

347R- Posture Survey Results with Dan Martin

Steven Bruce

Good afternoon and welcome to another lunchtime learning session with the Academy of Physical Medicine. This is a new venture for me. You can probably tell if you've seen any of our broadcasts in the past that I am not in the studio today. I'm coming to you from a conference room in Birmingham because I'm attending another event there. And my guest is joining us from Cardiff University and he is Dan Martin. Dan is a physiotherapist. He was recommended to us by one of our longtime members of the academy and osteopath. And Dan has already mentioned to me that he had a sneaking regard for us to pass perhaps he would have been one in another life. But his claim to fame is that at the moment, he is doing a doctorate in posture. And that of course is why we've invited him on the show. So great to have you with us. Thank you for taking the time out from lecturing at Cardiff.

Dan Martin

Yes, that's pretty much

Steven Bruce

I haven't given too much of your background here. And you've worked a lot with sportsmen having you've worked with rugby league, you've worked with rugby union, you've certainly made contact with a lot of very famous names in in rugby in your time as a physiotherapist. Tell us what is it that got you into looking at posture specifically?

Dan Martin

Yeah, so it happened a number of years ago, I was I was kind of doing a Pilates course at the time and they're normally weekend courses. So you normally ended up doing a Pilates exercise for you know, two days straight, you know, eight hours a day. So you definitely get you know quite a lot of

work going on in and around the kind of trunk area and I came back to Cardiff after being up country somewhere, I can't remember exactly where the where the course was. But I remember my wife saying to me, as we're walking down to the fish and chip shop, are you taller? And I kind of I kind of doubled took at that time I thought it What do you mean? Are you tall? And I kind of got me thinking around, you know, was whilst the exercise that I'd kind of done over the past couple of days had an influence maybe posture and influence maybe that kind of visual that I maybe looked a little bit taller after doing that.

Steven Bruce

Okay. And you're not doing a professional doctorate, aren't you in which is involving involving posture? Where are you at, in sort of the research into that, presumably, the data collection is all done is it so now you're just trying to put it together and convince people that it's valid,

Dan Martin

almost heading towards data collection, so that my study is kind of split into three areas. So I've kind of, I've kind of got the first area, which is what I'm going to be presenting a little bit on today, around the kind of attitudes and perspectives of musculoskeletal health care professionals, so physiotherapists, osteopaths, and chiropractors, looking at their kind of perspectives on on posture and, and how they kind of perceive specifically objective posture. We know that kind of posture can be a subjective variable, you know, you kind of look at somebody and make a quick judgement. But we're talking specifically about how kind of healthcare professionals look at posture from an objective point of view. So I kind of have done a survey. So I've got the data collection, that's actually been submitted to a journal, hopefully, hopefully to be published in the next few months. And after that, I will then move into kind of the next phase of my doctoral study, which is, is going to look more at kind of what we're going to do with this information, and potentially how we can maybe objectify posture a little bit better.

Steven Bruce

Okay, do you want to start us off then by talking us through the the survey that you've conducted?

Dan Martin

Yeah, so a couple of aims from from today, we just want to kind of hopefully give the audience a little bit of kind of a flavour of the survey. So run through some key messages and look at some of the sort of perspectives around objective posture. So I think it's probably useful just to talk about the demographics of who we who we kind of got the survey out, too. So, from that perspective, we had quite high proportion of physiotherapists. My professional network was used as part of the study. So I obviously knew probably a few more physiotherapists than osteopaths and chiropractors. But interestingly, the kind of proportions relative to the professional bodies in the UK were relatively similar. So we kind of I think, in terms of this being a UK wide sample, we kind of hit the demographics there. So I should, I should just actually pull up some of my slides, I need to kind of get used to some of the tech here. So yeah, that kind of shows a little bit of kind of the the

demographics there. I think probably one of the first things just to kind of get a little bit of an understanding on is kind of our, our perspective on whether posture can change. And I think it's quite interesting to know that, you know, over 65% of the people that we surveyed, thought that standing posture and predominantly, that's what we're talking about, in terms of assessment, they thought that that could change, and about 30% could, you know, thought that maybe it could change. So predominantly, I think the vast majority of healthcare professionals think to a greater or lesser degree, that, you know, standing posture does change.

Steven Bruce

Right. And does that mean that the people you surveyed think that they can, I'm going to use the word force, they can force their patients into a particular posture or just that it will adapt according to whatever the stresses and strains are on the body?

Dan Martin

I think probably the latter, I think, you know, it's probably more a question of, you know, people have that understanding that may be through everyday life. You know, there's lots of things that maybe influence posture. It could be you know, how you're feeling It could be, you know, your work. It could be, you know, specific activities. There's lots of things that potentially might influence posture. And I think that, you know, the survey is kind of implying to a greater or lesser degree that, that healthcare professionals are acknowledging those, those variables influence imposter in that way.

Steven Bruce

I don't imagine you were surprised by the strength of feeling that posture either can change or might change.

Dan Martin

No, I think I think, you know, we kind of expected, you know, that that to be the case, you know, but I think the key thing about this survey is that it hasn't, you know, there hasn't been any kind of work done on perspectives of healthcare professionals across the UK, particularly across osteopathy, chiropractors and physios as a whole. And, you know, that needed to be documented, we kind of, you know, there is certain narratives out there that are kind of trying to move people almost away from postural assessment. And actually, one of the things that, you know, I'm kind of, you know, trying to do through my professional doctor is, is to kind of get people to actually consider that one of the problems with postural assessment is that it hasn't been assessed very well, you know, and, you know, a little bit like, with, you know, and we'll get on to kind of some of the modes of postural assessment, but, you know, people haven't actually done it in a very structured and validated manner. So, yeah, that's kind of one of the things that hopefully, by the end of my doctoral study, I'll be I'll be heading towards

Steven Bruce

one of the concerns I remember having when I finished my 20s and osteopath in 2000, was given the the wonderful textbook diagrams, which show you exactly what the spinal curves should look like, from anterior and side, sideways perspectives. And it was almost assumed that that's what you wanted to push your patients into. And I remember thinking at the time, that surely can't be true for all of our patients.

Dan Martin

Yeah, 100%. And I think, you know, isn't, you know, one of those things, you know, that the research is fairly clear what when you look across the breadth of research on posture, you know, that, that there is not one kind of optimised posture, according to the research. And again, we looked at that, in terms of, you know, try and pull up that specific slide, in terms of optimization. So, if we kind of, yeah, so, we did look at whether or not there was an optimal posture. And, you know, it was quite interesting to kind of get healthcare professionals views on this, you know, that that is the is the that kind of, you know, view on? I think it's the next slide. Sorry, I might even say

Steven Bruce

that's quite an interesting one we've got up here because, yes, we're looking at a symmetries imbalances in that last slide, which I think I would have fallen into that camp saying that sometimes yes, you do need to address those asymmetries. Interesting that there's 13.7% said, No, you don't need to address asymmetries categorically they've said that.

Dan Martin

Yeah, I think that is, you know, you do seem to get you know, that that people either have this kind of, you know, three quarters of people look like they've got kind of this more balanced opinion on, on sometimes they're going to treat asymmetry. But then there are these polar kind of views that actually we're going to treat asymmetry all the time. Okay, and manage that, or we're not going to deal with it at all. And and again, I think, you know, it's, it's quite interesting to see across, you know, we had a really big sample for this survey. So 432 participants, you know, it does show that that may be some of the messaging that's getting out there from the literature isn't necessarily, you know, particularly evidence based in terms of what's going on in practice.

Steven Bruce

Yeah, Dan, we've got a couple of comments. And Vlad has said, of course, posture can change, in glance experience, improving thoracic range of motion as well as mobility helps people to be able to effortless effort effortlessly stand more upright, with the shoulder blades further back, and it also improves their golf stroke, their performance in, in almost all sports. Now it's flat. I'm absolutely certain you're right there. But I would personally have said that it's far more important that we're improving their golf stroke or whatever sport they're doing, then just saying, well, your shoulder blades must be further back. And that's obviously not what Vlad is saying that. Imran has said, Did you take any particular age groups question mark? have children. Now I think what we need to be

clear on here is your survey is about the attitudes of professional healthcare providers to posture, not an assessment of posture in those age groups. Maybe we can talk about posture in children a bit later on, if we have time. And certainly your experience is probably as great as anybody in the country, I'd have thought based on what you're doing. So yeah, we'll come back to that. But let's, let's get on with the flow of your, your slides.

Dan Martin

Yeah, so I think just, you know, in terms of, you know, the, the optimal, optimal posture, this was this was quite interesting. In terms of, you know, what was the balance? So, you know, when people are looking at posture a little bit like what you were talking about Stephen, are around, you know, you look at something, is it optimal? Well, actually, it might depend on a number of factors. Again, there's quite different views here, in terms of this optimization of posture. And actually, it did differ a little bit between the professions. So we did tend to see that, you know, some of the some of the kind of the, the osteopaths and chiropractors felt that actually, the was potentially a bit more of an optimal posture, yes. Or maybe that might be compared to maybe some of the physio therapists that thought there was probably less likely to be an optimal. Can you

Steven Bruce

say that just can I just, can I just clarify, when you say an optimal posture, do you mean that there is a textbook diagram, which has an optimal posture or that for each individual, there is an optimal posture which they might not be achieving?

Dan Martin

That's a very interesting clarification. So I think, yeah, great question. I think we didn't clarify that in the survey. Okay. I think that's important to say, we didn't we, we just it was clinicians view on what optimal posture was. And that might have been either of those two circumstances that you're talking about? Are they talking about their own, you know, one single, you know, line of Appleby, you know, so much inference so much behind it? Or is it a question of, actually, you know, for each individual person, they have an optimised posture that they're looking to achieve? And And again, we didn't quite clarify that. And it might, that would probably be something that would probably need a little bit more teasing out. Maybe a different style of method in terms of the research.

Steven Bruce

Okay, I'll ask him if I could come on, you're on the examining board when you go for your doctorate.

Dan Martin

You're welcome. You're welcome.

Steven Bruce

Sorry, let's move on.

Dan Martin

Yeah, so I think just around, again, a few of these kinds of, you know, changes around posture. Okay. So, when we're looking at posture, one of the things we want to know, and we've talked about the fact that posture could change, what we wanted to know, with the clinicians is, do they think that that could be something that is short term, you know, a very transient thing, you know, it just sort of changes, maybe with a treatment, they do some treatment, you change, and then it reverts back to how it was? Or is the more long term changes that can be instilled within that individual, or potentially combinations of short and long term? And, and I think, again, this was quite interesting, the vast majority of clinicians 81%, you know, 79%, saying that, you know, both could be in play, in terms of, you know, these changes to stand in posture. And I think that that does say quite a bit around, you know, what clinicians are trying to do with, with patients, sometimes they're trying to work short term, maybe sometimes they're trying to instil longer term changes. Now, whether or not actually those longer term changes can occur with specific adjuncts, again, needs to be investigated.

Steven Bruce

Do you have any feel for whether practitioners of any flavour of any particular description are measuring the long term change? Because that's actually very hard to do in practice, isn't it? That means going back to people months after you stop treating them and trying to find out whether they're still as good as they were, when you let them go?

Dan Martin

Yeah, and this is kind of where where we've got to in terms of the, you know, the posture rule, kind of assessment, what we're looking at is, we're looking to see whether or not you know, we can actually, you know, understand what clinicians are doing from a perspective perspective, from a from a not a perspective perspective but what they're actually doing in practice, and, and specifically, we have looked at this, so we kind of got got clinicians to look at whether or not the different modes that potentially they were looking at. And the vast majority of clinicians are utilising visual estimation. Okay. So when they're when they're kind of measuring posture, that 74%, we're utilising visual assessment alone as kind of a post, you know, analysing objective posture, how accurate that is, I think the question you were alluding to, you know, how accurate that is, you know, coming back? Well, there hasn't been some research looking at that. So, there's a guy called Keys Walden door, but he did a did a systematic review on, on kind of the best practices for visual for assessment posture, and a visual assessment was found to be the best potential assessment for clinicians. However, he acknowledges the fact that actually, there's there's very, very little backing for other measures. And and that's potentially down to the fact that actually the other measures haven't been validated, haven't been assessed regarding reliability across the board. And I think, you know, that's according to the systematic reviews that have kind of looked at objective posture, more needs to be done around that subject. You

Steven Bruce

know, I was struck by the fact that by a long way, the second most the second strongest response to that last question was we don't measure it at all.

Dan Martin

Yes, yeah. And that's, again, I think, I think some of that is coming from the the narrative of research that are currently out there. And, you know, there is definitely a narrative, you know, people look here in a cell oven, Peter O'Sullivan, you know, really experienced researchers done a lot of research around the subject of objective posture, looking specifically around back pain, but they're kind of, you know, they're talking about that link between back pain, and there is no link, according to the research between back back pain and objective posture. However, you know, one of the things that hasn't been done is that we've we haven't got a clinically available, research research kind of way of, of looking at posture. And, you know, I think that's kind of hopefully where, where my doctorate will, hopefully kind of kick in is that I'm hoping that, you know, we'll be able to kind of get a more validated, reliable measure for objective posture that clinicians can use in the same way that, you know, people will look at range of movement and maybe use a goniometer, they might use something that helps objectify their decision than, you know, that quick visual estimation, which is the first line, which you'd use for range of movement test, and similarly, but you need something maybe like you said earlier, Steven, you talked about them coming back in a few minutes, you want to have that kind of objective assessment, you know, to maybe go actually, we've been doing a few things, how's your posture change? And hopefully, as I say, we'll we'll be able to get something together in terms of that.

Steven Bruce

If for years and years forward head posture was regarded as being associated to if not linked to neck pain or back pain, is that still the case?

Dan Martin

Yeah, there, there is research to suggest that forward head posture is linked to, you know, neck pain, definitely. You know, that there's been some reviews that have come out in the past couple of years that have stipulated that. And, yeah, I suppose what we don't see is kind of clarity on what we need to do in terms of the management of that. And actually, how much of you know, does change in that posture back to a kind of more normal or optimised position? Does that actually influence that pain? We don't specifically know that. And I think, yes, we might see it as clinicians on a day to day basis, we kind of yes, that oh, that posture if I change this, but actually, the research backing for what we're doing there is lacking a little bit. So again, more clarity needs to be provided.

Steven Bruce

Yeah, and you know, if there's any research behind the number of patients who've got forward head posture who don't have neck pain,

Dan Martin

I say some of the reviews that have been In turn, I think I've looked at that I can't think of any in terms of the forward head posture that, you know, don't have pain. I think there's been stuff done on adolescence. So there's been quite a lot of stuff done in terms of specifically, you know, I think with a lot of people, you know, involved in gaming nowadays, you know, they're in that kind of forward head position, you know, my kids, they're on their phone all the time in that position. And you know, you're constantly looking at them going actually, don't stay there for too long. And maybe it's a message, you know, around, sort of when we're thinking about that forward head position, it's not a problem to stay in that position for a certain period of time, but stay in there too long, like any position, potentially is not going to be helpful. So I think these long kind of static positions that people can, you know, end up in for long periods, again, not particularly helpful, and it's about, you know, there's lots of research going on at the moment, looking at kind of wearable technology to kind of influence some of those, you know, maybe a forward head posture, maybe some kind of lordotic posture to kind of get you out of those positions, maybe something reminders, that kind of thing. Again, there's lots of research going on around those types of things. But I think, you know, one of the things that, you know, I'm keen on is that we do have a better objective marker that we can refer back to, in terms of our assessment, as I say, in turn a little bit like that, that goniometer example.

Steven Bruce

There'll be, I imagine there'll be lots and lots of people thinking, Yes, you've hit on what most people believe there, that movement is the key rather than any single static position. And gamers probably fall into the the risk category there because it's so easy to get absorbed into gaming, I imagined for hours on end, and barely move.

We had a couple of observations, Kerry has said surely some of these answers and talking back talking about what we were discussing earlier on about when posture is a problem, come down to individual patient patients, Clarice so she doesn't she likes the old adage that if it ain't broke, don't fix it. That said, in other people, it's causing symptoms, and then correction is beneficial. And I guess Yeah, so then we're down to practitioner expertise in recognising when it is necessary to to fix a problem. And Steve says, whether to see whether to treat asymmetry depends on what causes it, it might be that if we help the patient manage the structure, it might be that we help the patient manage their structural asymmetry, rather than try and fix the asymmetry. Interesting, another one of questions coming in for you. Lisa has said, What's your opinion on the check method? ch, EK,

Dan Martin

CH E. K, is that a treatment modality?

Steven Bruce

Well, I thought I wasn't sure that it was. We've had people on the show before who follow check principles, but I thought it was a training principle rather than a treatment modality. Clearly not something that you're covering in your doctoral studies. So maybe we'll leave that one out. Maybe Lisa will come back and explain what she means. Because, again, I don't know, either. But right, let's move on with your results, then.

Dan Martin

Yeah, so I think, you know, one of the things in terms of you know, we're talking a little bit around the subject of pain and posture and whether or not it's linked. And I think you know, that the clinicians did tend to predominate that pain and posture are linked. So we're kind of getting a little bit of a picture here in terms of, you know, healthcare professionals, they're looking at maybe a, you know, an individual, and they're going, actually does that asymmetry, you know, is it linked to that pot? You know, and I think that the majority thinking that potentially there is a bit of a link there. Again, this isn't a definitive in terms of, you know, posture and, you know, pain being linked. But interestingly, what we did see there was that chiropractors in terms of a group, were thinking that pain is more likely to be linked and osteopaths a little bit less, whereas physios were a little bit more in the middle, in terms of their opinion on that. So it was interesting to see that what we did find through the survey is that actually, some of the things were definitely profession related, you know, in terms of these opinions, so when we looked at kind of, you know, that specific incident, that specific, you know, pain and posture being related, chiropractors were more likely to answer yes.

Steven Bruce

Link is an interesting word, though, isn't it? Because it doesn't imply causation.

Dan Martin

Exactly, which is why we kind of wanted to go down that route rather than talk about Yeah, causation specifically. Yeah. Okay. I think you know, one of the other things around this is when we're talking Talking about, you know, posture. And I think we you mentioned earlier, Steven about, you know, talking about where we're going with posture and maybe is there some form of grading of posture? I think, you know, that was a consideration that we kind of, you know, looked at. And I think, you know, we were kind of keen to understand, do people want to upgrade in a posture when they're kind of looking at it? And I've gone too far apologies.

No, maybe you know, when you can't find the slide,

Steven Bruce

it's really on you, he gets more and more.

Dan Martin

It's definitely on there as great in a posture. I can't see it. We did look at greed in a posture. Anyway, I'll kind of summarise kind of some of the opinions on greed and posture. So when we looked at posture, and I think this, again, this was quite interesting amongst the professions, so physios and osteopaths were quite similar in terms of whether or not they thought grading would be useful. Okay, in terms of, you know, you look at somebody and they're very kyphotic, very lordotic. You know, and, and you kind of right, okay, in terms of those, you know, aspects, right, I need to I can maybe get a number for those Okay. osteopaths, physios around about 25% of our stairs and physios thought that that was going to be useful. Interestingly, almost 49% of the chiropractors thought that it would be useful. So again, there's a little bit of a difference in terms of how we're utilising postural assessment and what we might want to do with it. And I think, you know, there are studies out there that have looked at grading of posture. So there's a German researcher called Ludvig, who's has looked at posture and come up with he's looked at it over the past sort of 1015 years looked at adolescent population, he has done a grading scale based on on postural assessment. And, and he's updated that across kind of a bigger sample more recently, in 2023. And it's interesting, not, the majority of clinicians don't think that that's going to be useful. However, if we get a better way of measuring this, then, you know, maybe clinicians will buy in a little bit more. And I think some of the things that have hindered, you know, people's kind of thoughts on posture, and their ability to use postural assessment as a modality are things like ease of use. So if it's a visual assessment, then it's very simple, very quick, you can do it straight away. But as soon as you have to get a kind of angle measure out, or you kind of have to take a photo of them, you know, you're kinda like you're talking 10 minutes of your time, or 20 minutes of your time, you're like, I doing that for my patients as ridiculous, you know, whereas, naturally, if if we could come up with a method that is very quick and easy, that is reliable measures is relatively low cost. These are all things that the clinician said could be useful in terms of objective posture, then actually, we might see a bit of a shift towards clinicians utilising a more objective way of assessing posture.

Steven Bruce

I suppose though, from the clinicians point of view, and we touched on this earlier on, it's going to be far more useful to their patient, if they can say, well, you know, here is functionally what has changed. If unless you can say, there is definitive evidence that posture is linked to pain or is causative of pain or is linked to function. Because actually, what patients want is they want to get, they want to be pain free, and they want to get better at whatever it is they're doing, whether it's sport or other things. Many of them don't really care whether their back follows an ideal in inverted commas. Postural line.

Dan Martin

Again, that's a really, really good comment. I think, in terms of, you know, when we're looking at posture, there are some things that we look at, and a lot of patients will come and they'll say, I want the short term fix, I want that kind of sort. And, and then I don't really, you know, I'm not too bothered after that. But then maybe as we get older, we do know that you know, hyper kyphosis increases with age, we know that there are definitely age related changes within the spine. And actually, you know, some of these things from a health point of view do have significant implications. And actually, if we don't stop them managing those at a younger age, then, you know, we won't actually be able to do anything in that late later sphere of life. So I think, you know, there are definitely short term things that are probably a priority when people are coming to see you. But we

also have a longer term kind of responsibility to kind of put things in place that hopefully manage people's posture, maybe in the longer term. And again, this is kind of anecdotal, and not based on research, I guess. But, you know, there is definitely some things there that I think, you know, we need to put in place from as a community of multi musculoskeletal health care professionals to ensure that actually, we're, we're looking at these things in more detail, you know, surely Charmin one of the kind of, you know, founders of kind of postural research. You know, interestingly, she's in her late 80s. Now, and has started to she's, she's produced a kind of exercise programme that's based around improving her posture, you know, in her 80s, you know, if she, potentially, if I'm sure she did do some stuff earlier on in their career, but, you know, she was trying to, I suppose, educate people in terms of that, in their in their latter years to maybe influence their posture in a positive manner. So, you know, I think I think there's definitely work to be done around that. But hopefully, if we can get this more more accurate clinical measure, then then hopefully, that'll make a bit of a difference.

Steven Bruce

I suppose there is a bit of a chicken and egg in this isn't there, you can't really tell whether posture is definitely linked to somebody if you don't have good, objective measurements of posture before and after. And Simon has sent it out, Simon sent an interesting comment here, he says, isn't the problem with grading posture that you end up pigeonholing someone, you don't see the patient as an individual. But maybe if you're only using posture as a starting point, and then an outcome measure? Maybe it is useful?

Dan Martin

Yeah, I think, you know, posture is not going to be something sometimes you don't want to highlight posture as a, you know, I'm doing my kind of doctorate on posture, it wouldn't be necessarily something that I'm always highlighting with all patients, you know, you have to pick and choose your patients to kind of utilise this with but quite a lot of patients come to see me and they'll go, oh, actually, I want to kind of improve my posture, you know, I'm too, you know, slumped over, I've got this forward head posture, I need to do something about it. Well, you know, you could tell them, actually, you don't need to, but actually long term, we don't know a lot of the potential ramifications of that kind of messaging. Okay. So, actually, you know, in my kind of experience of, you know, dealing with, you know, spinal pain myself, I found benefit of doing things like Pilates exercise, that has had a positive effect on my spinal position. Okay, in the short term, and I don't know, in another 20 years, whether or not it will have changed my kind of spinal posture. But I kind of feel that it definitely helps in that short term. So I think I'm going to keep it going longer term.

Steven Bruce

Yeah, I've got a question from Gianna. Gianna, you've got a Scandinavian looking surname. So please, excuse me, if I'm not pronouncing your first name correctly. Gianna asks, whether your comments about gaming and head posture and so on, being detrimental, whether there's a personal opinion, or are they backed up by evidence yet?

Dan Martin

Again, a great question. I think that there has been studies looking at gaming and, you know, specifically periods of time in that position. I don't know, any specific papers at present, there are a couple of researchers that have looked at this. But I can't remember specifics on that. Again, I'm not looking specifically at the link between kind of, you know, spinal pain and posture in my research. So I kind of maybe I'm not quite as familiar with some of those articles, but I'm pretty sure there's kind of this link. But while there is definitely a link between, you know, the forward head posture and you know, spinal pain, you know, sort of neck pain, I think whether or not that kind of is linked specifically to gaming, I think, would probably Yeah, I don't think so.

Steven Bruce

Okay, we've got 10 minutes left. Have you got more you want to cover on your, your survey, they're done.

Dan Martin

I think there's, you know, a few things around sort of, you know, the treatment side of posture. Okay. So I think one of the things we looked at was around what interventions clinicians would you utilise in terms of posture, so we looked, you know, gave them a huge list of potentials, including manual therapy, acupuncture, hydrotherapy, also exercise, education, behavioural change methods, their work style activity profiles, you know, different types of things that potentially might influence posture. And clinicians came back and said, the three biggest areas that they kind of would utilise, and this was across the field was exercises kind of number one, education as number two, and then a behavioural training strategy as kind of number three. Now, behavioural change in education, probably, some people might use that interchangeably, a little bit. But I kind of I kind of think, you know, that, that formed a relatively good understanding in terms of how clinicians are going about management of posture, and what they might utilise, to kind of, you know, influence that what what isn't backed up by the research is potentially what specific aspects of exercise influenced posture. And again, that comes back to the fact that actually we need to, we need a clinically relevant objective postural measure that clinicians do use. And, and also, what kind of educational strategies are being used to influence posture. So we know that clinicians are utilising this, but we maybe don't know the specifics there. I think one interesting thing is like I'm a manual therapist, you know, I kind of do love my manual therapy, I've probably moved a little bit more away from that, after after kind of moving away from professional sport, but still still do manual therapy. But interestingly, you know, the the chiropractic professional lot more likely to utilise in the treatment of posture manual therapy around 87% 63% of osteopath, but only 30% of physios utilising manual therapy. So it's interesting to see the kind of, you know, dynamics there. And when you're treating posture, quite different across the professions. And again, that was that was significant in terms of statistical significance for that result.

Steven Bruce

Right. A couple of questions. I think we have, we have answered this one, but I'll bring it up anyway. Sonia and Johnny both asked whether there are any apps out there which you can use to easily

assess before and afters were posted is concerned. And I think the answer to that is that there isn't anything is there, which is part of the point of what you're doing.

Paul says, Sorry, we went to

Dan Martin

Yeah, so yeah, so really, yeah, good question. There are apps out there. So just to kind of clarify, you know, the out there are apps out there. So the there's an app called posture screen, that probably is kind of the market leader in terms of apps that look at posture. There's also one called a Pax, that's an Italian based company, there's another one physio master correct creation based company, body or master Canadian. So there's, there's a number of players within the app field, who are kind of, I suppose in play, what isn't happening. And this is kind of where the survey hit is, actually, they're not doing what the clinicians want. So they're not providing something that's easy to use, okay. They're not providing something that's reliable and valid, and they're not providing something that is relatively non cost. You know, it's relatively cheap, you know, so I think that's what clinicians want. And, and that's kind of why I think the uptake, so we saw 74% of people use visual assessment, but we're only seeing a relatively small number of clinicians then actually backing up what they're seeing with maybe a more a more objective measure. And I think there are those apps out there, but it's a question of, actually, are those apps doing what clinicians want? More than anything else?

Steven Bruce

Okay. Robin has asked a very appropriate question here is does he do you think, and this might have to be your personal opinion, but do you think improving strength and fitness is a better target than improving posture?

Dan Martin

I think yes, I would say according to the research, that that is the case. So you should be as clinicians targeting us Strength function, you know, a lot more than you are targeting posture. Having said that, I think one of the things that I'm, I suppose I'm very keen on is that we just don't dispense with posture as a kind of measuring, you know, modality. And we, you know, I think that there is a danger that actually people are moving away from this kind of understanding of posture within assessment, and just focusing on things like strength and function purely without actually considering some of the aspects of posture that could be significant for the the individuals that have got pain.

Steven Bruce

Yeah, interesting. I was reflecting on what you said, a few minutes ago that you talked about how people are addressing posture and you said, well, some are addressing it by exercise. And I don't know, I don't know how you d confound the researching this because he's changing the posture of a thing that helped, or is it the exercise that helped him just as a consequence, the posture change? Who knows?

Dan Martin

Yeah, and I think, again, that that needs to be researched. You know, there's, there's no kind of good postural measure that's kind of looked at these modalities and gone, right. Okay. in a clinical setting. When we do some exercise, this posture is going to change. And obviously, when you put a research together, research project together, you'd be able to manage some of those confounding variables, but unless you've got this measure in the first place, then then you kind of stumped.

Steven Bruce

Yeah. A couple of observations here, Paul says, He comes from the perspective that optimum posture was the most energy efficient, ie head over pelvis, the MSK system was idling to stand with joints evenly balanced, aka easy, normal. Eye posture is where muscles are revving just to hold a posture. Okay, and take that point. Mike says the evidence evidence base is always dependent on your interpretation of evidence. Pharmaceutical double blind trials don't apply to marry the 90 year old who has worked on a sewing machine for decades, Mary would argue her anecdotal evidence of the Osteopath that she sees who has helped her with her pain. Yeah, I suppose. There's so much evidence around now that we can't trust evidence isn't there that it makes it very difficult to know what you can believe what you can't believe because most of us, and you are clearly an exception that most of us can't really interpret clinical trials or other trials effectively or accurately given the complexity, especially with the statistical analysis. And, yes, it's very different. AI is confounding the problem even further, quite probably. But it is a problem. We've got 3030 seconds or so left, we've had 449 people as part of our audience. And I'm thinking to myself that maybe a lot of them are thinking like me, then that we've grown up making assumptions, that posture is one thing or another. But the difficulty here is that we don't really have any objective way of measuring what we're doing easily. And we don't really know whether our beliefs are based on fact, or just instinct supposition, or what we might think of as common sense. Is that fair?

Dan Martin

I think that's a really good synopsis. Stephen. Yeah. And I think, you know, and I think, you know, we kind of we need to get that better understanding, you know, that that's, you know, clear, and I think, you know, it is it is a passion of mine, that I want to kind of help the kind of evidence base in terms of clinical assessment and, and hopefully, you know, engage clinicians to kind of utilise a more objective way in which they can use, you know, look at posture.

Steven Bruce

Dan, thank you very much for your time. And I should also thank Martin for suggesting you come on the show, I'm thinking that there's going to be some scope for getting you back on when your further through your doctoral research, but it's been very interesting. Thank you very much for that.