Online Follow-up Support for Hearing Aid Wearers: Is it Effective?

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Brian Taylor:
Hello, and welcome to another Signia podcast at AudiologyOnline. I'm Brian Taylor. Today's topic, online follow-up support for hearing aid wearers. Is it effective? It goes without saying that most hearing aid wearers benefit immensely from professional follow-up care. Follow-up care that usually takes the form of one to three in-person visits following the fitting of hearing aids. Typically delivered over the course of six months to a year, the purpose of these periodic follow-up visits is historically twofold. One, it is to boost the skills needed to wear hearing aids successfully. I think you all know the skills I'm talking about, things like how to insert and remove the hearing aids, how to change or charge the batteries, or how to use any Bluetooth streaming device seamlessly and without any support from the professional. But this follow-up care is also comprised of a second component, which I'll just kind of broadly say, at this time, is emotional support.

Support related to improving the wearer's ability to more effectively self-manage their condition and maybe independently to use communication strategies in combination with their hearing devices. Informational counseling and personal adjustment counseling are a couple other terms used to describe that type of follow-up care. And informational counseling and personal adjustment counseling, I think are two critical components of this longer term follow-up care that's traditionally been delivered in person. However, it might be possible to use the internet to deliver some of this follow-up care remotely. Providing this follow-up care remotely has several possible advantages. For example, it could enable the audiologist to deliver follow-up care to more people. This could especially be valuable with individuals who purchase over-the-counter devices and then maybe they decide they need additional follow-up service from the licensed professional. Maybe that could be delivered in the virtual world. In addition, from the patient standpoint, online follow-up support has the added advantage of being more convenient.

After all, if you can receive high quality personalized follow-up care remotely without having to make an in-person appointment, it could save the patient a tremendous amount of time. Rather than get in the car, drive to the appointment, wait to see the hearing care professional and then drive back to home or work, all the patient really has to do is log in to their computer to maybe complete some exercises or a program. Although online follow-up care has been available for quite a few years and certainly became more popular during the pandemic, I think there are some big questions that remain. Is follow-up care and support that is delivered online effective? If it is delivered online, must it be live with an audiologist or could it be a pre-recorded module that the patient simply watches at their convenience? And if online support is effective, what types of follow-up care are best delivered online?

Here to help us unpack the effectiveness of online follow-up service and support is Milijana Malmberg. She's a senior lecturer at Gothenburg University in Sweden, and she is the lead author actually of a couple of excellent studies. But the one we're going to focus on today is relatively new, published in the first half of 2022. It's a randomized controlled study that was published at the International Journal of Audiology. And in this study, she and her group of collaborators evaluated the effectiveness of online support for hearing aid wearers. So at this point, at this time, I want to welcome Milijana to the podcast.

Milijana Malmberg:
Thank you. Thank you.

Brian Taylor:
Well, that was my long-winded introduction, Milijana. And before we dive into your papers, especially the one in IJA, I wanted you to take some time to tell us a little bit about yourself and what got you interested in this topic of, I guess we'll just call it aural rehabilitation and follow-up care.

Milijana Malmberg:
Yes. Thank you. Well, who am I? I'm a licensed audiologist acting in research and professional development at our clinics. And in our organization, it includes 12 clinics distributed in the county of Vastra Gotaland, Sweden, with a population of about 1.7 million. So we have 21 of such, not as big counties in Sweden, but we have 21 counties. And as you mentioned, I also work at the University of Gothenburg as a senior lecturer educating audiology students. So my main area within education is aural rehabilitation, which kind of underpins my interest in this topic. When being clinically active, I realized that there's plenty of room and in particular a need for expanding aural rehabilitation from solely or mostly focusing on hearing aid fitting to addressing more of the person's individual needs and problems related to hearing loss. Another aspect that I gained during my university studies, but whose importance was emphasized during my clinical practice is the benefit of engaging the patient, the hearing aid user, in their own rehabilitation. It kind of boosts the patient's self-confidence and their belief in accomplishing something fruitful and I think it's empowering.

Brian Taylor:
Excellent. So before we discuss your research in this area, I'd like you to maybe remind our listeners a little bit about some of the key components of follow-up care. I kind of alluded to them in my introduction, but I think it would be helpful if you could maybe expand on what I said during the introduction.

Milijana Malmberg:
Yeah, yeah. We all know that accepting hearing loss is a continuous process that is critical to successful rehabilitation. And if a person's acceptance of his or her hearing loss is poor, follow-up counseling may be beneficial. So even if hearing aid fitting is important, in my opinion, this continuous process needs to be addressed throughout your rehabilitation in relation to its psychosocial impact. For example, informational

counseling, as you mentioned, and adjustment counseling, addressing the psychosocial impact of hearing loss could help hearing aid users find some kind of effective self-management solutions. And these are the additional steps within aural rehabilitation, the need to be included to minimize the negative effect of hearing loss.

And I think that we audiologists do address these steps using approaches such as providing emotional support and client empowerment. But there's plenty of research that suggests that audiologists experience insufficient skills and knowledge and time when addressing emotional support to people with hearing loss. So there's a clear need of establishing effective resources in a clinical setting that enable audiologists to provide psychosocial support and expanding audiological services, maybe one solution to manage these deficiencies.

Brian Taylor:
And I think we'll talk more about that in a moment. We'll get into some of the details. And maybe this is kind of an obvious question, but I think it's probably worth spending some time on, and that is what are the patient benefits of offering comprehensive aural rehabilitation and follow-up support?

Milijana Malmberg:
Well, research shows that there seems to be a lack of adjustment counseling addressing the psychosocial impact of hearing loss within aural rehabilitation, which means that the counseling is nowadays mostly informationally focused, which could result in hearing aid users experiencing hearing care deficiencies in psychosocial support. So therefore, including comprehensive follow-up support may increase psychosocial support and help hearing aid users establish effective self-management solutions that can benefit their everyday challenges related to hearing loss.

Brian Taylor:

Interesting. So could you describe the internet-based intervention you used in the study that we're going to talk about and then talk a little bit maybe about how that approach is used in Sweden?

Milijana Malmberg:
Yeah, yeah, of course. Firstly, we need to know a little bit about the platform we used and how we use it in Sweden. So for an online intervention to be accessible in clinical practice in Sweden, the intervention needs to be a part of something we call the 1177 Care Guide, which is a Swedish national website providing health information and access to health services. Every county customizes its own care guide and it requires two-factor authentication to access. It also requires a need for the clinic to address and identify clinical question and to be underpinned by evidence that supports the intervention.

And in Sweden, there are strict regulations when using homepages than mobile applications in healthcare, why the 1177 Care Guide was chosen for this study. So the internet-based intervention is an online support program provided via the 1177 Care Guide and based on self-management of the hearing loss related to psychosocial aspects of everyday communication. The participants in the intervention group were instructed to log in to Care Guide and read different elements each week, perform weekly assignments related to the reading material, and hand in the assignment online.

And then the audiologist could provide direct responses to submitted assignments, and the participants could also have online conversations with the same audiologist if decided. So the participants were also encouraged to reflect in relations to various topics each week without any interaction with the audiologist. And finally, the online program included opportunities for the participants to identify and to evaluate individual goal settings each week.

So this online support was accessible on variety of devices such as mobile and tablets. No face-to-face sessions between participants and the audiologists were included, nor were peer interactions. And the support program was available for the participants for five weeks. And for the question on how we are using it today, as the 1177 Care Guide is a Swedish national website, the online support program is accessible to other counties in Sweden as well. So as for now, we have five other counties that have requested access to this online support that our research group now has named eHearing, like in Swedish Ehusen. And that means that every other county can get access to a concept of creation, including reading material and the weekly assignments. But the online support is then provided by that specific county's hearing professionals or audiologists. And only minor regions of this online support is possible for other counties, which include, for example, changes in text information.

Brian Taylor:
Yeah, that's really interesting. I just to make sure that I'm clear. This is a sort of I would call a self-directed or self-guided program that's available to a hearing aid wearer for five weeks. And it's mainly recorded, but they have the opportunity to interact virtually with somebody if they want to.

Milijana Malmberg:
Yes, yes.

Brian Taylor:
Okay. Yeah. And it's available to people in the county.

Milijana Malmberg:
Yeah. And it's possible to share it with other counties in Sweden. So we have both counties in northern Sweden and southern Sweden and middle of Sweden using the same program.

Brian Taylor:
Very interesting. Well, and I want to talk more about implementation maybe in other parts of the world at the end. But right now, let's turn our attention to the study that I mentioned a couple of times. This International Journal of Audiology study published, I think, earlier in 2022. And what attracted my attention to this study and why I wanted to have you on the podcast is that you don't see many randomized controlled trials in our profession. You're seeing more of them now, but they're still relatively rare. And I think that was really useful that you designed the study this way. But before you talk a little bit about the design of the study, I wanted to ask you, what were the two questions that you were attempting to answer in this study?

Milijana Malmberg:
Yeah, our first question was kind of needs oriented and addresses our clinical inquiry, questioning the possibility of providing online support to hearing aid users. So we simply wanted to know if it was possible to use the 1177 Care Guide to provide needed online support to hearing aid users within a clinical setting. And our second question is more of a research oriented and was to document the effectiveness of online support compared with traditional support provided by our clinics, like a standard care. And standard care means that the patient is encouraged to revisit the clinic when needed.

Brian Taylor:
Got it. So I already mentioned it's a randomized controlled trial study. You don't see many of those. So tell us a little bit more about the design of the study that you used here.

Milijana Malmberg:
Yeah, exactly. It was a randomized controlled trial, and participants were randomly assigned to either an intervention group or a control group receiving standard care.

And we used the computer generated list of random numbers. So the assigned participants were not informed about whether the group they were allocated to was the intervention or the control group. So the intervention group followed this program for five weeks while the controlled group was more or less waiting and could contact our clinic if they needed to.

Brian Taylor:
Can you tell us a little bit about how many people were in this study?

Milijana Malmberg:
I'm writing two other studies right now, so I'm just getting the number.

Brian Taylor:
I understand.

Milijana Malmberg:
I'm so sorry.

Brian Taylor:
It's okay.

Milijana Malmberg:
It was 78 participants in the intervention group and 58 participants in the control group. So we had 78 participants taking part in the online support and 58 participants who were running by standard care.

Brian Taylor:

Got it. Thank you for that. The other thing I'd like to know is the two self reports that you used for outcomes, tell us what those were and maybe why you chose to use those.

Milijana Malmberg:
Yeah. We used hearing handicap inventory for the elderly, and this is an outcome measure that addressed social emotional effects of hearing loss. We also use the communication strategy scale, which addresses strategies that complicate communication and strategies that can improve communication. And you mentioned earlier that we've done other studies within same context. We've learned from those studies that including more of a communication strategist training in these kind of support is really effective.

So one reason that we included communication strategies scale is based on our experience and also that these two were chosen also to address the psychosocial impact of hearing loss and to measure changes in communication strategies. And also to measure the social and emotional effects of hearing loss since that is also addressed in this kind of support. And both questionnaires have been shown to be as reliable as the original versions when used with the Swedish population.

Brian Taylor:
Right. And listeners of this podcast know the HHIE. There are various versions of it and how that's tied into auditory wellness and why that might be really valuable in the clinic. So it's good that you're mentioning something that many of our clinicians that listen to these podcasts should know about. The communication scales, that one is a little newer, but I'll put some links in the chat that people can download so they can maybe have access to that or learn a little bit more about it. So thank you for that. I guess the big question would be what were the findings of your study?

Milijana Malmberg:
Yeah. We found that online support was beneficial for self-perceived emotional and social hearing difficulty measured with HHIE. And this in turn indicates that it's better to offer online support than standard care to hearing aid users experiencing hearing difficulties measured by this outcome measure. It might be that the intervention leads to increased self-esteem, which in turn may raise perceived individual abilities and increase participant self-efficacy which has shown to be positively affected by using digital technologies in hearing healthcare treatment.

And the intervention group also improved their self-perceived communication strategy skill compared to the control group as measured by communication strategy scape. And we've seen similar results in our previous research showing increased communication strategy use when including interactive education programs in aural rehabilitation. And finally, we also found that it is possible to integrate online support within clinical practice and it could be effective.

Brian Taylor:
And I guess that leads to the next question. You already sort of answered it, I think, but what are the clinical implications of the results of this randomized control trial?

Milijana Malmberg:
Yeah, well, we can see an obvious need for the clinical work to be extended enabling the person with hearing loss to be proactive and take ownership of the hearing loss. So the online support, or the eHearing as we call it, implementation process within our county, was initiated by differentiating between patients who need just standard care and those who could benefit from alternative interventions such as online support. We also identified a care process that suits our clinics and clinicians as well as the target group in need of such support to identify and assess potential risk factors concerning

website functionalities and communication routines between the audiologist and the participant.

We did a risk and impact assessment before conducting this study, still using this one when offering online support as part of our aural rehabilitation. So as for now, we have 10 to 15 audiologists that are engaged in practicing online support to hearing aid users identified for such support. And our clinic's ambition is to extend the hearing care, the clinician work within aural rehabilitation, using eHearing and online support. And we also have a substantial organizational support involved throughout the implementation and the continuing use process, which I think is really important to have to be able to include this kind of support.

Brian Taylor:
Yeah, that's great. I guess what I'd like to ask you next, Milijana, is maybe put on your clinician hat and I'd like to get your opinion on a couple of things as they relate to the study that you've been talking about. And the first is, do you have a take on or an opinion about what type of hearing aid wearer might be a good fit for an internet-based follow-up program like the one that you've been describing?

Milijana Malmberg:
Yeah, I would say the one experiencing residual hearing related problems in everyday life. For example, when communicating with others, but also the one having difficulties in identifying targeted individual goals within aural rehabilitation. For example, finding this specific situation that is challenged by hearing difficulties and identifying exactly what communication strategies suits best for that situation. So these challenging tasks benefit from having input and guidance from a professional and such guidance may lead to hearing aid users maintaining good hearing health and self [inaudible 00:20:53] challenging communication situations. So anybody experiencing hearing related problems in everyday life.

Brian Taylor:
Well, and I think what's really beneficial, I'll put my clinician hat on for a minute, is you only have so much time you can spend in person with a patient and you can't cover everything. And when somebody gets home and they start wearing their hearing aids and they go out into the real world, I think it would just be a nice addition to have something online that you can kind of do at your own pace that supplements whatever happened in-person during the appointment. So I think that's just a great idea. Which leads me to the next question I want to get your take on, and that is, how can clinicians start using an internet-based program maybe in their own country? Are there any on the market today that you know about? Or could they create their own? What are your thoughts on that?

Milijana Malmberg:
Yeah, well, to start using it in Sweden, you just need to ask us.

Brian Taylor:
Right.

Milijana Malmberg:
To my knowledge, I know that there is a good online support that Melanie Ferguson created in England, but otherwise I don't know of any else. So I mean, anybody could start and create their own, of course. And I think it would be beneficial if you could create something that you could address to a broad population. So for example, in Sweden, as it is for now, this kind of online support is not open on the market, for example, private market. But again, in Sweden, every county is connected to a national Care Guide and has the opportunity and access to accept online support as it is. And most Swedish sharing care is on a county basis, which means that the county holds the main hearing here compared to other countries when maybe mostly is private. So I

think it would be beneficial even if anybody wants to create their own program, as long as it includes both the informational and psychosocial counseling and gives both the information and kind of engages the patient in trying different communication strategies and trying to find solutions in their everyday life.

Brian Taylor:
Well, it sounds like an opportunity for your group to commercialize your program and make it turnkey for people. I'm assuming it's in Swedish, so you'd have to translate it of course.

Milijana Malmberg:
Yeah. We'd have to translate it. Yeah.

Brian Taylor:
I know that Melanie Ferguson has created something very similar. I think, personally, in United States, there's all kinds of opportunities. I think of all the large chains that dispense hearing aids these days, like Costco and Hear USA. I think about people that are now buying their hearing aids online. Lucid Hearing is a place affiliated with Walmart. They have sort of a hybrid model online, OTC and in-person. I think there's all kinds of opportunities for those groups to have sort of a modularized follow-up program like the one that you've all created.

Milijana Malmberg:
Yeah, you're giving me a lot of ideas now.

Brian Taylor:
Yeah, no, I honestly, I think about not only does it supplement the traditional way that we dispense hearing aids and something that you could offer all of your patients, but also people that decide they want to try OTC, maybe they can do a self-guided

follow-up program that you've created. So kudos to you and your team for being so forward thinking and publishing the data to show that it actually works.

Milijana Malmberg:
Thank you. Thank you.

Brian Taylor:
So now I see our time is about up here. Milijana, just any final comments on the topic of internet-based support? Any comments on your study? I want to let everybody know that in the handout that accompanies this podcast, I have a link to several of your studies from PubMed that people can go to. Some of them are open access, a couple of them. I can't say that the one that we've talked about the most is open access. I don't remember, to be honest. But anyway, there's a link to many of your studies. Also, as you may know this, Asha, just in the last week or two, published a 50-some page aural rehabilitation kind of best practice guidelines that I think fits well with what we've been talking about today. So anyway, those are all available on handout that accompanies this podcast. And back to my question to you, Milijana, any final comments?

Milijana Malmberg:
No. Thank you. I think we've covered it all, and I just want to thank you for inviting me to be a part of your program and thank you for showing interest in this topic and for acknowledging our research. It's been a pleasure.

Brian Taylor:
Definitely. If people wanted to contact you if they had a question, do you mind sharing your email address with us?

Milijana Malmberg:

Definitely, definitely. You have my email, so you can just put it where you think it will fit.

Brian Taylor:
I'll put it in the chat. I'll put it in the notes. Sounds good. All right. Thank you again for being on, Milijana Malmberg from Sweden, both a clinician and a researcher. Thanks for your time and your expertise.

Milijana Malmberg:
Thank you. Thank you.