V8.1: Hearing Loss Prevalence and Hearing Aid Adoption

Presenters: Brian Taylor, AuD, H. Gustav Mueller, PhD

Hi everybody and welcome back to another research quick takes. I'm your host Brian Taylor and my other co host Gus Mueller is on the other line. Hey Gus. Hey. Hello.

Hello. It's, it's been a little while since we've done this and I haven't rehearsed a lot so. Well, it's been a while. We're all, it's hard to believe that we're already at volume eight and talking today about non audiological factors. So basically all the things inside of a toolbox that you can't do in your sound booth or with equipment.

Yeah, I think at some point before we covered all the things like speech and noise testing and LDLs and all these kind of things. And now we're going into an area where there aren't as many numbers. We have to sort of think more on concepts, which is probably a good thing. Speaking of concepts, I couldn't, couldn't resist using at least one Frank Zappa quote of so much to read and so little time. And.

Well, I'll tell you, it's true. There's over three hundred and fifty articles published every year on hearing aid technology selection, fitting and all that. So there is indeed a lot to read, which is the whole reason that we do this whole series. But today we're going to start at the beginning at 8.1, which is, has to do with hearing loss prevalence and with how that relates to hearing aid adoption. As we've talked in, in previous volumes, previous presentations of Quicktakes, Larry Humes has done a lot of work in this area over the last five years or so and he's used the HHIE in a lot of studies.

So we're sort of blending some things together here, looking at prevalence and unmet need. He's comparing some self assessment scales and also looking at audiometric findings. And we'll go into some details for this. What I'm going to refer to here is from the ages of 20 to 80, 80 plus, he might even have people younger than 20, but we just went from 20 to 80. And so on the self assessment survey there were some questions regarding difficulty of conversation and when did the hearing loss cause frustration.

I think there was another question they used in their analysis which was would you say that your hearing is excellent, good. That you have little trouble, moderate trouble, lot of trouble. And what they did is based on the answers to this, they formed a subgroup. And so these are the people now who are reporting trouble hearing. Okay, I'm going to get to their, their hearing loss in just a Moment.

So right now these are people that said, based on these questionnaires, yes, I have trouble hearing. So if we look at the whole sample going from 20 through over 80, we see that 26% of males and 20% of females age 20 to 80 had self reported trouble hearing. It if you look at the bar chart, it's exactly what you'd expect. Of course as you get older you report you have more trouble males more than females. And the difference between males and females is not too much different.

Remember here that it looks like about 60, 65% or so males of the 80 plus. I mention that because now we're going to go to measured hearing problems. So this is impaired hearing with a pure tone average of 5, 1, 2 and 4 in the better ear, equal to or greater than 20 dB. Notice now that if we use this as the, as the criterion now you see that there's more people with problems, supposedly at least because they do have a hearing loss. And again we see males greater than females.

Now what Larry did in his research is he looked at all the people who actually are reported to use hearing aids and then he calculated what he determined to call unmet hearing care needs. Okay, so these are people who use hearing aids. And what I have graphed here is for male and female. And we also have, we also have then if they reported trouble or if the audiometric said they have trouble. And then we end up with the unmet need category.

So let's just go down to the moderate severe as. Because the mild hearing losses are not terribly interesting. There aren't as many unmet needs. But as you'll notice, there are quite a few unmet needs once it gets to a moderate severe loss. So if you look at that category, the first blue bar would be males who actually have a hearing loss.

Then the next is males who reported they had trouble hearing. Then the next lighter blue bar is the females who actually have a hearing loss. And then the next is the females with trouble hearing. Now remember I said that if you looked at the audiometrics, it identified more people than the report. Therefore, the unmet needs tend to also be different for these two groups.

So his final calculation was using the audiogram findings. About 21 million males and 17 million females have, have, have an unmet hearing care need. If we go on the report of trouble hearing, then it goes up to 42 million people. Anything on that Brian from no, I think. Thanks for the summary.

I think that Larry's work in this area really shines a light on the number of People out there that have a mild hearing loss that don't get the help that they need. Yeah. Well, you noticed even in the mild category, the numbers are big. Well, relatively speaking, when you think of an unmet need. Yeah, right.

And I think that's something we've known in the clinic for a long time, but now we have data to kind of support that. And I think it's also interesting to show that gap between self reported hearing loss and measured hearing loss. That gap there is. Which is all the more reason why self assessment scales really need to be part of the routine workup for hearing aids, which I think we may talk about, something we'll talk about in another one of these sections. Yeah, so let's talk about.

There's another study here I think that also is really interesting that I think you're going to talk about next, the time course from somebody noticing they have a problem with their hearing to actually acquiring or adopting hearing aids. Yeah, that's something that gets tossed around all the time. And so let's see if we can, if the data agrees with the numbers that are tossed around. I started fitting hearing AIDS in the 1970s and, and we were tossing numbers around then. So this was a work, one of the better controlled studies on this.

This was some work done by Simpson a few years ago. And so they look what they considered hearing aid candidacy was an SRT greater than 30dB HL in one ear or thresholds at 3 and 4 greater than 40dB. That's fairly reasonable. I think most of us could agree with that. They had a large sample and then they divided these into two groups.

There were those who never adopted hearing aids, 514 and those who adopted hearing aids while they were in the study. And then they looked at the people who adopted hearing aids and they were either classified as successful or unsuccessful. And they looked at several demographic information which we'll get to shortly, and they did some additional testing. One of them that you might find somewhat interesting is speech and noise testing. And I'm going to report some data on that too.

So here's what they came up with for the full cohort. The time from hearing aid candidacy to adoption was 8.9 years. And it's a little different for different groups. So we'll talk about that individual. 65 or younger, average 9.2 years older than 76, average 6.6.

You could guess that maybe this had to do with the stigma of looking old. When you're 76, you already look old. So what if you're wearing hearing aids? Right. Not that I know anybody that old, but I've heard that from some of them.

Females, 8.7 to 9 for males. I would have actually guessed females would be a little more concerned of taking care of themselves, but not so individuals in the low socioeconomic status. It went from 10.7 years compared to 8.7 in the middle and 8.3. Slight difference. Not, not huge.

There was a significant difference for race. Non white participants took an average of 15.2 years as compared to 8.6 for white participants. Regarding the audiologic measures and this, this I found sort of interesting as low frequency pure tone average. I assume that's 255 and one as I'm guessing they might have said, but I don't remember. Anyway, when it went from equal to or minus 10 to over 30, the

average time for adoption decreased from 11.2 to 4.3.

I would have never guessed that the low frequency hearing loss was that critical, but can't argue with the data. There was a similar effect for high frequency hearing loss. When the average was less than 45, the time was 11.5. But with PTAs greater than 65, then the average time to adoption was 5.9. So this makes a fairly big change.

I mean, it's still not great, but it certainly cuts down the time. The hhi, as you might guess, had a significant effect. They used the full 25 item. So that means that the scores can go from 0 to 100. And what they found that when the scores were equal to or less than 10, the adoption time was 11.1.

When the scores were greater than 16 was really on the, on the, on the 25 item version. That's, that's not terrible. But it was enough to change the adoption time all the way down to 4.3 years. And finally then as you might guess, as speech recognition scores went down, adoption time went from an average of 12.2 down to 5.0 years when their score was less than 42%. Now I say this isn't monosyllabic word testing and most of you are not familiar with the spin.

It's very seldom used today except in research. But the SPIN has sentences which are high predictability and low predictability. In this study, they use the low predictability sentences. So right away you know the scores are going to be lower overall. What does this mean for.

Well, you could say high predictability would be in the pasture, there is a cow. And the key word is cow. Pretty high predictability. Low predictability would be. I think I see A cow and that it could be any monosyllable really?

Well, not any, but it could be something that you could see. So that's sort of how it works. So here's the score now again this is on the low predictability scores. And so the main point here is you see a trend

that has the scores become worse. The what you then see is the years for adoption decrease systematically over time.

So again we have a lot of information there that might tell us something about adoption. Comments on this Brian I think it's pretty interesting information from the like the HHI. I do believe a 16 on the short version is poor, a sign of poor hearing handicap And I think 24 is maybe very poor. So that's on the 10 item. That's just the 25.

I know. Well that's true. Anyway, I think that there is some things to take away from this. Sure. When it comes to if somebody has a lower frequency, you know, more than a mild low frequency hearing loss or more than a moderate severe high frequency hearing loss, that tells you that those people are maybe more likely to have a little more urgency around accepting your recommendations.

Yeah, yeah. The question is what? You know, I mean you could say hey good news, this guy's going to be back in four years instead of eight. But you'd really like him back in, in a month. Really.

Anyway, it's interesting information. I also think that some of the demographic information around race and age kind of shows some of the gaps in the health care system and that could be interesting to hearing aid insurance people that are part of the broking, brokering, hearing aid insurance, third party pay, that kind of stuff. Exactly. Okay, let's go on to some other data that, that is in this exact same category. This is a little different though because this is, this is all self report from users and non users.

This is market track. This is market track 10. And there's been one market track since then. But I didn't find this exact same data in the most recent market track. Anyway, so in, in this market track which, which is just a few years ago, the median age was 71.

The the time that they were first told they had a hearing problem to the time they were tested was 4.2 years. Now the good news with this group is the first set of hearing aids was then purchased in 6.2 years. So meaning after they went in to see a, this is by the way when they saw a healthcare provider, hearing care provider, the hearing aids were purchased within two years. So you add those together and you end up about 6.2 years, which is faster than had been reported in the Simpson study. But it could be because this was an older group.

I don't know if that would make it matter. It could be that they had more hearing loss than the Simpson group. And this is all based on memory. Where the Simpson group was a controlled study based on actual data. And some people may not have wanted to admit how long they waited or their memory just wasn't very good.

But it isn't that much different. But this would indicate that the time course is a couple years faster than that was found in the Simpson study. Again, they looked at some findings which impacted adoption. They found that the men are more likely to have self perceived hearing loss. That's exactly the same that Larry Humes found, by the way, which we just talked about a few minutes ago.

This is something that is to no surprise to us. But it's good to be reminded that both ENT physicians and general physicians recommended only 12% of people who were self identified. So these went in to see the doc because they believed they have a hearing problem. But in only 12% of the patients does the patient report that this physician recommend that they be evaluated for hearing aids. In contrast, if the people said if the first person they sought information was an HC, HCP, 52% had confirmed hearing loss and 41% reported that hearing loss were recommended.

As I say, that doesn't surprise us. Really. So then another question that I thought was interesting. When asked why they made the appointment to seek help, 52% of hearing aid owners. These are people now who ended up purchasing hearing aids was because of a recommendation from a friend.

But only 27% of non older owners gave this reason. On the other hand, 53% of non owners stated it was because of the recommendation of a spouse or partner. But only 25% of owners give this reason. I mention this because as we go on into this volume of 8.2 and 8.3, we're going to be talking about stages of change and when a person will actually make a decision. And to me this relates very directly to that because the people who only obtain the hearing aids because of the spouse probably weren't at that stage of change where they believed it was the right thing to do.

They were simply doing it to satisfy somebody else. Do you have a take on this, Brian, or no? I think you're right. And I think we'll talk more in more detail about some of these things. This first little episode here is kind of an introduction to the next four.

Exactly so, final thoughts.

Unmet hearing care at large, especially with those with mild moderate hearing loss. The journey from candidacy to hearing aid adoption is very slow. But data shows that audiologic testing may speed the process. You know, helping these people go through these stages. Maybe when you sit down and talk about the results of their HHI with them, it might move things along a little bit.

And we also know that the entry point is going to make a big difference to help speed this up, which is all the more reason why, as a hearing care professionals we meet, we need to be the entry point for these people, which isn't always true and usually isn't true, actually. Yeah. I think that data that you presented from the market track 10 speaks volumes for the importance of hearing screenings. Yeah, exactly. You know, we.

We were big into that 20, 30 years ago with the hearing pen and all that sort of stuff, and it just sort of fizzled over the years. I think that's all I got for you. Got any other closure? Not for this one. Like I said, I

think this 8.1 sets the stage for the next four.

So I guess we'll save those details for the next time we get together. Gus. Yeah, okay. Looking.

Looking forward to it.

Sounds good. Talk to you later.

V8.2: Theories and Models Related to the Patient Journey

Presenters: Brian Taylor, AuD, H. Gustav Mueller, PhD

Hi, everybody, and welcome back to another volume of Quick Takes. We're at volume 8.2. I'm your host, Brian Taylor, and with me, as always, is Gus Mueller. Gus, welcome back. Good to see you.

Hey, thank you. Thank you. It's good to be back. And we're, we're moving along on volume eight. Yeah, just.

Just to kind of refresh everybody's memory here, we're talking about non audiological variables that contribute to hearing aid selection and fitting. And this volume eight really complements. I think it's volume six. Right, Gus? It is.

We. That was a different toolbox, but. Right. But they complement each other. That was all audiological variables.

And this one is things you wouldn't do in the sound booth, basically. Exactly. We're going to talk about theories and models that kind of explain people's behaviors with respect to their hearing loss. Yeah. And you know what's interesting with these is some of these I really, to be honest, wasn't that familiar with until I started reading it.

But the, the models tend to apply to lots of things in life. Not, not just hearing aids and of course, any chronic condition. Really? Yeah. So, yeah, we, we talked about candidacy to hearing aid adoption a while ago when we, we presented 8.1, and we saw there were some data that it might be six years, some that might be eight.

Then there were other variables. For some people, work goes all the way down to four years, maybe only two years. So you say, well, why is that? How come for some people. Well, it has a lot to do with stages.

And, and before we get into what might be some new stages for all of you, I thought that I would just show you the one that you're probably already familiar with. It's been around for a long time, 19, I don't know, 70s maybe. And this, of course, is the Kubler Ross grief cycle that we've probably all heard about, probably talked about, and in some cases, maybe even. Maybe even experienced it firsthand. So we're going to go through stages now that are different but apply directly to the obtaining hearing aids.

The first one is the transtheoretical model. And fortunately it just goes by ttm. So I don't have to say transtheoretical too often. So this goes back a long time too. Back 40 years.

And most of it was. It started, I believe, with experiences for smokers, people who are trying to quit smoking, and then it went on to addictions like alcoholism, drug addiction, and so on. And that, that's, that's. That was his origin. But as I Mentioned earlier, it can be applied to a lot of different things.

They just. Things like stress management, medication, complement, exercise participation, weight control, all kinds of things. This same, this model tends to apply. And here's, here's the steps. This is the, I believe, the original model.

And if you see the six steps there, let me tip you off right now that the term termination, you could imagine if you were dealing with an alcoholic and the alcoholic stopped drinking and was clean for five years, you might believe that the person maybe didn't need to come in for counseling anymore, Although I guess maybe they still do. But you get the idea the person might be terminated. This doesn't apply to hearing aids, but the other five most definitely do. So let's talk about them pre contemplation. These people might be aware that they hear, have a hearing loss, but they don't really have a lot of awareness.

They might say things like, well, it's other people mumble. I just, I hear what I need to hear. And they, they, they want to discard the fact about using hearing aids. Now when you get to contemplation, as the name suggests, you're starting to think about the fact, you know what? I am maybe missing things.

This person might start taking some actions to improve their hearing. Maybe that sitting at a certain way at a restaurant, actually asking people to repeat. Unfortunately, sometimes they take on actions that are not good, such as social isolation, but let's assume that's not one of them. But they're still uncertain. They don't really know that I don't know that hearing aids work.

I have a friend that tried them and just returned them. But then they may move into the preparation stage. Now you say, you know what? I really do have problems. And these people start tuning in to other people who use hearing aids.

They ask their friends about it, start doing Google searches on hearing aid use, and they start asking a lot of questions about hearing aids, hearing tests and so on, and probably have gone in for maybe one audiologic visit. Once they leave that stage, they move into action. And as the name indicates, they're really ready to do something. And as you know, those of you who fit hearing aids, and I guess that's most of our listeners, you have that patient who will sit down and said, you know, I've been thinking about doing this for five years, and darn it, today's the day to do it. Probably some significant event just happened, or who knows why they went to action that particular day.

Now the problem, which is the last bullet point here, is prematurely jumping to this stage is not necessarily good. That's when you maybe just say, okay, you think I have a hearing problem, I'll go get hearing aids, you know, and I'll show you that they don't work. That person hadn't done preparation, they just jump to action. Maintenance is what we do a lot as audiologists and hearing care providers and that is follow up, counseling, problem solving. And the patient is involved in this.

Of course, as we'll talk in another episode, we'll be talking about patient centered care. And then as I think I mentioned before, 20, termination doesn't really apply. And some people have used in the. And again, remember, because this is used for variety of pathologies, some people have used the, the term relapse rather than termination. We don't normally use the term relapse either, but I think it's important to know.

Harvey Dillon did an extensive survey that found this is, I think in the UK determined that about 20% of respondents did not use their hearing aids at all and another 30% reported they used them sporadically. Hearing aid manufacturer data show similar trends across US and Europe, where maybe as much as 20 to 40% of hearing aids owners reporting that they use their hearing aids only four hours a day or less. And of course, here in the US we have the direct, direct to consumer products, so. So it's very difficult to keep track of that. The numbers are hard to track, but some estimate that those who make the decision to purchase hearing aids do not use them.

Our best guess, and maybe this is just my guess, that the patients who skipped the planning stage and maybe even the contemplation stage and went directly to action may be because of pressure from family members. Maybe that's what explains a lot of this. So before we get to the health belief model, which is our next one. Brian, you've worked a little bit with the ttm, haven't you? I have.

Can you go back two slides, please? Sure. I think it's a really handy model to know when people come into your clinic. That one? Yes.

Thanks. I think it's important for clinicians to remember when somebody comes into your office for the first time. That doesn't mean that they're in the action stage. And it's very likely that they're in one of the three prior stages, stages, pre contemplation, contemplation or preparation. And I think it's important as well for clinicians to try to recognize what stage they're going to be in because that will help you tailor the presentation to what stage they're in.

I'll give you some examples of what I mean. If somebody comes into your office and they're saying that I'm here because my spouse dragged me in, or my doctor said I needed to get a test, that's a pretty strong indication that they're in the pre contemplation stage. And it's going to take a little bit of time and some effort for you to guide them into the action stage. And it may not happen in that visit because essentially they're not even aware that the problem exists. So the focus of the appointment has to be on raising their awareness around all of the problems associated with not being able to hear very well.

And just telling them they have a hearing loss is probably not going to move the needle too much when it comes to contemplation. A good example of people that might be in that stage are people that come in and say, well, you know, I'm noticing that I have to ask people to repeat. I'm noticing that the TV has to be turned louder and I'm thinking about doing something about it. That person needs more encouragement to. To get help.

And just telling them that they have a hearing loss may not be enough. And then finally, preparation is when somebody's actually in the process of actively collecting information. Somebody coming in asking about the prices of hearing aids, somebody asking about different levels of technology, somebody asking about the details of their audiogram is an indication they're in preparation. So I think the point is very few people come into the first time seeing you in the action stage. And it's really important to recognize that.

And your goal as a clinician is to move somebody into the action stage. I don't think we have time to really get into the details of that, but on the surface, that's kind of why this model, I think, is so important. Yeah, good summary. I don't. In our written paper, we talk about a study.

I don't know if we have it in this particular talk, given that the results were very predictable, but there actually was a study where they looked at success with hearing aids based on what stage that they

believe the person was in when they did the purchase. And it turns out just exactly like you'd expect. If somebody is only in the contemplation stage, there's a high probability that they aren't going to be satisfied if they go to action without going through the preparation stage. Right. Yeah.

And we'll talk more. That's the really. The importance of the next volume. I think we talk about in the third Section. Yes, correct.

We'll get into that. Anyway, let's talk about the health belief model. Yeah, okay. It's similar but all of these models do have some differences and this one's also been around, but this one is based on the, the, the likelihood that people will actually take action, which is sort of interesting. It.

And again, as I say, it's similar but. But has its own uniqueness. So here, here is, this is a quote taken from the model itself is people are more inclined to change behavior when they believe that doing so might reduce a threat that is probable and that would have severe consequences if it occurred. Okay, so it goes like this. Perceived susceptibility, perceived severity, perceived benefits, perceived barriers and perceived self efficacy.

And then that leads to cues to action. So Saunders reviewed this in her article very nicely and so I think a lot of this is taken directly from her article or it's paraphrase from her article. Just so you underst that this is the general model now. But, but it's pretty easy to relate it to somebody with a hearing loss who needs hearing aids. So susceptibility, feeling of being vulnerable to a condition.

Belief of being at risk for acquiring it. Severity, belief. The seriousness of the health and social consequences incurred as affected by the condition. Okay, what if I hear I have a hearing loss and I don't treat it? Will other people stop talking to me?

Will I not enjoy going to parties? Will I end up sitting at home by myself? Are all things that you could be tossing around. Then the next is the benefit belief that an intervention result. You have a friend who just got hearing aids and said wow, it just changed my life.

The barrier. What are the barriers to be needed to overcome Effective? Well, money could be a barrier depending on your social economic status. It could be other things such as treatment and, and, and transportation. And there's a lot of barriers that could be up or it could be the stigma barrier that, that you believe that you're going to look old and your friends are going to laugh at you when you get hearing aids.

Perceived self efficacy. This is the belief in one's ability to use and gain benefit from the intervention. Will I be a better person if I use hearing aids? Cues to action. That's what prompts you to take action.

It could be internal such as symptoms of the health problem or external communication from a healthcare provider, other people or the media comments on that model. Because I think, I think the key to that model, if you could go back a slide Gus, is that as a clinician you have the ability to shape somebody's perception of these things. How, what they actually as the model, the name implies their beliefs. So for example, susceptibility. If somebody's feeling threatened or vulnerable because of the condition, then your job is to try to shape that belief and guide them into a situation where they maybe feel, feel more empowered to do something about it.

Same with severity, severity, benefits. So I think the main point here are these are all beliefs that a person holds when they walk into your office. And your job is to recognize what those beliefs might be and then use your counseling skills to shape that those beliefs into a more positive direction. Yeah, you know, I mean you can take this to a lot of things. I mean I, I grew up in a family with older brothers who smoked two to three packs of cigarettes a day and unfiltered is that.

But you know, they, they both of them quit when they were in their 60s. And you, you go through this list and this, you can see that it applies to a lot of things because looking at this, they went through all of that and finally decided, you know, if I want to live a little longer, you know, I think I need to take action. I mean I just like the health belief, just like the stages of change model. I think it's just a handy way to kind of understand the behaviors, the mindset of individuals when they come into your clinic. Yeah, exactly.

And here's one. This one's a little simpler, at least in concept. Visually it's simpler. It may, who knows, it may be more complex when you dig into it. So this one is the comb and we're looking at opportunity and capability lead to motivation.

And motivation is closely connected with behavior. So here's how this goes. Capability, psychological and physical ability to make a change or participate in an activity opportunity. External factors that make a behavior possible could be social, improved financial or effective marketing. Regarding the cost of hearing aids motivation conscious and unconscious cognitive process there can inspire behavior.

Often the decision tame hearing aids relate to positive reports with friends and family who are hearing aid users. So this is similar to the other ones, but yet has its own differences. So some final thoughts on all this. This is based partly on a review of the literature. I can't remember.

I think one of this was taken out of his review. But there are positive associations between stages and aids and help seeking innervation, uptake, hearing aid rehab outcome like benefit and satisfaction. Brian's already mentioned some of those. And I think also what Brian, you've already mentioned is that understanding the readiness towards self help and uptake is a Stages change may help clinicians develop more focus management. I think, you know, sometimes we do this without consciously thinking about it.

But I think. Do you, do you actually know clinics where, where they. They have this laid out and work through it or is it just sort of something you. Yes. Something more that you just said?

I know some. I know there's some clinics out there that focus on motivational interviewing. And I think a lot of the motivational interviewing tactics come out of the first two models that we talked about. I think that third model, comb, has gotten more traction the last few years because of over the counter hearing aids. And I think that model helps us try to describe how individuals without any intervention from a professional might change their behavior.

You know, capability is around skills that a person might be able to develop themselves, skills that they can use to. That they can apply to using otc. Available opportunity o is basically just the availability, the opportunity to get something online. And then the M motivation is basically somebody's mindset or their outlook towards using hearing aids. So I think OTC companies look at that model as they're trying to.

They use that model to try to figure out how can they get more people to not only buy our hearing aids, but then to use them. And so I think that model kind of applies to the self help world a little bit around otc. Yeah, no, excellent point. Almost. Now that you're saying that I almost.

I think maybe there's. There was a research paper that related that in. In a way, but. But anyway, you explained it well, I know the now and that's all. That's all I got for.

Yeah, those are, I think those are some handy frameworks to understand some of the factors that influence or shape people's behavior. And it's always good to know those things or try to better understand those things when a person walks into your office looking for help. Yeah, absolutely. Absolutely. Okay, so I guess we're finished with 8.2 and I'll see you for 8.3 down the road somewhere, Gus.

All right. Down the road. See you later. See you later.

V8.3: Before the Fitting - Understanding Patients' Emotional and Psychosocial Concerns

Presenters: Brian Taylor, AuD, H. Gustav Mueller, PhD

Welcome back, everyone. We are now at volume 8.3 of our research, quick takes before the fitting. Understanding patients emotional and psychological concerns. And with me as usual, Gus Mueller. Gus, welcome back.

Yeah, thank you. Thank you. This has been, it's been real interesting because you know, earlier we did, we had, we had a whole toolbox full of audiologic tests and, and now we're going through another toolbox. But it's a little different way of looking at things and you sort of need both. So what I'm thinking.

I think so. So here's we're going to start off with a little example of why we're talking about this really. And that is you just finished a long day of fitting hearing aids. You're giving yourself a little pat on the back. You, you see your last patients probe mic results over on the left.

Your fittings were close to now target on all cases mpo. You adjusted it and just nailed it. It came in just below their measured LDLs. You did unaided versus aided quicksand testing just to show that you improved the snr, gave the patient a good shot on the arm and wow, what a day. And everything is great.

Or maybe not. You know that there's a good chance that one of these patients, maybe not that day, but one, maybe every week, won't be a happy hearing aid user. At least not initially, not in the first few weeks. You've all experienced it and sometimes there's no real explanation. It's complicated.

And that's what we're going to talk about in this. In this episode of volume eight. So a woman who's done a lot of work in this area is Grannis. You, you. What's her first name?

Brian. Well, there's.

Yeah, Beck Bennett. Yeah, Beck Bennett. Right. Okay. And didn't you have her on.

On a little interview show thing? Yeah, on our. A year or two ago, Beck was. We. I interviewed her on this week in hearing.

Yeah, yeah. There's a lot of great research that we're going to. Yeah, yeah, for sure. In fact, her name's going to come up here again. And if you look at our.

The, the text version of all of this is her name takes up about half the reference list. I think we had to do A, B, C, D. There were so many of them all in one year. Okay, enough. Let's get to the material.

In this particular study, she examined social and emotional distress relative to hearing loss. They collected data from focus groups from 21 adults who had hearing loss. And their findings revealed individuals describe their hearing loss in Terms of several different things. One, they talked about negative consequences, fatigue, exclusion, the identity impact, not something that you normally think of, but how they perceive themselves or how they, how they believed others perceived them. Emotional distress, frustration, grief, anxiety, loneliness and coping strategies were reported included avoidance, controlling the listing environment, humor, acceptance and assertiveness.

All, all interesting things that most of you maybe know but haven't thought about in an organized manner. Eckbert did some systematic research looking how patients concerns oh they are addressed by audiologists and this was 26 different audiologists and the appointment was the initial hearing aid assessment with an adult patient and they had a discussion about rehab options. And by rehab this includes the fitting of hearing aids. It isn't always referred to as rehab but this particular article it is. And they had companions were present in 17 of the 63.

All of this was described with video data. And then they went in afterwards and did an analysis of what was said going sort of sentence by sentence and some of the key findings where they found that

patients raised concern about the use of hearing aids. And 51% of the appointments when the patients expressed concerns, typically they were expressed in a way that carried a negative emotional stance. I could imagine them saying I don't have to wear hearing aids, do I? Audiologist responses and here comes the interesting part.

The audiologist response usually did not align with the psychosocial nature of the patient's concern. Well then the patients tend to escalate their concerns in subsequent speaking terms. And perhaps more importantly, when the patient's concerns remain unaddressed, it was often the case they left the appointment without making a decision regarding the use of hearing aids. Not too surprisingly, these authors concluded that there appears to be a need for further development in this area that as health hearing care providers we need to think more about what the patients are really telling us and to respond in a certain way. Now I, now I'm getting to the Grinnis article who is if you've seen recent publication from her, her name is now Brian Barr Barr B A R R.

Right, yeah. Yes, Caitlin is the first name. Caitlin Barr who was Caitlyn Grenis. This, this article is from about 10 years ago, but it's as relevant today as it was when it was published. They looked at three important dimensions.

The therapeutic relationship, the players involved, who would be the audiologist, then the patient and this in this particular research and the clinical process. And what they looked at was how you, how do you develop a therapeutic relationship and the main factor was trust. They looked at, they found audiologist behaviors consistent With a trustworthy profession were interpersonal skills such as caring, listening, friendliness, providing ample time for the patient to respond to the audiologist open end question. And they developed a simplified clinical model back then that how you can make this work in your clinic, which they refer to as a therapeutic relationship. And it involves listening, being sympathetic and showing emotional interest.

And it's all pretty simple. Well, I wouldn't say simple. It's pretty straightforward. And you'd say, well, of course that makes sense. But on the other hand, sometimes maybe we forget this on a busy day.

Where we're going here is patient centered care, which I know some say that we should call it person centered care. So you might see, I think we use both in our talk here, but we'll just call it patient centered care for right now. So if you start down on the bottom, you get a dialogue based on open ended reflective questions, then understanding individual preferences, involvement and family and friends. Cheryl Gold Shared goal setting, active listening, and finally empathy. Now, I wanted to give an example of what we, what we've known over.

For many of us, particularly those of us who are older, we, we grew up in a setting where it was pretty much doctor centered care. And that is the doctor told you what to do. I tried to find some examples of this and I saw a hypothetical case where they came up with some guy named Gus. And so we're going to try that. And just to give you an idea of the difference between doctor centered care and patient centered care, in this case, the doctor says, gus, if you really want to live a few more years, you need to lay off the wine.

No more than one glass a day. And this character Gus says, no problem, doc, you're the boss. One a day is what it is. The doctor is always right. Right.

Well, let's move to 2024 and patient centered care. We now have a lot of younger doctors. Gus, I'd like you to hear your thoughts about maybe cutting down your wine intake to maybe just one glass a day. What do you think about that? My thoughts?

Crazy idea. I don't even get a buzz on until the third glass. Let's go for a bottle a day, doc. Well, the research actually shows that, that older people actually prefer and often do better with doctor centered care. But I must say that for most of the world, patient centered care is the way to go.

You're going to hear more and more about that as time goes on. It took it a while to make it to audiology. It's been talked about in other disciplines for 20 years. It's only been the last decade, I'd say where it's been talked about. This was a review article again by Grenis.

I think this is in International Journal of Audiology, if I'm remembering correctly. And what they did is they sought out to answer five different things. What is patient centered care? What are the outcomes? What are the factors contributing?

How is patient centered care measured and what are the implications? Anything you want to jump in here before we get into all this? This is a good summary. A couple things, Gus. I think first, the, the work that Beck Bennett has done is really important because again, I think it shines a light on something that we all experience.

It just gives us more insight in it. And that is all the emote, all the negative emotions and, and behaviors associated with hearing loss. And her, her work kind of shows you that a high percentage of people feel socially overwhelmed. High percentage of people feel like they're missing a fear of missing out. So that's all good information.

And the other thing I wanted to point out from the work from, from Caitlin Barr, I think it basically shows you there's this huge disconnect between how patients view the appointment and what they want and what audiologists are providing them. Long story short, most patients want to be heard. They want their social and emotional concerns to be addressed. And audiologists almost by definition, go to technology and talk about the audiogram. And there's this huge disconnect because of that.

And I find that their work is interesting because it shines a light on those, on those problems. Yeah. You know, a, another minor thing here that. Well, it isn't minor. It could be major.

Just from that I found from reading the pages of Facebook, pages of audiology, audiologist comments and such. There was a survey not so long ago about how long, how many, how long do you have to see each patient in your wherever in your work setting? And there were some that had no more than 20 minutes. You don't even have time to talk about the audiogram, I don't think in 20 minutes. So that's a whole other issue.

But it's hard to do patient centered care when you barely get to know the person's name and you have to see the next patient. So let's talk about. This is again the summary that we were just talking about from the Grannis article. And there's a lot of stuff here. So I'm gonna, I'm gonna go through it quickly and just simply refer you if this is something you're interested in.

Refer you to our text article at Audiology Online. Even if you're not taking it for CEUs, you can easily just. You can still go into the article and just go to this particular section and get all the details. So these are all the. The.

The basis of, of what is patient centered care? You notice down number four, we're talking again about the therapeutic alliance and then also the practitioner as a person. Excuse me. And what are the outcomes? You assume the outcomes are going to be patient satisfaction, obviously, and there are data on this.

You also, you hope the outcome is patient adherence and health outcomes. If you're working with a diabetic whose blood sugar is running high, their adherence to the correct amount of insulin and diet is important. And it's very probable that using a patient centered approach will get you there. And finally, interestingly enough, there's been again research on this practitioners outcomes. Practitioners who use patient centered care tend to be happier and from a very practical standpoint, they have fewer malpractice cases.

So what are the features contributing to patient centered care? There's a long list here. And again I refer you to the article, but patient related factors. Gender. Women tend to be given more information and be asked more questions.

Ethnicity. Caucasian patients receive more information. Higher quality interpersonal communication. Age. Whoops, I just messed up.

Let me go back here. Age. I already mentioned this. Older patients prefer a more paternalistic model. Education.

Patients with higher level of education or more likely to be able to express themselves as you would guess and tend to prefer a more patient centered approach. Socioeconomic standards. Patients from high socioeconomic background have more active participation and health status. Patients who report better health are more likely to receive patient centered interactions.

What are the practitioner related factors? Okay, so that was the patient. Now what about the practitioner? Female or Caucasian practitioners? More years of experience have been found to be more patient centered.

I think that would be female and Caucasian female practitioners seeing female patients more effectively use nonverbal cues. This, by the way, is what I'm reporting here is not somebody's estimate. This is all based on actual research where they went in and studied what was being conducted. Male to male encounters yielded the least patient centered interactions. Some of that doesn't surprise me.

Okay, it had one little bit. Are you okay, Gus? Yeah, I'm fine. Okay, see you in a year. What are the factors contributing to patient centered care?

Organizational related factors. Patient centered appointments don't necessarily take longer. People think they do and I guess I sort of hinted that they do, but I guess the data says that they don't. Longer seems better. Two different studies have shown that the amount of time spent in the counter was not linked to patient satisfaction.

It's not how long you do it, but what you do. I'll take a pause here Brian, if you. I'm sort of haven't let you talk much. No, I mean I think that this really illustrates is that regardless of the length of time people want to feel like they were listened to. And sometimes that's more of a tactical thing than it is time related.

Yeah, I agree. Well it's true with it's basically just a simple conversational skills or politeness maybe some of that. So there the research and implementation factors as I mentioned earlier really with audiology it's only been the last 20 years, maybe only really the last 10 years. But the findings are pretty the same as that we've gotten from medicine and other disciplines. Trusting the practitioner being informed and educated and being provided with option.

There was a separate study that found important concepts including the patient's want for empowerment. I think we're going to talk about that in a down the road. Yeah, we have that on our schedule. Yes. Yeah, I think we remember we we're doing some reading on empowerment scales for the audiologist to understand their needs and their need to feel comfortable.

How is it measured? Well, there's no gold standards methods have included observational techniques, audio video questionnaires. These authors concluded that there's over 50 instruments that exist which examine the nature of the interaction through rating scales and checklists and it's important that the measurement is accomplished by a measure of the effect on outcome. Of course some issues related to patient care and audiologic that make it somewhat different than the application in general. Medicine

for one certainly is we have a sale of a product involved where all these other applications of patient centered care most of them do not involve.

In fact basically I can't think of hardly one other that involved the sale of a product.

So the results or the comments from the Greenis article that that we've more or less been reviewing is that they belong that they believe that a definition of patient centered care is required including qualitative studies that the patient's perspective into account. And if we can identify what patients want from audiologic rehabilitation we can investigate whether it's patient centered and identify the barriers. Final thoughts? Well, there's a few of them. Here's.

Here's the thought that. And this is some. Some practical things. Certainly you talk about patient centered care. The COSI fits in very nicely and it should be.

It's something that should be part of all appointments. Secondly, there's a difference between standard instructions and joint goal setting. For example, at the initial fitting, a standard instruction might look like this. You will still have problems in noise. It's unavoidable.

In contrast, joint goal setting could be. It's quiet in the fitting room right now, but let's think about noisy situations. What might those be in your life? Let's talk about some things you can do to improve communication. And of course for those of you who use the cosi, this is exactly the way you, you come up with the items on the COSI is by talking with the patient, coming up with situations that are important for them.

Another thing that we've talked about in some of our previous episodes is encourage a family member to attend the appointments and you can have your front office staff talk about the. If you have to give them something written, it's helpful for you to bring a friend or a loved one. Who would that be? And you

know there is a lot to discuss and it helps to include family and friends in the process. A little bonus here if you happen to remember quick takes volume seven and who doesn't really.

Hearing aid adoption is 10% greater when the patient brings a family member to the consultation. And the family member, by the way that was the most successful was when you brought a child. I assume this means an adult child. They didn't say so in the article, but I'm thinking an adult child bringing a three year old probably isn't going to help much. And finally here, ensure that the physical environment is comfortable for the patient and family members.

These are just some very practical things. Most of you probably already apply them. Start off the appointment by encourage dialogue and inclusiveness. Participants saying something like we are going to do a lot today. For the next 10 minutes I want to find about, about your hearing communication.

That's to the patient. Then you look to the significant other and then, and then I want to find out about this from your perspective. Finally, at the minimum, we recommend that HCP is incorporate the Patient Centered Observation Form. Brian, I'll let you. I think you've used that before, right?

I've talked about it. I think what you're referring to there is a decision aid that shows the different options that are available around devices and cons. Yeah, I would encourage everybody to use those. Have a poster on your wall, have a handout. Great way to get people educated on what the options.

Yeah, I suspect that that's available at the University of Memphis. Harl, Harl. And that's all I have. But You. You had a couple things to add to this, I believe.

Well, I think some of the things we' out in the next couple of volumes. I'll hold off and wait until we get to those, so. Oh, okay. That was a nice summary, Gus, of patient centered care and what's in the audiological. In the audiology literature around it.

So. Thank you. Yeah, it's hard to come up with a good reason not to use it, you know, when. When I have heard in discussions, and I'm certainly not an expert on it, what I have heard in some discussions is when it comes, when it gets down to the sale of hearing aids, you can almost be so patient centered that the patient can't make up their mind and they leave. You know, I don't know.

I'm not selling hearing aids these days, but do you have any comment on that? No. I think the part of being an expert is helping people make a decision. And sometimes you have to, you know, it's more art than science. Sometimes you have to be more.

You have to guide people and allow them to make the decision on their. With a little bit of guidance. And other times you basically, to your point, be more paternalistic and tell them what to do. And, you know, some of the factors that weigh into which one you, which approach you use, I think you described nicely. So.

Okay. All right, well, that's all I have, so we'll see you down. Down for 8.4 sounds. Four, moving along. So long.

8.4: During the Appointment: Assessment Tools Beyond Routine Audiometrics

Presenters: Brian Taylor, AuD, H. Gustav Mueller, PhD

Welcome back, everybody. We are at volume 8.4 of our research QuickTake series. Today we're going to be discussing assessment tools that you can use during the appointment that go beyond routine audiometrics. I'm Brian Taylor and with me today, as always, Gus Mueller. Welcome back, Gus.

Yeah, good to see you again. We're moving along with volume eight and this is a, this is sort of a fun one. I remember when you and I put this together, it was, there was some, you know, to be honest, there was a couple self assessment scales out there that I didn't even know existed. So I'm sort of happy that we could put them all together and. Yeah, it's.

And tell the world. Exactly. So here we go. As a matter of fact, we're going to cover six different domains and this is domains in addition to the domains that we assume you already know, like listening in background noise and listening in quiet and things like that. We tried to pull out some domains that maybe the average HCP isn't using routinely, but might want to consider using, if nothing else, just for some select patients.

And so we came up with six of them, starting with the perception of the problem. This is a, a fun study that was done. This, this, this is for those of you who say that I don't do any self assessment scales, it just takes too long. This is a scale that has one question that's was written up by Katherine Palmer and I have the picture up there of Helina Soledar because I believe most, if not all of the data was collected from her offices in the Atlanta area. And so it, it seemed important to, to include her.

She, she of course is one of the authors. So here's the question. On a scale to 1 to 10, 1 being the worst, 10 being the best, how would you rate your overall hearing? And so what they did at these practices, they looked to see who purchased hearing aids and who kept their hearing aids and compare that back to how people answered this one question and what you see, it's actually quite interesting. Remember, 1 is good and 10 is bad.

It's very predictable that as they, as they would rate their hearing aid, their hearing worse that, that you would see then a increase or. Excuse me, I think I did, I messed this up. Yeah, I think that the lower the number one is bad and ten is good. Okay, got it, got it. Okay, one is bad, ten is good.

So you can see that as they, as they rated their hearing worse, which is actually number one or two or three or four, that they were more apt to buy and keep hearing aids. One of the things that was interesting to me was look what happens in between number six and seven. You really see a big change there. Where now something about raking your hearing as number seven is really different than the number six when it comes to buying and purchasing. But you can see it's very good, very predictive.

And that is if they rated their hearing seven or better, there's a low probability that they're going to purchase or keep hearing aids. Another self assessment scale that's been used recently is sort of a modification of an old, of a tinnitus scale that's been around for a while. But Brian, I think you're familiar with this, right? I am. I think this is an interesting scale that Jim Henry, who is a pretty well known researcher, affiliate tinnitus researcher, affiliated with the va, created several years ago the Tinnitus and Hearing Survey and that has eight questions on it.

And the basic idea behind the Tinnitus and Hearing survey is to triage patients into is the primary problem tinnitus or is the primary problem hearing loss? And so using that eight question survey, you can decide which problem you might want to tackle first. So what this group did, I think the primary researcher here is Alyssa Davidson, who I think we've talked about before, she got her, I think at Northwestern. Anyway, they took the hearing questions on the ths, you see those listed there, and they asked people to, to fill out on the THS if these were a problem or not. And the good thing here is with it's only four questions, so it takes less than a minute to complete it.

And I think Gus, if you go to the next slide, basically on these four questions, each one is on a 0 to 10 scale, 0 being not a problem and 10 being a very big problem. And they found in their statistical

analysis that only 5% of the service members surveyed with clinically normal hearing scored above 27 on the four question version of this THS, which that tells us is that. So if the score is 27 or greater on this, that's the cutoff for at least for a self reported clinically significant hearing loss. Yeah. So nice, nice, simple sensoria.

Yeah. So if you administer these four questions, you add up the score. If it's 27 or higher, that would be a strong indication that this person is self reporting a significant hearing loss. Right. Okay.

Moving on to fatigue. Fatigue is an issue that patients sometimes report. I don't think we probably talk to them about it as much as we maybe should, but these are all the things that Listening fatigue, you know that it, it can enter into. It could be sleep, irritable, decreased sensitivity, struggling to stay present, listening but not registering, brushing, increased sensitivity, headache, withdrawn. And there's probably some that are not, not even here.

There's from a, a company that I'm not, I don't know, familiar with his sign, it's called. But since I stole it from them, I thought I should give them credit for putting that together. It's something that, you know, could be used as a handout for patients. I think that's why they designed it. Anyway, when you think about listening fatigue and where the research is being done, it's most of it in the past 10 years, I'd say has been done at Vanderbilt.

And as I'll get to in a moment, Ben Hornsby has been there. Fred Best head there, or not the head, but the former head there, before Anne Marie Tharp came along, had several grants related to fatigue. Most all of Fred's work, however, had been with children. And because of that they have only recently have they developed a 10 item adult fatigue scale. And that's what you see here, the original fatigue scale for adults.

And that's Ben Hornsby up on the top, by the way. Original one with adults was 40 items. And it was quickly realized that 40 was a little more than what the average clinician wanted to deal with. So they've now reduced it down to a 10 item version, which again is what's shown here.

They report that it's easy to use. Most adults can complete it in their own on two to three minutes and it's scored very simply by summing the 10 items. A maximum score of 40. That would be excessive. That would be if they had the highest category for each of the 10 items in research.

Looking at this, they found that 53. Well, let me go back. They had the scores of less than 26. That was no hearing loss, had scores of less than 26. The majority, 53% had, were less than 5 and 88% had scores less than 15.

In contrast, for people with self reported hearing loss, about 25% had scores greater than 26. 13% had scored greater than 30, suggesting their problems were occurring often, always. So this gives you some guidelines. So when you do the test, keep in mind that 40 is as bad as it gets. So if you have people who are scoring 30 or higher, that's a lot of fatigue.

This is a study that you're involved with, Brian, right? Yeah, I kind of helped them, motivated them to at least collect the data. I have to give all the credit to my friend and colleague Navid Tagvai, who is a clinical audiologist for SIGNIA and also owns his own practice in the Phoenix area. Anyway, he's a user of the, of the, the short version of the fatigue scale, the Vanderbilt Fatigue Scale for adults. And you can see here, he started collecting data, I don't know, maybe a year or so ago.

This is the first 42 people that he administered this to, both before and after the fitting. And he showed that the, the average score in the unaided condition was 13 and a few patients had a score that was higher than 25, which as you showed in the last slide, that seems to be, you know, or fatigue is the most problematic. Anyway, he admitted he readministered the vfs about a month after the fitting and

the average score dropped from 13 to 6 in the aided condition. He found, I think probably the most interesting thing here was that all seven patients with an unaided score of greater than 25 had an aided score that was 10 or less. So it really shows you that the people that had the worst problems in the unaided condition seemingly got the most help from their hearing aids when it comes to reducing fatigue, which I think is a real positive finding.

Yeah, you know, it's a good example of how the scale not only can be used as a pre fitting scale to help your counseling, but it actually can be used as a post fitting scale to measure outcome and satisfaction with hearing aids. So it can give you a lot of information and you know, a lot of times I don't think we, we think of fatigue. Well, we maybe think about it, but we don't talk about it very much with our patients. Well, that's the whole thing. I think until now we haven't had a really good way to measure it in the clinic.

Exactly. Okay, Moving on to another area, Social and emotional impact. We have a scale for that that's been around for, since the 1980s. And in our previous installments we've talked about the HHI or the HHIA. It always gets a little complicated.

Who gets the E and who gets the A? And what if you got a 75 year old who acts like an A but really is an E? And, and you know, what scale do you give? So what has happened recently in the last four years is researchers have taken these two scales and merged them into a new 18 item scale. And the good news is There is a 10 item screening version.

Now for those of you who are not familiar with the HHI or a half of the questions have to do with social handicap and half the questions have to do with emotional. So that's why it falls under this emotional and social scale.

This is the screening version right here. So I can't think of a reason why you would use the HHI or the HHIA when you could simply use this version for everybody regardless of their age. What they, what the authors say for the screening version, if a score is 6 or higher, a hearing problem is expected. Okay remember the, the you get four points for a yes so the maximum score would be 46 isn't actually very high but that's what their data showed that score. So that if you got if for three answers they gave you the sometimes answer that would then combine for a score of 6.

Moving on to locust control. Locus of control, it's sort of an interesting topic, refers to your own perception of the main causes of events in your life. It's something you listeners might sit back and think about yourself like where, where do you fit in? And it really, it boils down to three things. Do you think your destiny is controlled by yourself?

Like you're in charge of things, I mean or do you think it was by some external force? Or do things just happen by chance? So that's your three choices. In, in the world of health care, what they then call it the health llc. It's the, the person's attribution of their health to personal that means internal or environ environmental factors.

So if it's an internal locus of control that means that you're the one that makes things happen and, and that reflates to your health. Where external it means there's, there's other things that are, that are taking over and this applies to many, many things in life actually. How does this relate to the adoption use of hearing aids? Well there's actually been studies on the topic because locus of control also is related to self efficacy and self efficacy is the belief that you can produce the result you want in a specific area. People with high self efficacy will most likely have an internal locus of control.

It's easy to see then of course why this internal trait might be related to the adoption of hearing aids. There's been a couple studies on this, but one of them that we'll report here, they surveyed a total of 114 people who are identified as hard of hearing. And what they found was a strong predictor of self

efficacy was an internal locus of control which should in theory at least just to living better with their hearing aids because they don't believe that Somebody else, you know, they didn't get hearing aids because someone else told them to do it or because some superpower guided them that direction. They got, they got hearing aids because they believe that that was the best for them. It's also been studied to identify factors that are associated with successfully set up a pair of hearing aids.

There was an interesting OTC study, I don't know, Brian, if you remember that, where one of the things they looked at was locus of control as to who would be a good candidate for downloading the app and programming it and, and selecting the, the best fitting. Anything to add on that or. No, I was just going to mention that study. I think that that's where locus of control probably is good to know about in the OTC world. Somebody that has a strong internal locus of control, more likely to adapt, do it themselves effectively.

Yeah, exactly. I mean, it sort of makes sense, but it's nice to have data to support that. Right. Moving into the next area of empowerment. So there's actually been a fair amount written about empowerment and you see how it works here.

If we start up at the top, we have the patient engagement, patient involvement, which then goes to patient enablement, which goes back to patient communication, and we're back to patient engagement. So this is the empowerment. I like the symbol in the, in the center there. It's sort of interesting, I guess. That good symbol for empowerment.

Yeah. Why is it important? Well, it's, it's the patient's ability to make decisions about their health and take control. They can be empowered by their healthcare providers. They can empower themselves through self education and help seeking.

I think most of us today, if, if you go have an annual physical and there's some little thing, maybe it's a big thing, something that's an abnormal, the first thing you probably do is Google it to find out what the heck is it and what is normal and how abnormal am I. And what you're doing really is empowering yourself to help make important decisions. It shows that empowered patients have a greater understanding how to navigate healthcare and they're more satisfied with the healthcare they receive. This is again from our frequent friend Bennett in an article of this year. So of course, if it's important, we're going to have an empowerment scale.

And here it is, it's simply five items and you can use it clinically to gauge how empowered a patient might be. And it gives you insight on what area concern you might address before the hearing aids are fitted or even months or years post fitting, which takes us to Self esteem. Now, you might think self efficacy would be similar to self esteem, but it's different.

Self self esteem refers to your respect for your own value, where self efficacy refers to how you feel about your village abilities to succeed. So you could have low self esteem but yet have self high self efficacy for some aspect of your life. Okay. If you think about it, you probably can think of examples of your own life or, or a friend who, who fits that category. So in general, high self esteem is associated with good coping skills and persistent.

So right away you can see how this fits with successful hearing aid use. And yes, we have a self esteem scale. Now when I was researching this, I saw mention of this Rosenberg scale and I thought, okay, well that was 1965. What scales are being used today? And Brian and I were talking about this.

The scales that are being used today are the 1965 Rosenberg scale. I guess something about self esteem really hasn't changed in all these years. And so, for example, here's an article from just last year conducted with 86 hearing aid users that they did a measure of self esteem and they used the Rosenberg scale. And hearing aid satisfaction was assessed using the IOI outcome measure, the

International Outcome Inventory for Hearing Aids. I'm sure most of you are probably familiar with this.

What they found. Is there a significant positive relationship between the level of satisfaction with hearing aids and the Rosenberg self esteem score? Probably doesn't shock you. When they did a fairly sophisticated analysis, they found that self esteem explained 26% of the variation in satisfaction. So that's a prominent factor when you think of all the components that lead to satisfaction.

If you can find one thing that makes up 26% that's more significant than just 26% sounds like. So a final topic in this section now that we're done with all those scales, but we're talking about post fitting instruction and just a couple examples about why post fitting instruction and counseling matters. I have to go back to this guy Mueller. Way back in 1987 at the time I was stationed at the Presidio, which is located the. My office was just.

That's the Golden Gate Bridge, of course. And my office was located just to the far right of this photo. And there it is right there. Naturally had a corner office. I was lieutenant colonel should get a corner office.

But we did a very fun study. This isn't a study. This is back when I started doing real ear measurements in that year, 1987. That has little to do with the study. So what we did is we were fitting a ton of hearing aids.

And I had, on any given day, three or four audiologists who worked for me. And we had hearing aid fitting days where each audiologist saw eight patients all fitted bilaterally. And we'd have two a week. So do the math, you know, a lot of 50 hearing aids, 50 hearing aids a week or something like that is what we're fitting. And we ordered all of them because it was the army ordered, all from the same manufacturer.

So prior to the fitting, the patients were given a questionnaire and one of the questions was if they wanted to be fitted with one or two hearing aids, but we fit them all with two. Regardless of what they said, they all got all. They all walked out the door with two. It turned out in the end analysis, we found that 46% only wanted one, 54% wanted two. In the beginning, this is before they were fitted.

They were fitted usually by three different audiologists, sometimes four. And then they were followed with a basic orientation. So the way this would work is every two hours, I would do the orientation. And so, you know, there was probably at least six patients in this orientation. And so I would do, I would notice it said senior ranking active duty officer.

I would do my counseling differently for each group. When we got to the fact of bilateral versus unilateral. So for some of the groups, it was Dr. Centered. And that was.

The patient would just said, look, bilateral hearing aids are good for you. Here's all the reasons they're good. They're going to do this, they're going to do this, they're good this. I can't believe why you would not use two hearing aids. The other approach, for the other half of the people were patient centered.

And that is, I would say, you know what, you might like to wear two. You might like to wear one. Some people like one, some people like two. You be the judge, you decide what's best for you. Okay, so you got doctor centered and patient centered.

So that leaves us then with four groups. We got the people who originally wanted to and got and. And got Dr. Centered. You got the people who wanted to and got patient centered.

And then you got the ones who wanted unilateral and the ones who wanted and who also then got either doctor or inpatient centered. It turned out that they fell into. We stopped doing it when we hit when we got a 100 responses back after nine to 12 months. And some of these were done, most of

them actually were done through telephone interviews just to make sure we got all the data. It was a fun study to do.

And the results were, I thought, rather interesting. If you look now what you're seeing, there's two sets of data here. One of them we looked at what percent of time they used bilateral, and the other was what percent of people gave it a very beneficial rating. So if you look at use bilateral, notice that under group one and group two, all of these people wanted to use two hearing aids. But the ones who got the ME doctor counseling used their hearing aids considerably more than the ones who got the patient centered counseling.

And in fact, the ones who got the patient centered counseling really were not significantly any different than the ones who only wanted one in the first place. And when you look at the benefit, you see the same thing. So the end result here was that, that you need to do. Let me think of a politically quick word. Very strong.

You need to point out the benefits in a very strong manner. I think patients consider you the expert. They want to know if things are going to work or not. And I wouldn't be wishy washy about it. If you have scientific data that something works, then I would tell that to the patient.

Well, we've seen other examples of how this sort of thing works. This is from Ruth Bentler from years ago where she took the very same hearing aids. And this was a crossover trial where first the patients wore what they called digital hearing aids. Then they crossed over, wore the very same hearing aids, except they were called conventional. When the hearing aids were labeled digital, the AFAB scores were significant higher.

And when asked to state a preference for continued use, 83% of the 40 participants wanted to use the hearing aids name digital. But they were all the same hearing aids. The patient didn't know that. Similar

findings in a totally different study by Dawes and colleagues, they compared two devices that were identical, except one was described as new and the other was conventional. When using the new hearing aids, the participants even had improvements in speech and noise performance, not huge, but 4%.

And sound quality ratings, 75% expressed in overall preference. The point being here is patients listen to what you say and you need to tell them the right thing. Well, look at this. World Congress of Audiology just finished on Sunday. How current are we, right, Brian?

Yeah, no doubt. You want to guess what city it was in? It was in Paris. Paris, okay. No, the Eiffel Tower didn't help you any there, did it?

Just, just checking to see if, you know, if you recognize Eiffel Tower. Well, here's, here's what I, I learned about the World Congress of Audiology. Here is a woman who, who gave a presentation there just a couple days ago? Dina. And I'm going to call her Le.

But Brian, you, you know her. What is, what's Dina Lich Leitch like if it's a ch. Dina Lich. And her topic was focusing on positive listening experience. Why am I bringing this up?

Because we had this talk planned a week ago and one of the topics was positive listening experience by this woman, Dina Leelage. So anyway, let's talk about it. In case you didn't attend the World Congress of Body Ology. You didn't go, did you, Brian? I was not there, no.

Have you ever gone to one? I have not gone. You know, I think I did a long time. I think they're every two years or so, usually in interesting places. We might want to do that next in two years.

Okay, here we go. All of these participants were fitted bilaterally, same model of premier hearing aids using a proprietary algorithm of that manufacturer. They experienced a three week field trial. The positive focus group actively reported via smartphone app each time they had a positive listening experience. The average number of reports was 1.5 or 2.5 slightly high.

So this is the positive focus group. The other half didn't report on positive responses. So at the conclusion of the field trial, outcome measures were administered including the IOIHA and the cosi, two scales that we've already talked about. I'm only going to show you the one for results. The results for the IOIHA were also very positive.

But here's the results for the cosi. So what we're seeing here is the average rating. The plot you see there is from the 25th percentile up to the 75th percentile and then the median is indicated. So if you look and those of you know the cosi, notice this is big differences. The people who were the control, meaning they didn't have them, report positive listening experiences at the end of the trial period, the average rating was no difference.

Whereas the people who reported positive experiences, the average rating was a 4, which is better? And notice they had responses all the way up to much better.

So final thoughts on this section. Think about implementing some of the questionnaires we presented showing this X ray information can assist in hearing aid adoption. Don't underestimate the importance of patient counseling at the time of the fitting. It can really alter hearing aid use and benefit. Closing comments from you, Brian.

I'm glad you put in Dina Leelich's research there. It's. She actually did another study that showed the same effects six months after all of the positive reinforcement, the positive messaging around hearing aids. That stopped six months later. Those patients still experienced more benefit on the COSI than the

group that didn't receive.

So it kind of shows you there's some carryover. Oh, yeah, that's. That's great information. I don't know that I've seen that. Yeah, that's a second study she published with a different group of patients, but similar design study.

Yeah, because that would be, you know. Because, you know, you could say that. Yeah, that group, they were out and they were. They were reporting their positive experiences. And there could be like a halo effect from that, from that three week period.

But that halo effect isn't going to be there six months later. I don't think so. Exactly. And if anyone wants to learn more, I actually interviewed Dina. It's on the Signia Signia AO channel.

You can listen to the interview and there's some slides in there that have reviewed two or three of her studies. Oh, sounds good. I didn't know Signia had an AO channel. Yeah, everybody has one, Gus, except for you. You have 20Q.

You have your own. My own channel. You have your own channel. Music too? Or anything.

You put anything you want on there. That's the beauty of your. We need to work on that. Get something on that channel. You know you hate to have dead air, right?

Exactly. Speaking of dead air, we're about to sign off right now, so I'll see you for the last section of Quick Takes eight. Yeah, I think we got one more to go if we can get it put together. And I'll see you when. When we get that ready.

Sounds good. Okay, bye.

8.5: After the Appointment: Promoting Consistent Hearing Aid Use

Presenters: Brian Taylor, AuD, H. Gustav Mueller, PhD

Welcome back, everybody. We are at, on our last section of volume 8.8.5, and we're going to be talking about things you can do after the appointment to promote consistent hearing aid use. And with me again, as always, is Gus. Gus Mueller. Welcome back.

Yeah, thank you. Thank you. Yeah, we've sort of gone through all the steps and we're at the final step. And this is now after the appointment. What promotes consistent use and what provides the benefit that we're looking for?

And of course, satisfaction. This was an interesting review that was conducted about what patients are thinking and saying after the fitting. Two common things that probably wouldn't surprise anybody too much. One was the negative was acclimatization. And that is people just didn't get used to the hearing aids as rapidly as we'd hoped they would.

And the second one was issues with smartphone connections. The positive things they had to say that they, they liked the informational counseling. They, the concepts, acceptance of hearing loss, consistent use. What also was a positive was support from significant others, and finally was good relationship with the hearing care professional. These are all things that led to increased satisfaction.

Let's talk a little bit about acclimatization since that was listed number one. And you know, we've talked about this for years and years, either directly or indirectly. It sometimes is referred to as perceptual learning. And that is the brain simply has to learn these new sounds. And, you know, I for many years fit hearing aids myself.

And I know it's a tough compromise with the patient is when the patient says, this doesn't sound good. But at the same time, you know that what they're experiencing is what is probably better for them. And if they stick with it, they will probably acclimatize. But it makes a difference where the things that are the most commonly mentioned when the complaint is there, high frequencies, this sounds tinny, and

amplification of soft inputs, which the patients have not often heard for 10 or more years. And that of course, includes the high frequencies.

So I wanted to give you, for you younger people out there, a little bit of an historical perspective going all the way back to 1989, which is when Mead Killian introduced the camp. And the camp was unique because it had a low compression threshold and input compression. And the result of that, which we don't have time to go in here, here. But when a patient adjusts the hearing aid for average sounds, soft sounds become much louder. By much, I mean, maybe 10 to 15 decibels, then they had.

Then they would experience with linear amplification I was fitting hearing aids at the time and all of us were, were we're having trouble dealing with this because the only way to deal with it, the most easy way to deal with it was simply turn down gain for soft. But if you turn down gain for soft you also turn down gain for average, which was not to do. And, and it was very difficult with the camp to go in and only turn down gain for soft. Granted the fact here is the patients were receiving the correct amount of gain for sof. They just didn't like it.

So to try to deal with this, Mead came up with an acronym called obonzo. In fact he had a newspaper column. Brian, I'm sure you remember it's asked Dr. Obonzo that he ran in one of the Chicago papers where he dealt with questions about the camp or hearing aid fitting in general. Anyway, Albanzo stands for Automatic Brain Operated NOID Suppressor Option.

A few years later he teamed up with, with Stuart Gatehouse and they published an article on acclimation and they, they came up with yet another acronym, the HABRAT Hearing Aid Brain Rewiring Accommodation Time. So this is not a new topic and there's been, people have done a lot of serious thought about this. So the question you say you need to ask is do a bonzo and hab rat really happen? Because if you believe it does happen then that's going to change your counseling with your patients rather than if you don't believe. So I want to show you a couple studies on this.

One of them has to do with loudness, acclimation to loudness. As I mentioned, many patients complain that soft sounds are too loud. So the PAL is a 12 item questionnaire that can be used to have patients rate their loudness to different environmental sounds on a seven point scale. Four items for soft, average and loud. In one of the studies the patients were given the pal.

So that's why I'm telling you what the PAL is all about. So what happened in this study is patients were fitted to now prescriptive methods and that was verified. And then the PAL ratings were only soft inputs because that's what they tended to complain about. The PAL ratings should be number two. And so they measured them over time looking at it at day one, week one, week four and week eight.

And here are the results. Now they had previous users and new users. So let's start with the previous users. Remember I mentioned that the PAL should be rated number two, two is soft on the COCK seven point loudness scale. That's the blue norms on on this chart.

Then look at red. On day one, the previous users rated soft sounds a 3, but by the end of week one they're rating at a 2 and it's stuck at a 2 for the rest of the study. Look at the new users though. On day one they were rating it as average. Number four is average level sounds.

So they were rating the sound of 45dB SPL as if it was as loud as the sound of 65dB SPL simply because their brain hadn't acclimatized to hearing these sounds. And week one, they were still rating in a 4. Week four, they were still rating in a four. Now I can tell you in some offices NHCP would have gone in and turned down the gain by this time. But in this particular study, the users did not have a VC and they were not allowed to turn.

So they couldn't turn down gain. If they said they couldn't put up with it, they simply were eliminated from the study. I think two out of the 28 people were eliminated, but look what happened to the rest. By

week eight they were rating it a two, but that's week eight. That's how long it took for acclimatization to soft silence to occur.

What about speech understanding? This is an interesting study by Dawes and Monroe. What they found over time, and I'm going to jump down to the third bullet point, they found that they had a subset of new users with moderate hearing loss. And part of their study they had to wear their hearing aids six hours a day. They had a significant improvement in their speech and noise scores which were related to more consistent use.

As you might expect, six hours a day is about what it takes for acclimatization. And by the way, a 3dB SNR improvement is a pretty big deal. That could be the difference of understanding or not understanding in a noisy restaurant. And here's a study that many of you have heard about, but it's electrophysiologic data to support audio to support acclimatization. They had a group of 28 older adults who had had hearing loss for many years.

They were all fitted bilaterally to NL2 targets. None of the, none of them had worn hearing aids before. They used the hearing aids in their everyday life for six months. And a requirement to be in the study was they had to use the hearing aids five hours a day at the time of the fitting. And at the end of the six month trial, cortical visual potentials were conducted.

Yes, I said visual and I'll show you why that's Important soon. And a cognitive test battery also was administered pre and pre use. Prior to the use of hearing aids. The group chewed the expected occipital brain activation for the, for the CV piece. But and I'm going to show you a photo of this soon there was additional activity on the auditory reasons of the brain suggested of cross modal reorganization.

So here's what they found. If even if you've never looked at one of these results before, it'll make sense to you because what you see here, you're looking at the right side of a person's head and what you see is that the red area where activity is showing up. This is for a visual, this is so for a visual response. What are all these guys doing in the temporal lobe? Well, the reason they moved over there is because the temporal lobe wasn't being used because all these people had a significant hearing loss.

Well, you ask what happened after six months of hearing aid use. Take a look here. Very same people. And what you notice here is that the activation has moved where it's supposed to be in the visual lobe. There is no activation at all in the temporal lobe.

Yes, that is hat. This is a study that went over six months.

I know there are some people out there listening to this who do not believe in providing a verified fit to a validated prescriptive target.

But the senior author, you might want to listen to what she has to say. Neuroimaging evidence from long term hearing aid users who were underfit showed persistent cross modal reorganization even after extended periods of hearing aid use. Underfit, meaning is what you're going to get if you use the manufacturer's proprietary fit. For sure, probably if you do not verify and use use the manufacturers now, these people are going to walk out the door. Under fit there wasn't acclimatization because there wasn't enough audibility to cause the acclimatization.

So you really do have the patient's brain in your hands and that's why we need to do it. Right. Well, let's not forget about the patient's mental health. We know that that can have a significant effect. As we've talked about in previous episodes, Beck Bennett has done a lot of research in this area and there's data showing that mental health really isn't addressed very effectively by general practitioners.

In fact, she brought off something that's called the rule of diminishing abs. And it sort of goes like this. This is now for general practitioners, but it might apply to audiologists too. So half the Patients presenting with symptoms are recognized, half of those recognized are treated and half of those treated are effectively treated. So I did the math on that.

That means we're probably only taking care of about 12.5% correctly relative to emotional and mental health. So again, in one of our other episodes we talked about this, we talked about that you can actually look at models to come up with how we can implement some of our fitting practices. One of them that's been around for quite a while is what's called the RE aim. R E A I M, which stands for reach. Did the targeted population receive the intervention effectiveness?

Was the intervention effective adoption? Was there support to deliver my intervention implementation? Was the intervention delivered properly? And M is for has the intervention became a part of the routine organizational practice? Well, that was called the RE aim and it only sounds logical if you're at a RE AIM that you might go for the aimer.

Is that Brian? Is, is that, is that how that's pronounced? That's how I pronounce it. Amer. Okay, well we're going with the amer.

This is the AMER now stands for asking, inform, manage, encourage and refer. And we're going to go into this, Brian has worked a little bit with this and at, at the very end of this we're going to go into some more of the details of each one of those five terms. So when what happened in this particular research, this was training over a one and a half year period. This is training to the patient, this is training to the hcp. And what these researchers found that after one and a half years the HCP skills and confidence increased for discussing mental wellbearing.

What also increased was asking about mental wellbearing during the audiology patient visit. Not a topic that a lot of us want to get into. Sometimes avoided. How often HCBs provided personal information? How often HCPs use mental well being terms within the clinical case notes.

All of these things improved through looking at clinical diaries, clinical files and interviews.

They also point out that implementation of the AMR program in a real world setting was feasible and HCPs actually enjoyed receiving the AMER training and thought that it benefited them and other patients. More to this, the AMR program was effective at changing clinical behavior. Implementation of AMER in a real world setting was feasible and the HCP enjoyed it. So here's something then to think about relative to this whole what we've been talking about here. Post fitting and fitting instruction and counseling regard to the post fitting problems can be as important as the fitting itself.

And consider adoption of a model such as the Amer to help ensure that patient specific aspects related to hearing loss are included. I know, Brian, you mentioned that you've been reading about this and done some talks on this. So I'll let you take the home stretch here just to give a review of the aimer. More extensive review. Yeah, well, I think that, I think that if you go online and if you Google Beck, Bennett and Amory, you'll be able to get some comprehensive information on this.

She's actually put together kind of a, a modularized program on how people can learn this approach. And if you think back to one of the earlier versions of this, Quick Takes eight, we mentioned some of the work she had done. People coming in with depression, fear of missing out. Those are the kinds of patients that this is appropriate for. It's a very sort of no nonsense way to get comfortable trying to address some of the mental health challenges associated with hearing loss.

So the first, as part of this quick review is the assessment where you're gathering information to develop a better understanding of what the patient's needs and challenges are. Then we have

intervention that is sitting down with a patient and discussing specific interventions that would be designed to address whatever their challenges are around. Mental health monitoring would be asking the patient when they come back to your office, or you could do this online as well in the virtual world, checking up on their progress to make sure that things are either getting better or perhaps getting worse, but just making sure that you're staying on top of it with the person. Then evaluation periodically assessing any progress when they come into your office and making sure that whatever treatment you're recommending, be it hearing aids or whatnot, that it's that you're checking up on that and monitoring for any, any progress or any other additional needs. And then review, which is having the person reflect back on what's working, what's not, and seeing if there's any additional counseling that needs to be done.

I think the bottom line, Gus, with this approach is it's a way for an audiologist to feel comfortable addressing some of these mental health challenges. And then probably most importantly, if the person says you're suspecting that they're at risk for depression, making sure that they get the proper, in depth help that they may need. So it's a way of staying on top of it. And this approach, I think is useful because it's kind of a no nonsense way to get comfortable talking about these things with a patient. And you could you say again where the, where one could find this The.

I think if you go. If you Google Beck, Bennett and Amir, you will find a modularized presentation that she's developed. Yeah, I've seen it. I just didn't remember how I. How I got there.

I think that I know Australia. Italian audiologists go through a. Like a one day workshop and they get comfortable with this. And she's taken bits and part bits and pieces of that workshop and she's put it online for people. Okay, sounds good.

So. Well, that's it. We made it through another volume. Yeah. It's hard to believe we've done eight of these.

There's. Yeah, exactly. I look forward to. I know we've already started working on volume nine. Yeah.

Hopefully we'll have that out in the next four or five months. Sounds good. And just to one more thing for the listeners. The content on all this, the text version is an Audiology online. You could to find it there I guess you go under the Signia articles or yeah the signature channel under courses and go Taylor Mueller and it pops up.

But yeah, if you go to audiology online at the bottom of the screen, scroll down. Just about every large company has their own channel at ao Signia has one. If you go to that the Signia channel, you'll find all of our courses archived there. And yeah, all of the references in the video recording are. Are in the.

In the actual written courses, so. Right, exactly. All right, well thanks for all your invite. We need to do it again. Sounds like a plan.

Enjoy the rest of your afternoon and we'll be talk to you later.