

USABILITY STUDY REPORT

Innervate Ltd - Lifepsychol Usability Study

PROJECT DETAILS

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CLIENT BRIEF

Lifepsychol is an easy to use, person-centered system consisting of a handheld dial, an electronic dial and a website. It enables people to record and monitor how their Quality of Life (QoL) is affected by their life-threatening or chronic condition, and empowers them to discuss these issues with their healthcare professional.

At a meeting held on 1st April 2010, Innervate approached HDTI to identify how Lifepsychol might be supported by a usability study involving people with life-threatening or chronic conditions and healthcare professionals. Specific areas of interest include the product's ease of use and the impact it may have on the interaction between patient and healthcare professional.

This report is the publication of the results of this study.

PROCEDURE

Objective

To conduct a study to assess the suitability and usability of the Lifepsychol handheld tool, electronic dial and website for people living with life-threatening or long term health conditions to support monitoring of their QoL. To further assess the suitability and likely impact of the Lifepsychol tools in facilitating dialogue between people and healthcare professionals around QoL issues.

Research Design

The research was cross-sectional with data collected via one focus group and five semi-structured telephone interviews that explored perceived suitability and usability of the Lifepsychol handheld tool, electronic dial and website. Data were analysed using content analysis.

Participants

Participants were people living with Multiple Sclerosis (MS) or Ankylosing Spondylitis (AS) and healthcare professionals (See Table 1). AS is a type of arthritis and, because it has an early age at onset (typically in the late teens/early 20s), people with the disease have to monitor and manage their condition over long periods of time. Participants were recruited via the MS Society, from attendees on the Coaching for Exercise in AS events held at Coventry University Sports Centre and known contacts with relevant experience.

Table 1: Participants' characteristics and codes used in the Results Section

Participant	Characteristics	Code
<i>Focus Group</i>		
1	Female, living with secondary progressive MS, ex-Occupational Therapist	P1: F with MS, OT experience
2	Male, living with secondary progressive MS (with relapses)	P2: M with MS
<i>Telephone interviews</i>		
3	Female, living with AS	P3: F with AS
4	Male, living with AS	P4: M with AS
5	Male, living with AS, PhD in Psychology, works as academic	P5: M with AS
6	Female, Non-working General Practitioner.	P6: F, GP experience
7	Male, living with secondary progressive MS, retired academic Psychologist with PhD in Psychology, self-management course leader for MS Society.	P7: M with MS, SM tutor

Key: M = male; F = female; SM = self-management; GP = General Practitioner; OT = Occupational Therapist

Procedure

For the focus group, two participants with a long-term condition were invited to attend Health Design & Technology Institute (HDTI) for a demonstration of the Lifepsychol handheld dial and website. They were asked to use the dial and website to monitor their QoL over a two-week period after which they were invited back to HDTI for a focus group where the suitability and usability of the Lifepsychol dial and website were discussed. The data were collected by both audio and video recording, and transcribed for analysis. The transcription was analysed using content analysis to identify themes, categories and meanings.

Participants who were interviewed by telephone were asked to use the dial and website over a two-week period. The dial and instructions for using the website were sent to

participants in the post and telephone interviews were arranged at their convenience two weeks after they had received the dial to discuss their opinion on the product. The participants were invited to contact the researcher if they required further clarification on the device and how it worked. The data were recorded using a digital audio recorder, and transcribed for analysis. The transcription was analysed using content analysis to identify themes, categories and meanings.

Prior to the study commencing, it was made clear to participants that taking part in the study was voluntary, that they would not be identified through the research process or the final report, and that withdrawal from the study would not impact them in any way.

Ethics

Ethical approval was obtained through the Coventry University Ethics Approval Procedure for low risk studies for the healthcare professionals and for medium to high risk studies for the participants with long-term conditions.

PRODUCT(S)



Fig 1

The Lifepsychol system consists of a handheld dial (Fig 1), an electronic dial and a website. Lifepsychol monitors twelve areas, chosen as a result of research which indicates that these are particular issues people frequently discuss when talking about how their illness interferes with their life:

Anger and frustration	Mood (anxiety and depression)
Domestic tasks	Pain
Energy levels/fatigue	Relationships
Financial situation	Sleep
Independence	Social life/hobbies
Mobility/physical function	Working life

Lifepsychol allows people to record and monitor how their long-term condition is affecting their QoL. It also aims to empower people, provide a visual representation to help them express their difficulties and improve interaction between themselves and their healthcare professional.

Previous Lifepsychol data can be displayed in chart form or by overlaying dials, identifying alerts.

RESULTS

Analysis revealed the following themes and sub-themes:

1. Usability
 - *Handheld dial*
 - *Website*
 - *Age/IT*
2. Twelve areas
3. Range of scoring
4. Self-management
 - *Self-monitoring*
 - *Facilitating dialogue between the person and their healthcare professional*
5. Alerts
6. Other areas for monitoring
 - *Medication*
 - *Life events*
7. Signposting
8. Suitability

1. Usability

Handheld dial

Overall, participants found the Lifepsychol handheld dial and website ‘very easy’ to use.

“Incredibly easy, absolutely no problems whatsoever.” (P5: M with AS)

“Yeah, the dial was fine.” (P6: F, GP experience)

Manual dexterity was, however, mentioned as a potential limitation by two participants living with MS.

“No problem, but then I haven’t got any ill effects in my arms. When I was bad, really bad, 18 months to 2 years ago, I couldn’t use my left hand at all.” (P2: M with MS)

“There would be manual dexterity problems immediately for quite a significant number of people with MS. They would find it difficult, well; many people find it hard to write, as they find it difficult to hold a pencil.” (P7: M with MS, SM tutor)

The simplicity of filling in the handheld dial and potential to complete the dial online using touch screen technology were mentioned as ways of overcoming this problem.

“So it isn’t much writing it’s just a few crosses I know, maybe that’s a good thing about it [...] it could easily be re-modified for a touch screen. If it was a touch screen I could imagine that being more user friendly.” (P7: M with MS, SM tutor)

Website

Overall participants found the website ‘very easy’, ‘user friendly, and straightforward’ to use.

“The website’s easy as well, it’s all quite good. I mean there are as you said a couple of things not up and running yet, the charts aren’t, the history bit I don’t think is running is it yet? But other than that it’s quite a nice easy one to navigate around.” (P4: M with AS)

“Fairly self explanatory. Once you log in, it’s quite easy to set up and fill things in. It was, yeah, it was really, really quite intuitive.” (P5: M with AS)

Age/IT

The participant with GP experience and the SM tutor felt that some older people may not be familiar with computers and could find it difficult to use the online dial. Their views were supported by Participant 2’s preference to complete the handheld dial only, rather than trying to fill out both the handheld dial and online dial. Participant 2 was the oldest participant in the study.

“[...] the condition I have, MS, tends to be late acting¹ and people tend to get it in middle age, ... and they carry it through into their old age. Um, my experience with MS groups is that they are incredibly IT illiterate and they are very frightened of it. Well, they are not frightened of it but they are not comfortable with computers.” (P7: M with MS, SM tutor)

The dial being available in a handheld form provides some flexibility as to how a person decides to use Lifepsychol. The Participant with GP experience and the SM tutor considered how it might be used in a consultation.

“So I would show them how to use it in the consultation or, if they were having problems with it, I could ask them to come in with a relative and talk it through with them both. It would depend on their age, ...if they were computer literate then I would go through the website with them. If they were elderly, say if it was

¹ Most people are diagnosed between the ages of 20-40, but it can affect younger and older people too (MS Society 2011).

arthritis, it would be useful to have the dial in front of them then I would do it with them to start with.” (P6: F, GP experience)

“If that’s what they wanted, and they could update your computer record. If you had people who didn’t have the computer skills or whatever I could see the benefit of that. You give out a disk every week and under those circumstances I think the disks could be useful.” (P7: M with MS, SM tutor)

The GP suggested stickers so that the handheld dial could be personalised in the same way as the online dial:

2. Twelve areas

Participants found most of the twelve areas Lifepsychol monitors relevant to their QoL. They liked being able to personalise their online dial by choosing areas for monitoring most applicable to them.

“it was nice that you could select some of the other options, so that you can select some that are more applicable to you. Like I removed the one on money worries and I had taken that off and put something else on – so that was quite good.” (P3: F with AS)

“In general, when I looked at the one that came through the post I thought that sort of covered the main key things actually.” (P4: M with AS)

“Absolutely, I was actually having a think about this because it covers quite a lot of different areas. ... I mean it covered everything through from the amount of exercise, fatigue, moods, I think it tapped in to most of the things I had problems with. In fact it tapped into all the things.”(P5: M with AS)

“Because I think you have to specify which areas are affected by...so...it’s the areas that are affected are selected by you the ones you pick online.” (P6: F, GP experience)

3. Range of scoring

Participants’ response to the range of scoring items was mixed. Participants 1, 2 and 5 would prefer a broader range of scoring items.

“Yes, for people with complex problems with MS or RA or any other long-term chronic conditions it is, it’s too simplistic.” (P1: F with MS, OT experience)

“That’s the thing because quite a lot of the time some of the symptoms I have are a little niggling, but I would never really classify them as kind of being mildly unpleasant. So yeah, maybe a couple of extra points might be useful for a kind of little niggling category [...] so you could pick up some of the fine grain detail.” (P5: M with AS)

Whereas participants 3 and 4 and 7 were happy with the existing 4 point scale:

“Severely, moderately, mildly affected, yeah, in reality it’s fine. Sometimes it was hard to pick between the not affected and the mildly affected so, but in reality, yes, it’s fine.” (P3: F with AS)

“You can see what’s been affected and what’s stable and what’s not stable and what’s good and what’s bad, that’s fine.” (P7: M with MS, SM tutor)

4. Self-management

For the purpose of this study, self-management was defined as the individual's ability to manage the symptoms, treatment, physical and psychosocial consequences and life style changes inherent in living with a long term condition (Barlow 2001). Thus, successful self-management encompasses monitoring one’s condition, working in partnership with healthcare professionals and effecting the cognitive, behavioural and emotional responses necessary to maintain a satisfactory quality of life.

Views were mixed on whether Lifepsychol would assist participants in the self-management of their health. Participant 1, who had OT experience, described how it might be useful if used with a healthcare professional. Participant 2 felt that Lifepsychol would not help him as he already had enough self-awareness of his own health.

“It’s giving us a record of well my energy levels have gone down quite considerably since 2-3 weeks ago, now what am I going to do about it? It doesn’t give any signposts of what to do. That’s why I think yes, it could be useful if you were using it with a healthcare professional.”
(P1: F with MS, OT experience)

“That wouldn’t help me. It would point out to me, well, if I fill it in at the time, everything’s crashed. It wouldn’t tell me anything I didn’t know. Because I know where I am now, Participant 1 knows where she is [...] there’s nothing on there that really pulls out how it [having a relapse] makes you feel at the time.” (P2: M with MS)

Participants 3, 4 and 5, however, felt that Lifepsychol would be useful in the self-management of their health. They each describe what action they might take if their Lifepsychol data showed that their condition had got worse:

“[...] because I’m quite stubborn with my medication, I don’t want to drink it, but when I’ve got two weeks inflammation and I’m severely affected on some of the stuff I would think maybe it’s better to just go back on my medication for a bit to stop the inflammation and the pain going on. So even in context of that, that would be really handy.” (P3: F with AS)

“[...] by default it actually makes you be more proactive about ‘Hang on a minute, that was a problem but...and I let it be a problem so I need to get out of

that' do you know what I mean? 'What can you do about it?' or 'where can you go?' would be the next logical step I guess wouldn't it?" (P4: M with AS)

"[...] if I had a look at the patterns and I saw that, although I hadn't been consciously thinking about it, I had actually been...you know the situation, my condition, had been getting worse or had actually been at quite a low level for quite a while, it might make me re-think and go to see my rheumatologist again."
(P5: M with AS)

Self-monitoring

Views on how useful Lifepsychol was as a tool for monitoring QoL were mixed, depending on the participant and the long-term condition they were living with.

Participants living with MS reported that their health did not vary enough for that type of self-monitoring to be beneficial to them as too often *'every day was the same'*. However, it is worth noting that Participant 2 referred in the interview to how *'bad'* he'd been 18 months earlier (see page 8) suggesting that there is some variability over time. One participant (P7) recalled attempts to self-monitor in the past but giving up as he was pretty much the same all the time.

"Most MS suffers get up in the morning and they have a half an hour to an hour recovery from getting up. Then that's their day, they are in the wheelchair, go around the house, have a cup of tea. You know, the day doesn't change a great deal [...]. So everything there...it doesn't actually change from day to day." (P2: M with MS)

"As a person with MS I went through a time, a period, trying to monitor exactly how bad I thought my condition was, so that I could see whether aspects of my life were impacting positively or negatively [...] I gave up. Mainly because the fluctuations were so mild [...] I don't have bad days and good days, I'm pretty much the same all of the time [...] I think I would have maybe persevered if I was having major relapses on a regular basis." (P7: M with MS, SM tutor)

Participants 1 and 2 described the difference between secondary progressive multiple sclerosis and relapsing remitting multiple sclerosis.

"Relapsing remitting, you have an attack, then you're going to be whack, severe, all the way down." (P1: F with MS, OT experience)

"In terms of relapsing remitting it can be incredibly variable. Like I say I've now been told I've got secondary progressive with relapses. Now...in terms of my last relapse I was off the chart, off the scale, everything was off then it comes back to secondary progressive, like Participant 1, and stays virtually the same forever unless I get another relapse. So this is not a great deal of use I don't think." (P2: M with MS)

All other participants felt that Lifepsychol would be a useful tool for monitoring QoL over time, *'on a long-term basis.'*

“... what I found really useful was it does make you think. ... because there’s a lot of things we take for granted including pain [laughs] and the way we feel and it does make you think about, ok, the relationship between it [...] it just makes you think about yourself more rather than taking what is because it is.” (P4: M with AS)

“... it would be really useful to plot how things are going kind of regularly ... if you’ve got some kind of QoL measure that you are filling in kind of periodically but regularly it would actually give you quite good insight into how you are doing.” (P5: M with AS)

“Write down what your medication regime is and whether it changes [...] and then if you remember any times that you forget to take them or you take too many or whatever, make sure that’s noted down in the diary too. And then if you have done the Lifepsychol you can check on faculties and functioning generally. And if you have a day you are feeling really lousy and shitty and depressed, write that down too. It only has to be two lines; ‘having a really good day today’ or ‘can’t get out of bed miserable snarling at the world’. And that’s what people need I think to monitor their own conditions and that’s what you need to be able to show to a doctor or what a doctor needs to be able to see, if he is to make sense of why somebody’s up or down or going in one direction rather than the other.” (P7: M with MS, SM tutor)

Facilitating dialogue between patient and healthcare professional

Participants reported how Lifepsychol might assist the dialogue between themselves and their healthcare professional. Participants 3 and 5 described how it is difficult to recall how they have been feeling over a period of time, and how it would be useful to have a written record, that can be shown to the healthcare professional during the consultation:

“Yeah because that is always the thing when I go to the doctors they say ‘How were you for the period?’ And you do the survey on that day and I say ‘But it’s hard to say because I don’t know how I was two weeks ago compared to how I was now’. Where this would be really nice because I could actually print it off and say ‘This is how I was for the period’, when I see the doctor on a yearly basis, so that would be great.” (P3: F with AS)

“Oh extremely, when I go to see my rheumatologist one of the things he gets me to fill in, I think it’s the Bath Index of Ankylosing Spondylitis for QoL. To be honest if you go along and you’re having a bad day it can suddenly seem like you have taken a major nose dive in the last six months since you have seen your rheumatologist. Um, whereas if you actually have data which kind of plots how things have been going constantly during that six months you can see if it is an actual pattern or just a one-off blip which if you’re just having a really bad day or something.” (P5: M with AS)

Similarly, the healthcare professionals described how Lifepsychol would provide a written reference of how people had been feeling and would help to bring up areas which may not usually be talked about for discussion:

“Yeah, I think it would, I think it would mm, it would give an idea of areas that you wouldn’t normally talk about [...] And it would give them the chance to bring it up well, think about it and then bring it up, and then you can sort of at least tackle each area.” (P6: F, GP experience)

“I often advise them that when it comes to consultation with their doctor they need to know in some detail how their condition has been [...]. It would be much better to say ever since you took me off that drug I have been much more drowsy, much more lethargic and I’m always tired. That is a reference at least. And they can put a record here of when did that lethargy kick in, it was a week after you stopped that drug. Or you changed that drug. Or the opposite. I’m much brighter, I’m feeling much better and here is my record I was pretty depressed and now I’m better. (P7: M with MS, SM tutor)

5. Alerts

Participant 7 (who leads self-management courses) described the issues of reliability and self-discipline which self-monitoring requires:

“You can’t just sit back and expect them to do that. Some people will of course and they will be very reliable but others won’t even start [...] And you have to be very self-disciplined to monitor a condition on a regular basis over any length of time [...] I think when you want people to do routine things there has got to be some way of jogging their memory, whenever you want people to do something every Saturday or whatever; you’ve got to somehow put some pressure on them to do it.” (P7: M with MS, SM tutor)

Automatic alerts which could be an e-mail or a text message sent to the individual’s mobile phone were suggested as reminders which would provide prompts to complete the dial:

“So the only thing that was a bit annoying for me was I would have liked to have a reminder through my e-mail to notify me and say you haven’t filled it in for this last week, with a link that would just link me in, because I’m quite busy [...] So that it just prompts you to say ‘Oh right ok, yes, you haven’t filled it in for a week go in and do it.” (P3: F with AS)

“Um, you would need some type of automatic reminder as well for you to fill the information in. Now, I know you can do that through the website so you get the seven day reminder but, if it had either an automated message going to your e-mail, to your mobile or something that would actually be really useful for filling it in.” (P5: M with AS)

“If I was prescribing it I would want a system which alerted my patient to when I wanted them to fill in the details [...] an email reminder would be easiest, that can be built in very easily. I want my patient to do this, I want them to be sent an email every Saturday morning reminding them to do it and maybe that’s something that can be set up, maybe the GP can set that up themselves because of course they have access to emails so perhaps they can automate that.” (P7: M with MS, SM tutor)

One participant suggested a reminder for having her monthly blood test being included as well:

“[...] it would be nice to be able to put in all your doctor’s appointments and when you need your bloods, and things like that on a regular basis [...] if that came through reminders as well because then you are monitoring everything on it and that would be fantastic. Because that is always something I forget to go and get my monthly blood done.” (P3: F with AS)

6. Other areas for monitoring

Participants recognize the need for additional qualitative information to be included in order to give a more overall picture of their (QoL). Suggestions for other areas which could be monitored included an area for recording medication use and life events.

Medication

‘Just for your record because it’s recording how your feeling and how it’s affecting you on your daily basis but it would be nice to actually, even if you could record and say ‘Ok right, I’ve had pain killers this time and I’ve been on injections and things like that’. (P3: F with AS)

“[...] it can be very difficult for a condition, to know exactly when a condition deteriorated, it would be particularly useful to know if that could be linked to change in medication or whatever [...] So you want a facility for people to be recording that routinely against their Lifepsychol data. They would certainly be recording medication use; you might want them to record if they have had any perturbation in their medication use. I was on holiday and I forgot to take my, whatever, so I didn’t take those for three days.” (P7: M with MS, SM tutor)

Life events

“[...] maybe just the chance to enter in some additional comments about anything else that is going on in your life so you can kind of control for one off environmental effects, if you see what I mean? [...] if I noticed that at certain periods it tended to take a nose dive, I would have a look and see if there were periods of particularly high stress at work, or if there was anything going on in my personal life, sudden change in diet, or moving house, something that would require lots of heavy lifting, a lot of stress.” (P5: M with AS)

“Well you also need the qualitative element of the diary so that somewhere on the record, I would want there to be room for other information to be inputted and that other information might be, ‘Have there been any big events in your life recently? Please make sure you record these’. So you want a facility for people to be recording that routinely against their Lifepsychol data [...]. So that’s when my mother died. Ok, we understand that. Or that’s when I got sacked. Or that’s when I changed my drugs. You need that half of it.’ (P7: M with MS, SM tutor)

7. Signposting

It was felt that some signposting was needed to direct users in case their QoL did go down. This would be especially useful for people who are using Lifepsychol independently without a healthcare professional:

“Why? What’s it telling us? I mean it’s giving us a record but it’s not telling us what to do. [...] It doesn’t give any signposts of what to do.” (P1: F with MS, OT experience)

“And I suppose then the follow on from doing this is if you scored lots on your...saying your independence is being affected maybe, there needs to be a ‘you scored too high on that why is your independence being affected?’ or you know ‘what can do about it?’ or ‘where can you go?’ would be the next logical step I guess wouldn’t it?”

“Um, it’s ok recording it but then do you need to know what can I do about certain things, or is that good or is that bad?” (P4: M with AS)

“And maybe refer them to support or counseling if they need it.” (P6: F, GP experience)

8. Suitability

Participants were asked if they would recommend Lifepsychol to someone else living with a long-term condition. Once again responses were mixed depending on the condition the respondent was living with. Participants 1 and 2 would not recommend Lifepsychol to someone living with MS; however, they did think it may have potential for application in other areas:

“I can see it working with, as I’ve said several times, I can see it working with mental health [...] If I was doing an Expert Patient program I might consider trying it with some of the participants.” (P1: F with MS, OT experience)

“With another illness maybe but I don’t know what illness.” (P2: M with MS)

Participants 3, 4, and 5 all said they would recommend Lifepsychol to someone with a long-term condition.

“Absolutely. If I knew somebody else who had ankylosing spondylitis, or, to be honest, any other health condition, I would recommend it as a good way of monitoring your health basically, yeah.” (P5: M with AS)

The GP and SM tutor were asked if there were any particular patient groups which they thought would benefit from using the tool.

“Anyone with chronic illnesses, such as arthritis, diabetes, chronic pain problems. Because it does affect them mentally and emotionally as well, and that gets missed when you’re treating them, from a medical point of view.” (P6: F, GP experience)

“Well I mean, yes it would be useful for any person with a long-term condition and that’s an awful lot of people. Because I lead self-management courses, and our ethic, the principle behind what we do is to say ‘look the doctors can do a bit for you but you have to get out there and do the rest for yourself – manage yourself.’” (P7: M with MS, SM tutor)

The GP and SM tutor were asked if they would recommend Lifepsychol as a tool for monitoring QoL to other healthcare professionals.

“Yes, I think it would be useful for nurses, like practice nurses to use, Occupational Therapists, mm, yeah,” (P6: F, GP experience)

“I can imagine a GP saying we have been struggling with this fatigue problem for a long time there is a new drug on the market I want you to try it, before you try it I would like you to keep a record of your fatigue over the next month and then I’ll give you a drug and we’ll see if it helps you [...] Mmm well like I said I can see circumstances where it would be useful for GPs; I just illustrated one.” (P7: M with MS, SM tutor)

CONCLUSION

Results showed that participants found both the handheld Lifepsychol dial and the Lifepsychol website easy to use. The handheld dial was described as being '*incredibly easy*' to use and the website as being easy to navigate around, '*user friendly*', and '*really, really quite intuitive*'. However, a couple of participants felt that the dial could be difficult for people with manual dexterity problems. The option of filling in the handheld dial with crosses would help alleviate this problem and the potential for online dials to be completed using touch screen technology was suggested as another way of overcoming this potential barrier to use.

A second concern raised was that older people may be less familiar with using computers and, therefore, less willing to use the Lifepsychol website. This issue arose in the study, with the oldest participant, (P2: M with MS), choosing to complete the handheld Lifepsychol dial only. The dial being available in a handheld form provides a certain amount of flexibility, and the option of the patient filling in the dial and the healthcare professional updating the website was considered positive by the GP and SM tutor.

Participants felt that the twelve areas Lifepsychol monitors were relevant to their QoL and they liked being able to select '*other options*'. Nonetheless, it was suggested that '*medication*' and '*life events*' could be added in order to help people make sense of the Lifepsychol data.

Opinions on the range of scores, however, were divided with some participants feeling that the current range was adequate and others feeling it was not broad enough. One participant pointed out that there was no way of recording '*niggling*' symptoms, as scoring goes from '*not affected*' to '*mildly affected*' and she felt that '*niggling*' was less severe than '*mildly affected*'.

Self-management was discussed mainly in terms of monitoring one's condition using Lifepsychol. Three participants felt that their MS was relatively stable and they therefore did not need to monitor it or its wider effects. However, it should be noted that earlier in the interview, Participant 2 (P2: M with MS) had referred to a time 18 months earlier when his condition had deteriorated, suggesting that he does experience variation at times. He maintained that he would gain very little from using Lifepsychol to monitor his condition as he felt he had a sufficiently good awareness of his own well-being.

Participant 1 (F with OT experience) felt Lifepsychol might be useful if used with a healthcare professional. Participants with AS felt that they would take action if their recordings indicated that their QoL had gone down by going back on medication, for example. In addition, they would use Lifepsychol data during consultations at clinic visits. Indeed, there was consensus across study participants that Lifepsychol would aid communication between patient and healthcare professional. For example, it would provide a written record of symptoms and could highlight areas that '*would not normally be discussed*'. Both GP and SM tutor believed that Lifepsychol had a role to play in the self-management of long-term conditions.

E-mail or text message reminders were suggested as prompts for completing the Lifepsychol dial. In addition, participants suggested that Lifepsychol could provide reminders for blood tests and doctor's appointments. Signposting to services was requested as a useful addition.

The GP and SM tutor viewed Lifepsychol as being suitable for a range of conditions including arthritis, diabetes and chronic pain. In addition, they felt Lifepsychol could be used by nurses, OTs, GPs and within the context of SM programmes such as the Expert Patients Programme.

It should be noted that the three participants with MS in this study reported little variation in their condition over time. Hence, they saw little added value in using Lifepsychol for self-monitoring. It may be worth exploring this issue in a larger sample of people with different types of MS.

Regardless of their personal condition, there was consensus that Lifepsychol would be a valuable tool for a number of people living with long term conditions that have the potential to impact on many areas of life. Lifepsychol was viewed as having a role to play in self-management in terms of monitoring one's condition and in communication with healthcare professionals.

RECOMMENDATIONS

The following recommendations are made for consideration in the further development of Lifepsychol.

It is recommended that:

The twelve areas Lifepsychol monitors remain the same.

Participants found the twelve areas Lifepsychol monitors were relevant to their QoL.

The option of adding or removing different areas to monitor on the website should stay the same.

Participants liked being able to add and remove areas to be monitored on the website.

Lifepsychol could be used as part of a wider self-monitoring regime which monitors other areas including medication and life events.

Participants felt it would be a useful to have an area for monitoring use, changes in, and any missed doses of, medication. Participants also felt that an area for recording life events, which may have an impact on their QoL, was required in order to help to make sense of the Lifepsychol data.

Consideration is given to the use of stickers to support personalisation of the handheld dials.

Stickers denoting additional areas could be provided so people who do not want to use the website can personalise their handheld dial in line with the website options.

The four-point range of scoring items could be increased to provide a broader range.

Some participants felt that the range of scoring items was too narrow to allow for small 'niggling' symptoms.

Automated e-mail and/or text message reminders could be considered, as could signposting to services.

Participants felt that it would be helpful to have an automated reminder to prompt them to complete a Lifepsychol entry. Automated reminders were also suggested for doctor's appointments and blood tests. Participants felt that it was important if a fall in QoL was identified by the dial, that the website should provide information to signpost them on to support.

Lifepsychol may be more suitable for monitoring QoL when a person has a variable long-term condition.

Participants living with Multiple Sclerosis felt that they did not benefit from regular self-monitoring using Lifepsychol as their condition did not vary enough and often '*everyday was the same.*' Participants with Ankylosing Spondylitis, however, found Lifepsychol

useful for monitoring their 'highs and lows' and for keeping a record of their QoL, over time, which could be shown to healthcare professionals. Two out of the three Ankylosing Spondylitis participants said they would continue to use Lifepsychol after the study.

Patient groups which Lifepsychol may be suitable for include people living with arthritis, diabetes, chronic pain and those with mental health problems.

The healthcare professionals considered Lifepsychol to be a useful tool for anyone with a long-term condition; arthritis, diabetes, chronic pain problems, and mental health problems were named specifically.

Healthcare professionals identified as finding Lifepsychol useful included General Practitioners, Practice Nurses and Occupational Therapists.

The healthcare professionals considered Lifepsychol to be a useful tool for General Practitioners, Practice Nurses and Occupational Therapists, in helping people with long-term conditions.

References

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