en op welke manier ze deze willen ontvangen.

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

Resultaten: 12 semi-gestructureerde interviews werden afgenomen om te vernemen welke informatie patiënten graag wilden krijgen over slaapproblemen en hoe ze deze wensten te ontvangen. Deelnemers wilden enkel informatie over ontstaan als het hen zou helpen bij het oplossen van hun slaapprobleem, multifactorialiteit moest hierbij benadrukt worden. Niet-medicamenteuze benadering genoot de voorkeur. Informatie over medicamenteuze therapie kon best per patiënt bekeken worden. Alhoewel CGT-I in de literatuur de voorkeur geniet, was dit bij de deelnemers vaak niet het geval. Dit was vermoedelijk omdat deelnemers niet goed wisten wat het inhield. Deelnemers wilden de informatie bij voorkeur ontvangen via een app, een internet site of via de huisarts. Informatie moest duidelijk, begrijpelijk en toepasbaar zijn.

Conclusie: Er moet meer aandacht gegeven worden aan het gebruik van cognitieve gedragstherapie voor de behandeling van insomnia, niet alleen voor patiënten, maar ook voor artsen. Artsen moeten meer aandacht besteden aan de informatie die de patiënt wil krijgen. Een internet site of app wordt best door een gezondheidsmedewerker voorgesteld om de patiënt tot de juiste informatie met betrekking tot slaapproblemen te begeleiden.

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 infomation 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: enzodiazepine
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	Psyholoog: 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