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The Positive Impacts of AI to Promote Exercise in Asthma Patients

Dr. Turck:
Welcome to *Clinician's Roundtable* on ReachMD. I'm your host, Dr. Charles Turck, and here to discuss his article, titled "*How AI Can Help Physicians Promote Exercise and Lifestyle Counseling*," which was published on Langar Holdings in May of 2023, is Dr. Basil Kawash. Basil is an Assistant Professor of Medicine on the Clinical Educator Track in the Department of Medicine at Vanderbilt University in Nashville, Tennessee.

Basil, welcome to the program.

Dr. Kawash:
Thank you so much, Charles. It's good to be back with you all.

Dr. Turck:
Well, before we dive into your article, Basil, can you tell us about the physical and mental obstacles asthma patients face when it comes to exercise?

Dr. Kawash:
Yeah, absolutely. And I've touched on this in the previous episode with you all, but just to recap, there are physical elements, obviously, in terms of your breathing that can be more challenging and more labored as you pursue physical activity if you are asthmatic because exercise is one of those triggers for airway constriction in asthma. But then, of course, we also have mental barriers, so people who have experienced—who have asthma who have experienced challenges with exercise may find that they are hesitant to go back and pursue more exercise in the future, or they may think to themselves that it's not safe for them to pursue exercise in the future because of those negative experiences physically that they've had when they've been engaged in exercise. So all of those things can combine to make it so that asthma patients are less likely to pursue exercise and derive the health benefits from exercise that they would otherwise get if they were more willing to engage in it.

Dr. Turck:
And just a little bit more background, what is a standardized exercise prescription, and what does it entail?

Dr. Kawash:
We've been working on this for a few years to try and allow asthma providers, people who treat patients with asthma, to offer a prescription for exercise you can physically hand to the patient and say, "I want you to, in addition to all these other things that you're doing for asthma—taking your inhaler, etcetera—I want you to engage in physical activity a certain amount, this many times a week, or this many minutes a week total." So the idea is that we can take the doctor-patient experience and transform it from more than just a prescription-writing experience to also integrating a lifestyle counseling component to it that doesn't eat up away too much of the time, the face-to-face time that the doctor has with the patient. It has been applied.

It's not unique to asthma. Obviously, there's exercise counseling that happens in just general medicine, preventative medicine clinics, and also in other healthcare conditions.

Dr. Turck:
Now turning our attention to your article, Basil, what can you tell us about how artificial intelligence fits into having embarked on what you describe as a year-long mission to encourage more asthma patients to exercise?

Dr. Kawash:
Yeah. So we spent a long time trying to create and tailor an exercise prescription that we thought could be applicable, and on the one hand universal, and at the same time customizable to a specific patient that would give them guidance on what kind of physical activity they should be pursuing if they have asthma and how to do so safely.

Then around, not even a year ago, or maybe around this time last year was when ChatGPT and some of the other AI software started to emerge that was generative AI that would basically allow you to input certain information, and then that generative AI software would give you an output. So I was experimenting with that at one point, and I was looking at what are the things this generative AI can do, and I thought to myself "Hmm, I wonder if it can produce an exercise prescription," so I just typed in "write an exercise prescription for—let's say a 40-year-old patient with severe asthma—and that's it, and lo and behold, within seconds, I had a personalized exercise prescription for somebody with severe asthma.

Having this software at our disposal where it's basically an entire universe of information, and being able to pull that information in based on the specific inputs to an individual patient is really revolutionary when you think about it in terms of personalized medicine and personalized lifestyle and exercise counseling.

Dr. Turck:
For those just tuning in, you're listening to *Clinician's Roundtable* on ReachMD. I'm Dr. Charles Turck, and I'm speaking with Basil Kawash about his article about the use of artificial intelligence in medicine, specifically its potential impact on exercise habits in patients with asthma.

Now, Basil, what else can you tell us about how AI might affect what you describe as a disconnect that sometimes exists between doctors and patients?

Dr. Kawash:
Well, as you know, I mean, it's one of the limits of our current healthcare system is the amount of time that a doctor has to counsel a patient, and there are very important conversations that need to occur in the doctor's office. There are a lot of things to talk about, and you may not get to every single subject within each visit.

So here's where AI can be really helpful because, like I said, it takes seconds for that AI software to produce something that is generative and that is specific and personalizable to a patient that is still consistent with the lifestyle recommendations that can be overseen by the physician, so it's much different for the doctor to have to squeeze in time for a lifestyle conversation at the very end of a doctor-patient visit or skip it entirely. You as the physician, of course, need to review it and make sure that it's accurate, and that it's something that is realistic for the patient and something that you think they would benefit from. But once you've done that, then that can really be something that you can offer to the patient, and we can have this ongoing conversation about physical activity and other lifestyle counselling or other lifestyle behaviors here in this office under this counseling premise even if we didn't get to all of it today. So I think really at the end of the day we're looking at a potential timesaver and a potential gateway to more lifestyle-based conversations that through our other research we know have not been taking place as much as they need to be in the doctor's office.

Dr. Turck:
Now, Basil, I thought I'd get your thoughts about what some of the limitations are, and potentially, even the perils involved in healthcare professionals using AI at the present time.

Dr. Kawash:
Yeah, that's a very good question. So as you know burnout is a big problem right now in healthcare among healthcare professionals, and when you introduce any new tool there, especially one that is a potential timesaver, I mean, there's always a risk of it being overused and being overdepended on. Certainly, there's a risk of leaning too heavily on the technology and forgetting that you need to check the technology and make sure that it's something that is really a way that you would try and counsel your patients. So it's not a substitute for using your brain for thinking, for problem-solving. It's an analytic tool that should be part of that analytical toolbox. It's not an outsourced plan. So I think that is the major risk there.

I think another risk, though, is that it can be maybe difficult to use for a lot of providers and physicians because it isn't a very new technology. It's not totally well understood. Somebody in a younger generation might be comfortable with it, but of course, a lot of our current doctors are not used to adopting new technologies or might struggle with that, so I don't necessarily think that this should be something that is like a guideline-based tool that we're making recommendations for all the time. I feel like this is something that a physician can choose to use at their own discretion if they think it's going to benefit them, or if they don't, if they think it's just going to slow them down, as a lot of technology does with people that aren't used to using it, they shouldn't be necessarily mandated to use it obviously. This should be something that is just purely optional.

Dr. Turck:
And I thought I'd get your thoughts about the risks involved in patients using AI and incorporating the results into their own health plan.

Dr. Kawash:
There are certainly risks in patients using AI directly. I mean, the major risk is that the patient will then go straight to the AI software and start asking it questions that they've saved up for the doctor's office, and essentially, cut out the middleman, but the middleman is very important. I mean, we go through years and years of schooling and training and experience to become qualified enough to dish out advice. I don't think that going to an AI software is a replacement for seeing a physician, and there are many instances of people looking up their symptoms on WebMD, for instance, or Googling their symptoms and running into scenarios that were counterproductive, but they either are led down a false diagnosis rabbit hole or they start to panic because the WebMD will tell them that they have a much more serious diagnosis than is likely to be going on. I think there's a lot of risk with using AI in a similar way to try and get the thoughts of the AI directly rather than the physician's thoughts. In fact, if you ask the AI software, "Are you qualified to give medical advice?" The software will reply, "No, I'm not qualified. You should see a healthcare professional." So I think that is a major risk, that idea of going straight to the AI and cutting out the physician entirely, and one that I think, as much as it's frustrating for patients to wait to see their doctor or to send a message and not know when the doctor's going to reply to it, I don't think also that the solution to that is let's turn entirely to AI.

Dr. Turck:
So before we end today, Basil, global picture. What are the next steps before the more widespread adoption of AI into clinical practice?

Dr. Kawash:
Yeah. I think this is something that definitely needs attention and needs to be studied, not just among asthma patients but among patients in general. I think there's a lot of buzz right now around AI and its applications in medicine, but I certainly think that lifestyle counseling can be one of those applications for the reasons that I identified before. Everybody knows that lifestyle counseling conversations need to be happening. Patients expect it of their doctors. Doctors by and large, if you ask them, they'll tell you, "We want to be having these conversations with our patients, but we're limited with time; we're limited with how many things we need to cover with our patients." So being able to integrate that into the physician's workflow, if this could be an area of investigation, fine-tuning and find ways for this to be really a team or part of a shared decision-making conversation between the doctor and the patient, I think that's something that has a lot of potential, but we need to study it, refine it, and make it something that is generalizable between face-to-face patient and physician encounters.

Dr. Turck:
Well, with these insights in mind, I want to thank my guest, Dr. Basil Kawash, for joining me to share insights he outlined in an article he recently published. Basil, it was a pleasure speaking with you today.

Dr. Kawash:
Great speaking with you, Charles. Thanks so much.

Dr. Turck:
For ReachMD, I'm Dr. Charles Turck. To access this and other episodes in our series, visit *Clinician's Roundtable* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening.