Experiences of patients with bipolar disorder, with using a dental health e-module

A qualitative study

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English abstract

Title: Experiences of patients with bipolar disorder using a dental health e-module

Background: Bipolar disorder is a mood disorder with manic and depressive episodes, which are interchanged with euthymic periods. It affects approximately 1.3% of the Dutch population. The illness and the psychofarmaca used to treat it have a negative effect on dental health. Brushing is done too hard or not at all. The patient gets a dry mouth because of the medication and eats and drinks sugary foods, which causes cavities. To prevent this, maintaining good dental hygiene is important. E-health can help to educate patients about maintaining good dental health.

Aim: To determine the acceptability of a dental health e-module by exploring the user experiences of patients with bipolar disorder.

Method: A qualitative generic approach was chosen with semi-structured phone interviews. These were analyzed using thematic analysis according to Braun and Clarke.

Results: Nine patients participated in the study. Five themes were found: importance, feelings, raised awareness, knowledge, and using the module. The subject was found to be very important. With raised awareness, dental problems could be lessened or prevented. All participants recommend the module be offered to all patients with bipolar disorder who use psychofarmaca.

Conclusion: The module would serve as a reference work for patients. Some improvements were suggested in language and the way it is offered to patients. The use of the module has impacted the way some participants care for their dental health by using toothpicks, mouthwash and an electric toothbrush.

Implications of key findings: With some changes made to the module and the way it is offered to patients, it could be a valuable addition to regular care for patients with bipolar disorder who use psychofarmaca.

Keywords MeSH: Oral Health; Oral Hygiene; Telemedicine; Health Education, Dental

Samenvatting

Titel: Ervaringen van patiënten met bipolaire stoornis met het gebruik van een mondzorg eHealth module

Achtergrond: Bipolaire stoornis is een stemmingsstoornis met manische en depressieve episodes, afgewisseld met stabiele periodes die ongeveer 1,3% van de Nederlandse bevolking treft. De aandoening en de medicatie die worden gebruikt, hebben een negatief effect op mondgezondheid. Poetsen wordt te hard gedaan, of helemaal niet. De medicatie veroorzaakt een droge mond die wordt behandeld met zoete drankjes of snoep. Om gaatjes en hoge tandartskosten te voorkomen, is het onderhouden van de mondgezondheid erg belangrijk. Er is een eHealth mondzorgmodule ontwikkeld in samenwerking met patiënten, behandelaars en tandartsen met als doel de kennis te vergroten rond goed mondzorg.

Doel: Bepalen of patienten met een bipolaire stoornis een mondzorg eHealth module accepteren, door het onderzoeken van gebruikerservaringen.

Methode: Een kwalitatieve benadering werd gekozen waarbij semi gestructureerde telefonische interviews zijn afgenomen. De interviews zijn geanalyseerd met thematische analyse en constante vergelijking volgens Braun & Clarke.

Resultaten: Negen patiënten hebben mee gedaan. Er zijn vijf thema's gevonden: belangrijkheid, gevoelens, bewustwording, kennis en gebruik van de module. Het onderwerp werd erg belangrijk gevonden. Door vergroot bewustzijn zouden tandproblemen verminderd of voorkomen kunnen worden. Alle deelnemers bevelen de module aan.

Conclusie: De module zou als naslagwerk kunnen dienen voor patiënten. De taal en manier van aanbieden zou verbeterd moeten worden. Het gebruik van de module heeft ervoor gezorgd dat deelnemers nu anders voor hun gebit zorgen, door het gebruik van mondwater, tandenstokers en een elektrische tandenborstel.

Implicaties voor de klinische praktijk: Met enige veranderingen aangebracht in de module en de manier waarop deze aan patiënten aangeboden wordt, kan de module een waardevolle aanvulling zijn op de gebruikelijk zorg voor patiënten met bipolaire stoornis die psychofarmaca gebruiken.

Kernwoorden: Mondgezondheid, mondzorg, online zorg, gezondheidseducatie, tandheelkundig

Introduction

Bipolar disorder is a recurrent mental illness that affects approximately 1.2% of men and 1.4% of women in the Netherlands[1–3]. It mostly reveals itself in adolescence or early adulthood and can be very debilitating[1]. It is a mood disorder with manic, depressive, and hypomanic episodes, as well as episodes with mixed features. These are interchanged with periods of euthymic mood[1]. Bipolar disorder is most commonly treated with psychofarmaca combined with psychotherapy, psychoeducation and enhancing self-management[1]. The psychofarmaca most commonly prescribed are mood stabilizers[1].

These mood stabilizers, combined with the disorder itself, cause patients to have an increased risk for dental problems[3–5]. This was confirmed in a study performed in 2018, where patients with bipolar disorder were compared to a control group. The prevalence of dental problems was higher in the group of patients with bipolar disorder[6].
When a patient has a manic episode, teeth can be brushed too hard. This causes damage to the gums and teeth such as abrasion of the tooth enamel and wounds to the gums[7]. If a patient has a depressive episode it is most likely the patient is barely brushing their teeth or not at all. This can cause tooth decay and gum disease[7]. Besides the act of dental hygiene, psychiatric medication can also have an effect on dental health by decreasing saliva production or causing bruxism[3–5]. This is especially true for the psychofarmaca used to treat bipolar disorder[1,3]. Normally a person produces almost a liter of saliva per day, which is necessary for a functional, healthy mouth[7]. If the flow of saliva is decreased, patients often resort to eating sweets and drinking sugary beverages to moisten the mouth[3–5]. This causes caries and an accumulation of plaque[3–5], which causes cavities that need a dentist's attention[8]. However, due to the low income of many patients with bipolar disorder[9] caused by high unemployment rates[9], they are not able to pay the costs for additional dental health insurance.

To prevent cavities and high dental costs, maintaining dental health and increasing dental hygiene is important[8]. One way of doing this is by increasing knowledge through education[7]. Education and instruction about dental hygiene is proven to be effective in improving dental hygiene[3,7]. E-health is used increasingly in health care; it is a relatively easy way to reach many patients and, once developed, low in cost[10]. In general, the effectiveness of Internet-based interventions is significant[11]. However, for patients with bipolar disorder, e-health modules can prove challenging[12] and are therefore preferably offered when the mood is euthymic[1].

The module "Een gezond gebit" ("healthy teeth") was developed in 2018 in cooperation with patients, dentists and practitioners. The initiative can lie with either the patient or the practitioner. The module is accessible through the Internet, and patients can stop at any time and pick up where they left off. The module consists of seven sessions, which have to be accessed in order. The content of the module ranges from general knowledge about dental health and the anatomy of the mouth to explaining the consequences of taking medication and how to deal with those consequences.

It is unclear if patients are willing to use the module, how they feel about it and if it makes them change any of their behaviors. An overarching research project studies the feasibility of the module, where this study examines the acceptability.

Aim

To determine the acceptability of a dental health e-module by exploring the user experiences of patients with bipolar disorder

Method

Design, setting and subjects

The accompanying study in the overarching project gathered quantitative information regarding the usability of this module. This generic qualitative study gathered information about the acceptability of this module through semi-structured interviews. The interviews were conducted between February 2020 and April 2020 with patients with bipolar disorder and were audio recorded. A generic design was chosen, because specific experiences concerning the module were studied[13,14]. Patients could participate if they were over 18 years of age and had at least accessed the module once. If a patient used dentures, he/she could not participate. Patients were included through convenience sampling from all returned informed consent (IC) forms for the overarching project.

The study was reported using the consolidated criteria for reporting qualitative research[15].

Procedures

The research team (IZ, DdV and PG) approached four teams from a psychiatric hospital in the eastern part of the Netherlands. These teams are specialized in treating patients with bipolar disorder. After receiving information about the project, all four teams agreed to participate and sent the information of patients to the secretary who was part of the research team. The secretary was the only person who had access to the personal information of the patients. All 466 outpatients from these four teams received a package with an information letter, a questionnaire for the quantitative study, two return envelopes and an IC. Patients could indicate on the IC whether or not they wished to be approached for an interview by filling out their phone number. Potential participants had time to read the letter and ask questions via the provided email addresses or phone numbers before returning the IC. When the IC was returned, an account was made by the secretary of the research team, who then asked the practitioner to grant the participant access to the module.

Data collection

The researcher contacted a potential participant after the IC was returned to make an appointment for an interview. The option of a phone interview was given, because the participants were spread very widely through the country. Most participants chose a phone interview, while three participants chose face-to-face interviews. However, these were changed to phone interviews because of the Covid-19 pandemic. Sample size was based on saturation, where no new information occurred in the last two interviews[16]. This happened after nine interviews. To confirm saturation, two more interviews should have taken place[16]. Due to restrictions caused by the Covid-19 pandemic, this was not done.

On three separate occasions, the participant had not been given access to the module by the time the interview should have taken place. The researcher then had to reschedule the interview and contact the practitioner to make sure the participant would be given access. Each interview started with the question: *What was your experience in using the dental health module?* To ensure that the interviewer gathered similar information from all participants, an interview guide was used[17] (Table 1).

[insert Table 1]

The guide was based on the system usability scale (SUS)[18] and a questionnaire made by Stinson (2010)[19] for testing the usability of an online e-health program. The questions and follow-up questions written in the guide were used as prompts, if the interview strayed from the subject. A pilot interview was held and discussed with the coordinating researcher (PG) to fine-tune the interview guide and interview style. All interviews were conducted by the executing researcher (IZ). The researcher has experience as a psychiatric nurse in a different hospital and therefore had no relationship with the participants. During the entire process, memos and a logbook were kept to track appointments and progress. During the eighth interview, only one new code emerged, and during the ninth interview, no new codes emerged. Therefore, data saturation was achieved.

Data analysis

For data analysis, thematic analysis according to Braun and Clark (2006) was used[16,20,21]. The interviews were transcribed verbatim immediately after the interview, read and re-read by the executing researcher (IZ) to get more familiar with the data, after which seemingly important passages were highlighted and initial codes created. Memos were used to identify commonalities between participants and to provide additional information during the analysis. After the first five interviews, some commonalities between participants became clear, and preliminary themes were formed using Nvivo software for qualitative analysis. After all interviews were performed, more themes became clear and these were edited into main themes and categories. With the themes in mind, the researcher went back through the transcriptions to see if the themes really fit with the data. The themes were then further refined and named to capture the essence of the data within the theme, after which a description of the theme was written. The quotes used in this text were translated. All coding and analyzing was done by the executing researcher (IZ) while always consulting the coordinating researcher (PG).

Member check

When the appointment was made, all participants were asked to partake in a written member check. Only one participant wished to partake in this. The alternative option of ongoing member checking[16], where the researcher probed and summarized to assess if the meaning of the participant was understood, was therefore used.

Ethical considerations

The overarching project started after approval from the research committee at the hospital was obtained. Participants were approached by the researcher if a filled out IC was returned. The study was done in accordance with the Medical Research Involving Human Subjects Act. All data was gathered and handled according to the principles of the Data Protection Act and the principles of the Declaration of Helsinki[22].

Results

Of the 466 packages sent out, 54 ICs were returned, 33 modules were opened, 30 modules were started and 26 modules were finished. One of the participants was excluded to prevent recall bias, because she participated in the development of the module. Nine participants were contacted (six females and three males, with a mean age of 48) and none refused (Table 2).

[insert Table 2]

Five themes were found: importance, feelings, raised awareness, knowledge, and using the module (Figure 1).

[insert Figure 1]

Importance

The opinions about the importance of the module were unanimous. The participants had very strong feelings about its importance for the target population. Most mentioned that it was too late for them, as their teeth were already damaged, but they wished that all new patients had access to this module to give them information if and when they wanted it. As a result, they could care better for their dental health.

…yeah it's not about me this study, it's also about others, how important this can be for others and especially because I know that many people with a bipolar disorder take lithium it is very important (participant 4)

Because I have, probably because of medication use, lost some teeth… So that does something to me, like if it had been clearer before, maybe that could have been prevented… (participant 7)

Most participants stated that they would recommend the module to other patients who had questions, but only if that patient was not in crisis at that moment.

…when people are in crisis, they don't find this interesting. Nothing is interesting then. They, with all due respect, don't care. Because you are consumed by feeling so bad and miserable and all of that, your teeth are, well, of minor importance… (participant 5)

Feelings

It turned out that this module triggered many different feelings in participants. These feelings ranged from being positive about the fact that it exists…

Well what I found really nice is that eh because of your study I found out about the risk of dental problems with the teeth, eh exists, with this medication, because I of course read the prescription texts of the medication but that is so much information… (participant 2)

...to it being a painful confrontation with their illness. The module can even trigger anxiety. The module was accessed through the hospital's website, which also gives access to the electronic patient records. These can remind the patients of the worst times in their lives.

Yes well you see, I know I can enter my electronic patient records through the hospital website and could read things that are painful, so everything that has to do with the hospital in that way, even though the intentions are so good, could be experienced as painful or cause renewed shame… (participant 6)

…it is really a trigger for me that makes me think of that and eh, and back then I also lost all control over my life and my abilities and yeah… (participant 6)

Raised awareness

All of the participants mentioned their feelings towards their medication had not changed, and the benefits provided to them were much greater than any side effect could ever be. Some participants had already changed their medication in the past because of the effect it had on their mouth and dental health.

No, I didn't start doubting, and if I would have to choose, the effect the medication has on my mood is so much more important than any possible effect it has on my teeth. (participant 2)

Nearly all of the participants mentioned being more aware of the risk taking medication has on their dental health. They also mentioned being more aware of behaviors that benefit their dental health while using medication.

Although the majority of participants mentioned that their dental health was good to begin with, they had no intention of changing much; several intended changes were mentioned.

No, no, most of it I already knew or faded away and I think it is mostly the first, that I already knew. You see, my parents, they always made sure we cared well for our teeth… (participant 3)

Well I have been thinking about using mouthwash for a while, toothpicks I already use. You see at first I flossed and then I heard from the dentist I should use toothpicks because that is better, and I visit the dental hygienist once and the dentist twice per year... (participant 6)

…but now I did do it! I bought an electric toothbrush! (participant 9)

Half of the participants also mentioned a wish to talk about their medication with their dentist, and the other half mentioned they had already communicated about it with their dentist, dental hygienist and periodontist. Participants questioned why medical data is not shared between the dentist and the practitioner, because it is also shared with the general practitioner.

And talk about it with my dentist, I had not done that yet either, but I thought, yeah that might be good, just to be sure, that when he sees things, that he is aware of it. (participant 1)

I am checked regularly by my dentist, my dental hygienist and the periodontist and yeah they tell me it is reasonably controlled, so yeah… (participant 4)

Knowledge

The majority of patients mentioned not finding much new knowledge in the module. Several examples of new information were however given.

Yeah the thing about the saliva, ja that was awareness you know, that I thought, oh right that was new, that that gives you cavities and eh, yeah, that was it actually… (participant 1)

Using your toothbrush on your teeth at an angle I didn't know, so yeah I integrated that in my toothbrushing. (participant 3)

I have read something about acid and it effecting your tooth enamel, I didn't really know that, that you have to wait an hour afterwards to brush your teeth because otherwise your enamel falls off and gets thinned out, that was really the only new thing I learned from the module. (participant 5)

The way participants had gathered their pre-existing knowledge varied greatly. Most agreed that it should be a regular subject during guidance appointments with their practitioner.

Eh well in psychoeducation that was talked about and yeah I looked some of it up online at the time, also before I decided to use it you know, I looked it up. (participant 1)

Well in any case that it is mentioned in the guidance appointments with the practitioner and that you are pointed in the direction of the module for example. (participant 2)

Using the module

All of the participants stated that the module would serve very well as a reference work, as a user can decide for themselves what they wish to read. It was also mentioned that the specific information quickly sinks into one's brain, but the changes made in their routine will be continued.

But yeah, I just found it good and easy to use, that it was nice and short, yeah. (participant 2)

…and well I think it will fade away, but yeah I will continue to brush well you know. (participant 1)

The opinions about the contents of the module varied from it being extensive to very superficial. All of the participants also mentioned that the module was very theoretical, which makes it somewhat boring. But, none of the participants could really say how that could be improved, because they all acknowledge that the theory is necessary. One participant stated that the necessity of it being an e-health module eluded her.

Yes quite extensive, eh, about all facets of your teeth and such, yeah I thought it was very extensive… (participant 4)

Yeah I had expected a little…more depth than average… (participant 6)

Yeah it was a little more than a leaflet, but it could have been a leaflet at the dentist's office, something like that… (participant 9)

The average time needed to complete the module was estimated at an hour, but all participants needed less time.

Well I think, let's see, maybe fifteen minutes. (participant 8)

The opinions about the design were mostly positive. Many suggestions for improvement were given by participants. Several stated that the section about dental costs was very vague. Improvement suggestions about the text were mainly about mistakes made in the text and the difficulty of the words used. One patient mentioned that the medication she uses is not in the module.

It is very passive, with past participles, vague sentences…things should be written together or not, or with a dash in between. Nouns, imperatives…I thought, that is wrong… (participant 5)

Mine is not in there, I have eh, I use lamotrigine as a maintenance dose and it is not mentioned… (participant 3)

Discussion

All participants stated that the information given in the module is vital for the target population. They wished they had known about it before irreversible damage had occurred to their dental health and therefore would advise all patients to use the module.

Participants also stated that quitting their medication did not occur to them, the positive effect of medication is much greater than any side effect could ever be, but this module does give the patient more control over the consequences the medication can have.

Nearly all participants mentioned a change of behavior due to the module.

All participants were disappointed that this knowledge about dental health was not available to them sooner. Now, it was too late for many of them as irreversible damage had already occurred. All participants would advise patients who are new to medication to use the module, as this module gives the user knowledge and tools to deal with the consequences of using medication and perhaps prevents dental problems[23]. The fact that it is an e-health module should make accessing it quite easy[24]. However, in this study, it has proven to be a problem, as on three occasions the researcher had to contact the practitioner to grant access for the patient.

The fact that all participants vehemently stated not wanting to quit their medication because of the side effects is positive news, because the literature states side effects to be the number one reason patients quit using psychofarmaca[1,25].

The changed behaviors mentioned show the module has the desired effect. Increased theoretical knowledge was also mentioned, which shows the module not only changes behavior but also increases knowledge in the target population.

Participants mentioned they had to find out about side effects the hard way or through searching the Internet. They said it should be a regular subject during appointments with the practitioner. The module gives patients the tools to navigate the side effects of medication, so they have control over the situation[26].

Strengths and limitations

A strength was the executing researcher's work experience as a psychiatric nurse, and the experience with communication techniques was used during the interviews to probe and summarize them. Despite the use of convenience sampling, a varied sample was achieved. After the first three interviews had taken place, the first data was analyzed, and two questions were added to the interview guide. The questions were added because the first three participants mentioned them of their own accord, and these would give more in-depth information about the feelings possibly evoked by the module. The codes and themes were created using peer feedback and debriefing, this increased the rigor of the study.

Besides strengths, this study has some limitations. A written member check was planned with all participants, but only one participant wished to partake in this; she had no remarks about the transcript. An alternative approach to continuous member checking was performed to increase credibility[16].

After conducting nine interviews, saturation was achieved. Ideally, two more interviews would have taken place after that to confirm saturation[16]. Due to scheduling conflicts because of the Covid-19 pandemic, this was not done.

Implications for clinical practice

The starting point is, of course, to offer the module to all patients with bipolar disorder when they use medication or are starting to use medication. Always keeping in mind that education should only be offered when the patient is in a euthymic mood[1].

The module has been deemed usable by the participants. Several improvement points were mentioned, including: 1) Be sure to mention all mood stabilizing medication in the module, as lamotrigine was not mentioned; 2) Improve the language, there were many mistakes, and the text was inconsistent because of them; 3) Change the section about dental costs. It is good that it is mentioned, but the way it is done now is vague and adds very little to the module; and 4) Make the module more engaging, it uses a lot of theory, which makes it boring.

In the process of gaining access to the module, there is much to gain. Practitioners should be educated about e-health modules, what they can add to regular care and how to grant patients access to the modules.

Many patients mentioned the module could serve as a reference work. To accommodate this, there should be the option of saving or printing the text.

During appointments with practitioners, the side effects should be discussed, not denied or ignored. Taking medication is a given fact, receiving timely information about side effects and their consequences can prevent possible damage.

Conclusion

In conclusion, the experiences of users of the dental health e-health module were generally positive. The subject was found very important for the target population and can prevent or slow down irreversible damage. The module serves as a reminder and reference work. Some improvements should be made in design, language and the way it is offered to patients. The use of the module has impacted the way some of the participants care for their dental health, using toothpicks, mouthwash and an electric toothbrush were mentioned.

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Tables and figures

Table 1: Topiclist

Topiclist
What was your experience in using the module?
How do you feel after using the module?
Do you feel called out by the module?
Were you aware of the risk?
Has your outlook on medication changed?
Do you think this will make you change your behaviour?
What did you think was the best and worst about the module?
Was the module easy to use?
If you could change anything about the module what would it be?
What did you think of the information that was given
Would you advise others to use the module?

Table 2: Baseline characteristics

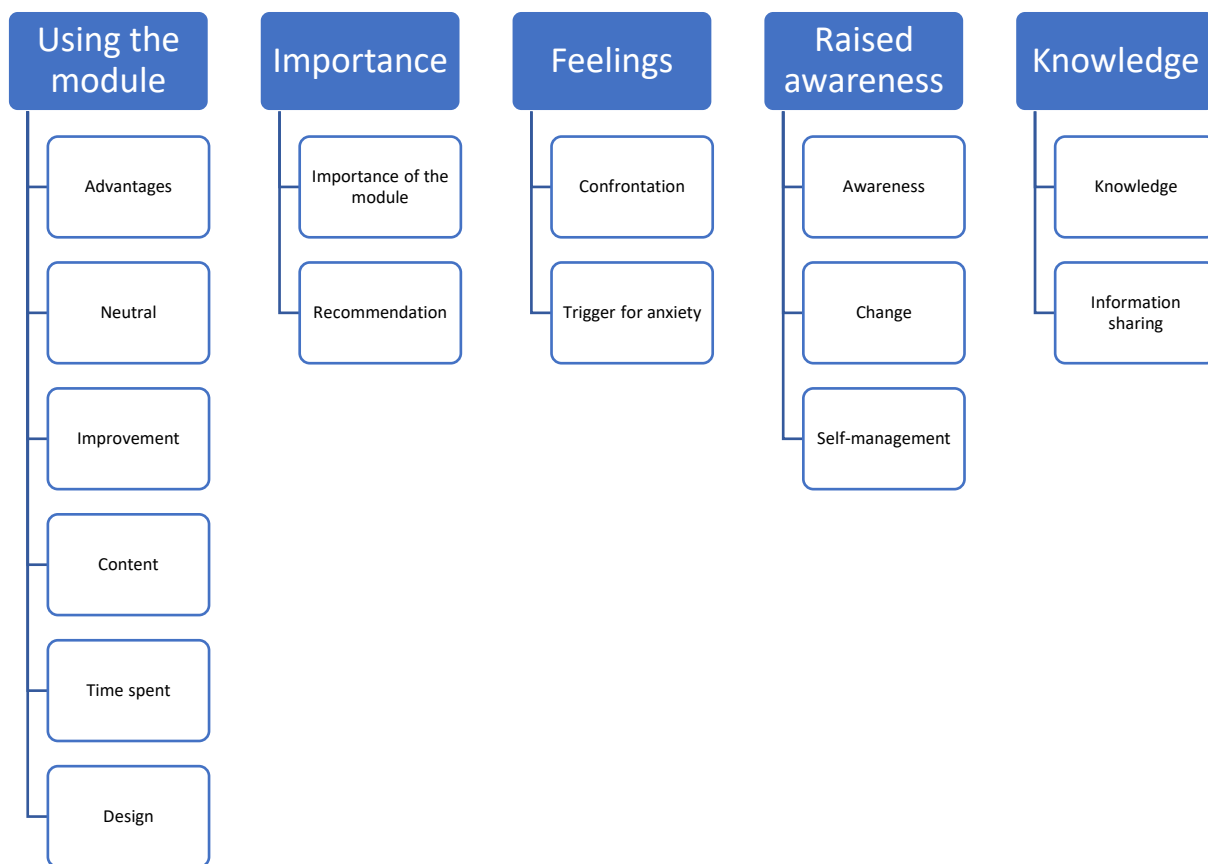| Characteristics	N	%
Gender		
Female	6	66.6
Medication		
Yes	9	100
Dental state		
Good	3	33.3
Mediocre	3	33.3
Bad	3	33.3
Dental problems		
Yes	5	55.5
Controlled by dentist		
Yes	9	100
Computer skills		
Good	4	44.4
Mediocre	4	44.4
Bad	1	11.1
	Median	Range
Age	52	20 - 64
Duration of medication	7	2 - 32
Starting age of medication	48	18 - 56

Figure 1: Themes and categories

Appendix A

Je hebt gebruik gemaakt van de ehealth module "Een gezond gebit". Ik zou je daar graag wat vragen over willen stellen. Toevoegingen n.a.v. pilot-interview

Toegevoegd na eerste drie interviews

1. Wat was je ervaring met het gebruik van de module?
    a. Kun je daar wat meer over zeggen?
2. Wat doet het met je nu je de module zo doorgenomen hebt?
    a. Kun je daar iets meer over vertellen?
3. Voel je je aangesproken door de module?
    a. Op welke wijze? Is dat goed of vervelend?
    b. Kun je er wat meer over vertellen?
4. Was je je bewust van het risico?
5. Hoe kijk je nu naar medicatie?
6. Nu je het weet, denk je dat je er wat mee kan?
    a. Kun je daar iets meer over vertellen?
7. Wat vond je het beste/ slechtste?
    a. Lay-out, informatie, beelden
    b. Wat vond je daar goed/slecht aan?
8. Was de module gemakkelijk te gebruiken?
    a. Kun je daar wat meer over vertellen?
    b. Hoe lang heb je erover gedaan om de module af te maken?
9. Als je veranderingen kon aanbrengen aan de module, welke zouden dat dan zijn?
    a. Kun je daar meer over vertellen?
10. Wat vond je van de informatie die gegeven werd via de module?
    a. Compleet, overvloedig, te weinig
    b. Was er nieuwe informatie?
        i. Wat betekent dat voor jou? Wat deed dat met je?
11. Maakt het dat je iets anders gaat doen met betrekking tot mondzorg?
    a. Bespreken met tandarts, minder suiker, beter poetsen
12. Zou je anderen adviseren de module te gebruiken?
    a. Waarom wel/niet?
    b. Zo niet: wat zou je dan anders willen zien waardoor je het wel zou aanraden?
13. Wil je nog iets kwijt wat nog niet aan bod is geweest

Appendix B

Theme	Category	Codes	Qty
Using the module	Advantages	I could take a break without being logged out	1
		Easy to use, clearly made	9
		Module serves as a reference	2
		Shortly written, that is good, no enormous texts	2
		You can decide for yourself what to read and where to follow the links	2
	Neutral	It could have been a leaflet at the dentist's office…	1
		The information quickly sinks away, I don't remember so well anymore	4
		I did not read everything because it did not pertain to me	2
		It is very theoretical but I also think that is necessary	2
		I think it is fine the way it is	1
	Improvement	You should give concrete advice in the module	1
		My medication is not mentioned in the module (lamotrigine)	1
		I don't want to be reduced to just the patient again	1
		Maybe make it specific for the user and their medication	1
		Text does not match the picture, usage of difficult words	1
		Textually it is riddled with mistakes	1
		The piece about dentist costs was very vague, that did not add anything for me	2
		Maybe more questions to fill out while you are doing the module so the user has a more active role	1
	Content	Better than the prescription text, those are so long	2
		The information was complete, simply good	2
		It was a little shallow, I wanted more	1
		The information was extensive	1
		I thought it would be more about me and my teeth you know…	1
		I expected something more exciting	1

Theme	Category	Codes	Qty
	Time spent	15 to 30 minutes work	7
		45 minutes work, without a break	2
		I made the module in two installments	1
	Design	It looked fine	5
		I thought the design was boring	1
		It was confusing, the pointer was strange and confusing	1
Importance	Importance of the module	To feel called out is good!	2
		Everybody should feel called out by this	1
		It is nice to receive this new information	1
		I had dental problems because of the medication	6
		I don't really have problems with my teeth	2
	Recommendation	If people have questions then yes	3
		It is important for this target audience	5
		Not when people are in crisis	2
		Not with this design	1
Feelings	Confronting	I am reduced to a patient again, I am more than my illness	1
		Confrontation with my illness	3
		Recognizable that all of it is hard to do in difficult times	1
		It does not affect me that much	2
		Such a shame that the attention there now is, comes too late for me	1
		Painful to be remembered of that part of your life	1
	Anxiety trigger	It gave me tensions, I had to take a break	1
		The module triggered me because of my youth	1
		It felt like a quiz	1
Raised awareness	Awareness	I am more aware of the effect of food on my dental health	1
		I will take the risk more seriously	1

Theme	Category	Codes	Qty
		I was already aware of the risk	1
		I am now more aware of the importance of brushing my teeth	1
		I am now more aware of the risk of medication	8
		I am now aware that the combination of medication and good dental health is important	2
		I was made aware of dental cost, dentist appointments are expensive	1
	Change	My dental healthcare is good, I will not change that	6
		I bought an electric toothbrush	1
		I will floss more	2
		I want to use mouthwash	1
		I need to brush more gently	1
		Continuous change often is difficult	3
		I do want to!	3
	Self-management	I am often treated at the dentist/ dental hygienist and periodontist	4
		Why does the hospital not share my medication history with my dentist	1
		My eating habits have not changed	1
		I have to talk about this with my dentist	4
		I am not that pre-occupied with the risk…	2
		My outlook on medication has not changed, it is too important for me	9
		The consequences of medication were known to me, that is why I changed things with my medication	3
		I talked about the consequences of medication with my fellow patients	1
Knowledge	Knowledge	There was not that much new knowledge in the module for me	6
		Examples of new information that were mentioned: - Less saliva causes cavities 4x - Flossing is important	6

Theme	Category	Codes	Qty
		- That there even is a risk - You should put the brush on your teeth with an angle - You should choose your drinking moment because the composition of saliva changes - You should not brush for an hour after ingesting acidic foods - Bruxism can occur - You should brush gently	
	Information sharing	I was told about the risks by my practitioner	2
		I heard about it from my dentist, he pointed it out	1
		I heard about it through psycho- education	1
		I looked up a lot online/ in books/ in the prescription texts	3
		There should be more education about it	2
		The risks were not mentioned by my practitioners	1