The Science between a Plant Based Diet and Health Transcript

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Introduction and Guest Background

Hi everyone. I'm Doctor Sanjeev Goyal, and you're listening to the advanced Anti-Aging and Technology Summit. Today my guest is Doctor Tushar Mehta. Doctor Tushar Mehta studied at McMaster University and then completed medical school and residency at the University of Toronto.

Currently prescribes he practices emergency medicine, but it's also spent many years practicing family medicine and addictions medicine. Doctor Mehta also participates in international health projects, having volunteer on a yearly basis in rural India, and is now doing work in Haiti along with a small team.

Doctor Mehta co-founded Plant Based data, which you can find at Plant based data.org, an online database which collects and organizes the most important academic and institutional literature regarding the impact of plant based diets on health, the environment and food security, including the role of an animal agriculture in creating pandemics.

I to Shah, how are you? Hi, Sanjeev. How are you doing? I'm doing well. Thanks. Good. Thank you so much for joining me today. So I just wanted to get right into it.

You know, you're an expert in plant based diet. I know for last, like, 30 years, since I've known you. And so I want to understand the journey. Like, how did you actually get involved into this, into this space and.

And what really got you interested, right? Well, I think the journey started maybe in high school. Like so many, teenagers, you get interested in world issues, human rights issues, environmental issues, and also issues around surrounding animals, ethics, so forth.

That got me interested to begin with. But my interest in the nutritional aspects really started, sometime during and especially after medical school. That really influences us to think scientifically, to learn about evidence based medicine.

And around 2012, I started realizing that there's actually a lot of, data and studies being done on around plant based diet that I didn't know existed.

Actually. So I started getting into all that and reading more and more about it. And the volume of literature coming out has, you know, yearly kept up at a very fast pace and is actually accelerating.

So I became very interested in the, that body of knowledge and also became interested in the, information, the data surrounding, animal agriculture versus member state in the environment.

And, yeah, that's how it sort of got going. Okay. So maybe, just for our viewers, if you could just give a definition because I think, you know, people sometimes get confused.

What does this mean? Plant based diet.

What Plant-Based Diet Means

And, you know, versus let's say vegan or vegetarian or pescatarian or paleo, and you can kind of just give a little bit of a we can set some definition right at the beginning.

That would be, yeah, I think it's a good idea. So a plant based diet is one where the majority of a person's protein and calories comes from plant based sources.

Okay. So that is not synonymous with a vegan diet. A vegan diet is an exclusively plant based diet. And that is one type of plant based diet, as is a vegetarian diet, as is also what we call flexitarian.

And Mediterranean diets, the traditional Mediterranean diets and those which are studied in, in so many and published in so many articles, those are all forms of plant based diet where the majority of, you know, calories and protein come from plant based sources.

Now, there may be a small amount, of course, that comes from animal based foods, according to each of those different diets. Right. But, except for the vegan diet, where there would not be any.

Although in some studies, people who are classified as vegans may consume a small amount of animal products once a month or so, and they're still put into the category of vegans because the quantity is very small.

So how would you use you actually said like in 2012 you started again becoming aware of the research. The strong amount of research looking at health benefits of these type of diets.

So if you could just maybe break it down in broad categories. What does that research look like? Yeah, that's that's it's a good way to start out. So the if you're looking at the, you know, if you're looking at a plant based diet, there's so many studies out there and there's all kinds of studies saying, oh, there's a benefit for this or benefit for that.

But if you were going to look and say, okay, what are the main things? That's let's cut out the minutia and look at the main categories. So the main categories would be all cause mortality okay.

Cardiovascular disease and cardiovascular mortality. Certain chronic diseases, related to sort of metabolic syndrome. So, diabetes, dyslipidemia, hypertension, obesity.

Okay. Those ones, certain types of cancer, there's a more moderate, benefits as compared to the cardiovascular disease and, metabolic diseases. There's a more moderate, but, significant benefits, related to certain types of cancer.

So there's a slight benefit, let's say, for all cause, all cancer, you know, sort of the group of all cancers, if you look at all cancers combined. Right, but also breast and prostate cancer, colon cancer and some other cancers that are less common things like pancreatic cancer, for example.

But, you know, prostate, breast in the total cancer categories are that are the more important ones. There is benefit, you know, mounting benefit for, brain health in terms of, dementia prevention.

Now, you mentioned to me Alzheimer's, but, I would rather classify that as sort of in general dementia in, so, yeah, we're we're hearing more and more data over the term of, we're hearing the term of type three diabetes as Alzheimer's, as type three diabetes.

So, you know, I don't want to jump ahead, but what could be what could be the reason? Like, why would a plant based diet have impact on on brain health, doesn't it?

You know, I think a lot of the. Yeah. So when you, when you talk about mechanisms, so I'm more of a clinician, I do focus more on the clinical science as opposed to the, mechanisms, you know, the basic science mechanisms of disease and biomarkers.

I'm less interested in biomarkers and mechanisms than I am in actual clinical outcomes. Okay.

Health Benefits and Clinical Evidence

That's my bias as a physician and as a clinician, maybe as an image doc as well. But I think at the end of the day, that's the nuts and bolts things that we worry about.

But in terms of biological mechanisms, there's many, plausible reasons, the first of which is vascular health. So when people have less vascular disease and, and more healthy vasculature.

Right. Obviously that relates to heart disease, but it also really relates to other body systems. So there's evidence, regarding plant based diet and peripheral vascular disease.

And there's evidence, for things like back pain, because when you have stenosis in arteries that go to, the spinal column and the various structures there, it is shown that people who have more vascular disease probably have more osteoarthritis, as well as, back related problems.

So there's some evidence there. And that's probably where the brain health benefit comes in. Two. That again, healthy vasculature means, the smallest of the arteries and arterials, stay well perfused and and that will benefit brain health.

Now, there's a whole cascade of events because let's say you have some vascular disease and there's relative, relatively less blood flow. There's also consequences of, you know, inflammation, oxidation, oxidative stress, all those kind of mechanisms also kick in.

So what we're talking about is a very generalized, you know, sort of, idea of the mechanism that, you know, healthy vasculature, leads to better and organ perfusion and there's but there's many more, mechanisms involved still, other than that, there are, theories about amino acid profiles about different things that affect glycemic index when you're eating whole plant foods, because the benefit is more and more shown to be regarding whole food, plant based diet, not just any kind of plant based diet.

Okay. And, so it's, there's, you know, there's glycemic control issues, there's inflammation, issues. There is, the nutrients, there's so many when you when you eat food, there are so many nutrients involved, so many phytochemicals.

Right. It is never shown to be true that you can isolate one of those compounds and take it as a supplement and get the same benefit, because you're eating a package with thousands of things in it when you eat, you know, whole plant food or animal based food.

And, that package contains things, whether it be antioxidants or other things that are also beneficial. On the flip side, there may be some detrimental effects of animal based foods.

So part of the benefit, maybe good things that are in the plant based foods and some detrimental things that you're excluding from animal based foods.

So a combination of, of, you know, reducing certain things and increasing others. That's a general approach to the mechanisms. And you can always have a talk where we go into more details, but, as I mentioned, it's the clinical, evidence that is of, the most interest, I think.

So, you were mentioning that, that the research showed, but, you know, benefit on, on metabolic syndrome, cardiovascular disease and modest benefit in cancer.

Can we get a sense of how big of an effect is that? We have a sense like, this is like a 30% reduction is just like a 5% reduction risk. But we have a sense of what that is.

Yeah. I mean, those are, I think what we want to do when we talk about these kind of things is we want to look at some of the studies that have done and see the types of benefits that are going on there.

And if and now there's two things. Now one thing is looking at a study and seeing what kind of, benefits are present there, and then trying to extrapolate that to more general populations and things.

So that's one thing. The second thing is that there are always limitations to a study. For example, a study may be

done looking at people's plant based diet and say there's, you know, X amount of of benefit and you have to look at the parameters of the study.

For example, the study may include people in a general sort of more plant based diet scale, but they're not necessarily looking at the most optimized plant based diets.

So then we have to think to ourselves, okay, when you're looking at different studies, studies that look at also diet optimization and the benefits and think of, you know, here's certain amount of benefits.

The benefits may actually be more or the benefits may be less if people's diet quality is less. Right. And it also looks at the comparator group. So in many studies the meat based groups actually are much more plant based compared to the general population, because there's a sort of a healthy volunteer effect.

People who volunteer to be in studies tend to be more health conscious in the first place, and tend to eat more plant based in the first place. So even the meat based group is not as bad as the general population.

And the other thing is that, you know, as time goes on and in, in modern day, we have more and more medical interventions, right? We had a guy came in, I was working at the emerge last night.

He came in, with a Stemi. He had a sort of occlusion, myocardial infarction where an artery is blocked. Right. And, you know, we had him up at cath lab within a half an hour of him being in the emergency department, half an hour and 40 minutes of him being the emergency department.

So that didn't exist 20 years ago. And as we get better and better at treating these diseases, you know, you might see a narrower gap between people eating unhealthy foods and more healthy foods because we're able to use technology, medications and medical systems to, attenuate the differences right there.

Right. But, now, having said that, I'll finally answer your question. I was gonna I'm going to I'm going to I'm going to get to a couple of, studies here.

And look at, so I said, you some studies list, I have these reference lists which I think are sort of a compilation of some of the most important and best studies and certainly not comprehensive.

There's lots of other studies that I, I think could also be on the list, but I just don't want over populate the list as well. But here's a great study from, 2021, Association of major dietary Protein sources with all cause mortality and cause specific mortality, prospective cohort study, Journal of the American Heart Association.

And over over 100,000 women from the Women's Health Initiative and, in there and, let's see. So for comparing those who eat the most plant based to the least plant based in quintiles, there was a all cause mortality benefit of about 9%.

Okay. Okay. You know, in a study that went from 1993 to 1998. So that's about a, you know, a five year over those five years, you're looking at a time span there.

There was 9% less deaths in the people who eat the most plant based versus the, the least plant based. And cardiovascular mortality was decreased by 12% in that study.

And dementia mortality decreased by 21% in that mortality. And that's just over five years. So if you extend that for a longer time, would you see even a stronger signal.

Right. And so that's an example of some of the things. But if you could invent a pill that you could sell and say, hey, take this for five years, you have a 9% less chance of dying, you know, people would jump all over that.

But I think this is good because it's something that you can do and it doesn't cost you anything extra, and it doesn't require you to take a pill. Right.

So the, you know, a lot of these studies I remember even when I did the look at the literature some years ago, were observational studies like this women's health study, where they, you know, followed people along.

They were not necessary intervention studies.

Study Quality, Ornish, and Research Limits

That's right. You know, they looked at people like, their parents or something. What they came from, you know, China or, or Japan or whatever. And then they the kids had a Western diet and they said that, you know, the rate of like of the heart disease was much higher and things like that.

We kind of had to infer that the because we couldn't necessarily couldn't we can as a control for all the other variables. But it seemed like obviously diet had had a big impact.

But, I think that, Dean Ornish made was quite, he has some pretty landmark studies that looked at actually intervention of reversing heart disease using, a vegetarian diet, as.

Do you want to comment on that? Yeah. So Dean Ornish, published two papers regarding his lifestyle and heart. Study. And there were interventional studies, as you mentioned, they're kind of historical. They're pretty old.

We still refer to them, and I still think they're interesting, you know, of great interest. But I don't hang my hat on those particular studies. I don't hang my hat on any one particular study.

Even this all cause mortality study I mentioned. If you look at the reference list I showed you, there's multiple studies talking about all cause mortality.

And that was only one of them. There's other ones there that have even a stronger signal. But, that one know where you put people on a very, very low fat, extremely low fat, whole food plant based diet for a year.

And found a tremendous, decrease in, in recurrent heart disease. So he had a population that already had severe heart disease. And then he used this intervention he found on the on the patients that he used the intervention with.

They had a very, very low rates of recurrent MI or revascularization. And then he followed these same people for five years out or I think actually that maybe Caldwell, you know, this Caldwell assistant of this Dean Ornish and they both have done kind of similar studies.

But, you know, in those studies, when they followed people for a longer period, they found, again, people who stuck with the diet had much better outcomes.

Essentially. So those are interventional, but it's not a it was not a randomized controlled trial. It was interventional study. It was not randomized controlled, but they had very, very dramatic results.

And I think it behooves us to actually fund their, you know, the, you know, you know, cardiologists, a lot of there's a few quality cardiologists that are very well noted to, be promoting a whole food plant based diet and people who criticize those studies.

Their response is that, you know, we we are responsible now to follow up on those things and do, a larger study that is randomized or what have you. So that's what we need to do in the studies that you mentioned just now, like sort of looking at people coming, coming and immigrating to, from Japan to America, looking at the children versus the parents and stuff like that.

Those studies do exist. Those are older studies, you know, those are, you know, published like in early 2000 or the, right, you know, the 1990s. But you'll see that the more contemporary studies are also cohort studies, the bigger ones are cohort studies.

And but there are much better defined populations, very large populations followed for longer periods, like the one I just mentioned, looking at over 100,000 women.

Right. And we're looking at those kind of numbers. And and that was a five year study. But there's other studies that are going for a much longer time.

And those are those are good because they're especially from, data that comes from the Nurses Health Study, Physicians Health study, you know, populations that are pretty educated.

A little bit more in uniform in terms of their socioeconomic, and education, status and sort of know how to sort of fill out forms and give good data feedback to the people who are, doing study.

So there's studies based on those kinds of groups. And although not randomized, I think there's a really good data at the same time, there are randomized studies coming out that are, of course, much smaller because you can't randomize 100,000 people in a dietary study for X number of years.

But there are, randomized trials that also come out to. Right, okay. You know, some reviewers, I think I know a couple of my friends even, who have, you know, gone to a plant based on after watching the Netflix special Game Changers.

The Game Changers, yes, yes, which they talked about these young guys who one of them had, like took a vegetarian meal and the other one took a high fat meal, and then they measured their nocturnal erection erections.

Yeah. And I don't think that's quite I think I think it was very dramatic, but I don't think it was a very scientific. It was very dramatic, but not scientific.

So, I wouldn't include that study in my database, but I think it was. But is it the microvascular? I mean, there may be like changes that are happening, a microvascular level.

I mean, I interviewed some others, you know, researchers in the space that, you know, this are the capillaries and microvascular changes depending on, on a high fat meal very quickly, I can say.

But there could be you know, I haven't I haven't seen a study on that particular thing, you know, nitric oxide and all that kind of stuff that people talk about is involved in the, you know, the physiology of an erection.

But but putting that aside, you know, long term, sort of, preservation of erectile function does involve the microvascular and some of the sort of master macro vascular elements of, of the penis.

So, I think they're I'm not sure if I have a couple of studies regarding that. There's more anecdotal evidence, though, right. I think that should be the subject of a study as well, looking at people on whole food plant based diet guys and looking at erectile function.

You know, I can I can quickly scan my database. For a couple of studies regarding that, but but but that's true. I think that could be very, you know, that's very well within the means of, sort of long term benefits is, is preferred preserved rectal function.

And, and it's also, you know, very good. You know, it's, it's also known that loss of erectile function is a precursor to heart disease in many cases.

Right. When people when a guy loses erectile function, actually within the next few years, he's actually a higher risk of a heart attack. So, that's, you know, that's something that we want to also keep in mind that there's a common mechanism that is happening there, right.

What are your thoughts about, you know, the these days, we've had a lot of, I guess craze or interest in and ketogenic diet, paleo diet. You mentioned Mediterranean lots of research studies on that.

What do you think plant based fits into this? And how do we how do we compare these? What do you tell your patients who are, you know, because ketogenic has had, you know, very positive aspects on weight loss and increasing insulin sensitivity.

Low-Carb Diets, Mediterranean Diet, and Gluten

So how do you how do you put this together? Yeah, that's that's a good question I think I think the problem is that people are not necessarily looking at long term outcomes.

And at the same time, there's a lot of industry influence in this whole thing. So when you're when you're looking at these, the high so the low carbohydrate diets have been promoted for a long time.

We're talking about going back to like the 70s and 80s. There's people like Atkins and then, you know, supported by the, you know, animal agriculture industry.

And then when that gets a little bit unpopular and this guy gets a heart attack and dies, you know, then there there's there's own diets, right? And there's the South Beach diet.

And then there's like the paleo diet comes in and then there's keto diet, you know, and the industry keeps repackaging different forms. And now it's the carnivore diet as well. Right.

They keep repackaging the sort of low plant food or low carb diets in different, different ways and, and marketing them back to people. All right. So definitely the main mechanism for weight loss is really calorie reduction okay.

And we have good articles in the database again showing that the main mechanism is calorie reduction. If you eliminate the entire, you know, majority of your carbohydrate intake, right.

Even if you increase your fats and protein intake, chances are that when somebody starts with a bad diet to begin with, these are people starting with bad diets, and you cut out a whole bunch of sugar and and junk and carbohydrates, you're going to lose weight, right?

If you cut out all your fat, you're going to lose weight too. Okay? Either way you can lose weight. The question is, which methods of, diet can be sustained long term and lead to long term benefits. And the evidence consistently shows that people who are on low carbohydrate diets in the long run, have higher mortality, have higher rates of heart disease, and have higher rates of cancer, despite the fact that in the short term, they may have weight loss and they may have, like, you know, for a short time, benefits in terms of biomarkers, you know, like just their blood sugars and things like that make it better.

But is it healthy for you in the long run? Right. There may be exceptions to this. Maybe a vegan keto diet or, you know, a vegan, high protein, low carb diet.

Maybe that's better. Okay. But I would caution people against I think that it probably is better because there's a lot of more whole plant foods, low saturated fat.

Hopefully you're not eating things like coconut oil, which are a plant food bits in palm oil, which is high saturated fat. I'm not I don't think those are necessarily good for you.

Okay. There in fact, there's evidence that they're not. Okay. But you may be able to do a plant based version of these things, but I would caution somebody for doing that kind of thing, even plant based in the long run. We don't have evidence for it. Okay.

So I'm I'm not going to promote something that's not evidence based, but we do have evidence that these, these, these low carb diets, high in animal products have have long term consequences.

And, in the list I've shown you, there's there's many articles in the carbohydrate section talking about the whole

grain carbohydrate rates do have a consistent, significant signal regarding reduced mortality, reduced cardiovascular disease, reduced diabetes and some reduction in cancer.

Modest but you know, but consistently present okay. And yeah. And so carb but low quality carbohydrates refined carbohydrates that's all. You're white flour, white rice, ramen noodles from Mr.

Noodles. Right. Or the, sugars and all that stuff consistently are shown to be bad for you. So that's why I mentioned that it's not just about plant based diet, it's about a high quality plant based diet where you're wholesome, low fat, you know, and the Mediterranean diet, when we talk about Mediterranean diet, the Mediterranean diets that are studied are essentially examples of plant based diets.

They are majority plant based. They emphasize a lot of beans and lentils and things like that. Yeah, there's some particular things that they may, say, okay, have olive oil and things like that.

I would caution people not to eat too much olive oil a little bit is okay, but, but, you know, when they show benefits again, it's again the benefit. People think a mediterranean fish, actually Mediterranean means more beans and lentils and whole grains and those kind of things.

And and fish is not a huge part of it. Right. What are your thoughts about, you know, the concern about gluten? Some of these grains people, you know, have potentially are having some type of sensitivity.

I'm not sure. But the health impact of this because, you know, that's, can be major part of a plant based diet, right? So you're what you're specifically referring to, I think is what we call, non celiac gluten intolerance.

Okay. So people with celiac disease have a definite allergy to gluten and must avoid gluten. There's a high prevalence in certain populations I think such as Ireland okay.

But otherwise it's a low prevalence of this this kind of disease. Now there's a whole side that came out, over the past, whatever, 15 years saying that, gluten is bad for you.

The, carbohydrates are bad for you and all this kind of stuff and a lot of fear mongering that was going on. And when they did studies on people with non, you know, regarding non celiac gluten intolerance, where they did actually randomized controlled trials where they ate like a, like a for one week, had a meal that had gluten and then another week had a meal that didn't contain gluten.

And then they crossed the people over and so forth. And they didn't know whether they were eating gluten or not. They were given food which had gluten or not, like a, like a muffin, for example, not knowing if there was gluten or not in there.

And they do these randomized trials, they found that most of the people who thought they were gluten intolerant, you know, it's almost 50% did better on the gluten muffin than the non gluten muffin.

But there was a small percentage of people who actually felt a little bit better. Let's say, on the, on the muffin of you know, that was non gluten. So these are self-identified people with non celiac gluten intolerance. Okay.

But for the most part it was a wash. Okay. For the most part, people thought they were, gluten intolerant. And they actually said they felt better on the gluten.

You know, the muffins, gluten. And there's there's very little scientific evidence that gluten is bad for you, but there's a lot of scientific evidence that refined carbohydrates are bad for you.

So when people are cutting out carbohydrates and feeling better, it's because the majority of people's carbon hydrate intake is from unhealthy sources to begin with, our general diets contain these highly processed carbohydrates in far in excess of whole grains.

And when people cut out this food as a class, they may see some benefits because they're not eating the healthy stuff to begin with. But what would rather be beneficial is eating whole grains, consistently and consistently, excluding the refined carbohydrates.

You know, maybe a little bit once in a while. Okay. But, you know, really keeping that stuff to a minimum, right? Okay. Now, that's very helpful. What are your thoughts about, you know, one of the, some one of the things that I've kind of thought about is that perhaps or the type of food or the type of diet we have needs to vary with the time of year.

Like perhaps that's, you know, there is some need for change and it's not always the same diet, but, how do you how do you feel about that? And then also, where do you think fasting fits in?

Intermittent fasting. And these are also, you know, really hot topics. These days. And, you know, where you fit. What do you fit that into? Into a. Sure.

Yeah. It sounds like sort of two questions. Yeah. What about fasting and then what about like, the variation of diet throughout the year? When it comes to, you know, I think variety is the spice of life as long as our variety is within healthy parameters.

Right? If somebody says variety is the spice of life, hey, once in a while I'm going to use cocaine right? I'm going to beg to differ. You know, I think you should probably avoid cocaine and, you know, variety.

You know, if, you know, there's all kinds of things that maybe should not be rotated into that variety. Okay. But, I think that we should be having a lot of variety of our diets.

Fasting, Portion Control, and Diet Variety

And I think in this age where we are really globalized, we are really globalized, and we can get to this. But the impact of our diet also has a global impact on the environment, as well as, you know, local impact, but especially a global impact.

And so if we're trying to do the fix these problems and, and do better, we can take advantage of the global variety of, of of plant based foods. There's incredible plant based foods that come from Europe that come from African continent and countries from Asia, from South America, from from North America, you know, and the Americas, where a lot of the indigenous people, you know, people think of them as hunters, but they, you know, many the the largest populations were agriculture agriculturalists.

Right. And the three sisters, beans, corn and squash are, you know, were grown right from, you know, the southern Ontario right down into, you know, through through the US and Mesoamerica and, Central America, South America.

These were staple foods. Right? So this incredible variety, we can take advantage of for sure. But I don't think that's necessarily. Oh, it's winter. I have to eat steak or something like that.

I don't think there's evidence for that. If you can show me credible studies showing that, you gotta eat these things, because it's wintertime, and if it is winter, the nice thing is that we have fantastic high protein, and all kinds of plant based foods that, that are, you know, great for any time of year I think.

Yeah. Okay. Yeah. This the other thing is that, you know anywhere you go around the globe, there are in like 95% of the areas around the globe there are fantastic, you know, high protein plant based foods that can grow in those areas.

Right. There are, you know, beans and lentils that are adapted for hot conditions, cold conditions, dry conditions, wet conditions, etc.. So, the taking into account the local conditions and, and cultivars of plants that grow in those places is a really fantastic thing to do.

And then the fasting, what are your thoughts on the testing? Fasting. Yes. Well, I, I'm not an expert on fasting, so I'm not going to make too much comment on that.

But what I am going to say is that portion control is important because in our society, I, as you know, like I used to work in a, village, in India, and I'd spend one month working every year for about ten years in this, in this village in a sort of a community hospital that was run by volunteers and donors and so forth.

And it's kind of a travel organization. And in the area, it's a rural area, lots and lots of farmers. Okay. Now these farmers, they could eat like a stack of ten rotis in a meal.

I started eating with them. Okay, I can eat two right now. These guys are skinnier than I am and I'm not a, you know, a really, you know, big guy or anything like that, but they can eat that much if the rest of us who are volunteering and living in, let's say, the city and coming to volunteer, whether it's from India or the West, we would become obese because those guys are working in the field all day so hard.

Our level of energy expenditure is nowhere near that. So our energy intake should be closer to our energy needs and our expenditure, and we exceed that over and over again.

So whether you're plant based or not, plant based, people do need portion control, intermittent fasting and fasting and those kind of things. If it helps you with that process, I think that's good for you.

And I think also, just this is my thought process, not me being evidence based about it, but I think it's good that, you know, humans evolve, you know, eating at times and also going times without food.

It's not like we constantly had something fed to us so that we would never be hungry. You know, I think some amount of hunger is a natural process. And when you go running or have a long work day and if you don't eat for a while and you you're training your body to do that, there's there's probably some benefits. Okay.

But this is just me, you know, speaking in terms of intuition rather than being science. I want to be very clear about that. Okay. But, but I know that there are studies done on intermittent fasting and, but certainly I think portion control and control of net caloric intake is important.

While mentioning that there is good evidence that people on whole food plant based diets have better body mass index profiles, then then the, you know, people who are incrementally eating more animal based foods.

There's good data from the Adventist studies as well as the Epic, the European Prospective Investigation to cancer those populations. There's good studies on that.

Other studies as well, talking about people incrementally plant based, having a better BMI profile. I will also warn people that there are some people who are plant based or vegan, and they eat extremely low calorie diets.

Okay. A lot of there's there's dogma on the plant based side too. So some people say that, oh, you know, just eat plant based and they want to be like fruitarian or eat just all vegetables and very little protein foods or, or grains or things like that, or be completely raw.

I think those things maybe can be okay. But you have to be careful. You have to have, you know, one gram of protein per kilogram of body weight per day, like somewhere around there.

If that's, you know, and I could amount of calories and people who are very underweight. There is a study that came out showing that they had, you know, women who were very underweight, had increased rates of fractures in the plant based group.

Right. So and it's probably just because there were so skinny, there were so many more skinny women in that group and they had more fractures. So especially for, you know, the plant based women out there don't become too underweight.

Make sure you're consuming the right amount of calories and, and and and protein and keep your, your body mass index, you know, sort of maybe around above 20, you know, because below that you start seeing dramatic increases in fracture rates.

So even on the plant based side, there's things to learn. Sounds good. What do you think is the, what is the unanswered questions that remain like, what would you like to.

I know you kind of mentioned a little bit about what, research could still be done. What what do you think is is needed, really, to get the message out, and people understand, you know, the science behind, you know, plant based diets.

Honestly, I think that the, the biggest challenge is misinformation. You know, people coming and talking about these, you know, paleo ketones and quoting some study or something like that, or usually not quoting any study whatsoever.

Building a High-Quality Plant-Based Diet

Actually, if you look at a lot of these people who are promoting these things and they give a talk and there's no articles reference, right. I think that's, that's that's not the way to go or, you know, you can find some little study that, you know, that will tell you that, I mean, you can eat like your cell phone and it'll be better for you.

I don't know, you know, there's always some little study on rinky dink study on everything. What we need to do is we need to look at the existing body of literature carefully.

And, not any one particular study alone and, and amalgamate in our you sort of our combine our understanding after looking at the body of body of literature and you find that there is very, very good evidence that's already out there.

I don't believe that there's a missing link or anything like that, or so many missing studies. I think that we need to consistently do these studies to strengthen our understanding, further our understanding, improve the quality of studies.

I'd like to see more studies. And this is being done looking at diet quality, not just looking at if you're plant based or not plant based, but looking at plant based diet quality.

Right. So we're looking at people who, have high quality, look, you know, low fat, whole food plant based diets, adequately proportioned with, like that and looking at those long term outcomes, that's I think that's the future of where this body of knowledge needs to go.

And I, I believe we'll see even stronger results when we do that. Because right now, in a lot of these plant based groups, you're seeing a combination of people who have bad plant based diets and good plant based diets.

Right. Although there have been now, some studies, you'll see them in the reference assessment that they do look at plant based. They look at healthy plant based index.

So they're looking at they're trying to assess diet quality. And I think these are initial attempts that can still be done better. So I think that's where the body of literature needs to go, as well as doing more research on things like let's say erectile dysfunction.

Let's see more, more, you know, there's a lot of you know, there's there's mounting evidence regarding dementia. I'd like to see even more studies done in that category, and other things.

So I think that, there's, there's still a lot of good research that's ongoing and that that's being done. It's pretty exciting because it's the nice thing is there's consistency showing the benefits in terms of long term benefits.

Okay. Beware of looking at rinky dink little studies that come up with some little paleo thing or this or that or any other thing, or even any little plant based study that claims that has, you know, claims that are out of proportion, even this plant based. It could be a garbage study.

So, you know, you don't want to pay attention to those two that we want to whittle those out. Be care, be aware of biomarker studies. We don't want to just look at biomarkers.

We want to look at clinical outcomes. I think that's very important. Something maybe or increase your homocysteine or your HTML level or whatever it is.

You know, we care about heart attacks. We care about dementia. We care about whether you die or not. Those are the things that are more important than biomarkers, except for the very traditional biomarkers that we use in medicine, like, you know, glucose, HbA one, see your cholesterol levels, blood pressure.

I mean, those are the biomarkers that that I think we have enough medicine evidence that they're important in and of themselves. Right. So those are things.

And I also tell people when I give a talk, I hope I remember to tell them every time is, don't just listen to me. I'm giving this talk. Right? I could be biased. I could be anything.

I'm going to provide you with a reference list, go through my reference list and verify if the studies that I'm telling you about are consistent with what I'm saying.

Okay. I think that's very important to don't just listen to the people right. Go yourself. And what I try to do with my website, plant based data is try to make the data more accessible to people.

So if you want to look up information on cardiovascular disease, and you go on Google and you look up cardiovascular disease, plant based data, plant based diet, you'll find some information.

But it's going to take you a very, very long time to come up with all the studies that are important and then look at them and see if there's a consistent signal between how the studies are done and the results that they're getting.

Right. On our website, we sort of amalgamate them for you. Now you can take a look at them for yourself, easier. So that's, you know, a plug for our website that it's a tool, for people to use and is diet.com or dot plant based data.org.

Oh sorry. Plant based data talk okay. Perfect. Yes. Yes. And how would, a person understand the quality of their own, let's say diet? Because I think that's that's the message I'm kind of getting from what is what you're talking about today is that, you know, there is a difference between different types of diets, but quality of the diet is really important, you know, because one could be having an ice cream, and be on a plant based diet, so.

Right. Right, right. Yes. Yeah. So I mean, that's important to know the principles of just general eating healthy for, for a regular person. Think of this.

So Whole Foods, or minimally processed foods. Right. So ice cream containing sugar. Sugar is a highly processed food. We don't want to eat those refined carbohydrates, the sugar and the fat that's in there. Right.

Fat is a highly, processed food. Right? You're extracting the fat one thing and leaving all the rest of the food behind. Okay. So want to eat more whole foods?

Want to eat beans and legumes and, you know, vegetables and fruits and and whole grains. Buy whole grain bread or whole grain flour to make your roti or your, you know, like, like that kind of stuff.

So hope and minimally processed. So a little bit processing, you know, if you take a grain and you grind it, it becomes a flour okay. So that's fine. That's one level of processing that's probably okay.

Now if you start extracting all the different components of it and leaving behind just more the starchy component and the gluten and, and you get white flour.

That's the highly processed food. So if you make bread from just whole grain flour that's a minimal minimally processed food. You just ground the flour. You're making bread out of it. Okay.

If you make tofu you've used most of the soybean. If you eat edamame, that's a whole food, right? There's a whole soybean and tofu and soy milk are kind of minimally processed foods.

They're still okay as long as you're not adding a lot of sugar to your, you know, don't eat the chocolate. Don't have the chocolate milk. Soy milk. Right.

Don't don't go there. Right. So eat whole foods, eat low fat. A little bit of fat is okay. Most of us are going to eat a little bit of fat. It may be involved in the recipe, but just make sure it's not too much, okay?

And go for the healthy fats. Healthier fats like canola oil, soybean oil, olive oil is great. Flaxseed oil. Those are good. Avoid things like palm oil and coconut oil, which are high in saturated fats.

Also have your environmental impact. Okay, so minimize the oil, but eat some of those healthier ones. If somebody has heart disease, preexisting heart disease that they really want to have secondary prevention, they want to prevent that second heart attack.

Resources, Website, and Closing Remarks

In these Dino Ornish and Caldwell Esselstyn studies show that you can go to almost zero fat. And I don't I don't like the word reversing heart disease.

I like to use the word secondary prevention, which is the more medical terminology, which I think is, is what actually happened. Great. They prevented, you know, subsequent cardiovascular events and revascularization surgery.

Right. So you can do that. So whole foods, low fat, plant based, you know, and eat the variety, eat the rainbow, eat all the broad different colors and variety of plant based food.

There's so many different fruits, so many different vegetables, so many different legumes, that are out there, lentils and beans. And like, I think that there's international dishes, whether they're from, you know, you know, beans dishes that native people made right here in Ontario or something that people did in, in, in, Asia or, you know, China or South America, you know, just lots of different things out there.

So, you know, eat that rainbow, eat that variety, but get enough of the different categories. Remember, you want to get enough protein. You should be getting roughly 1g/kg of ideal body weight, per day.

Like, make sure you're getting off that protein. Make sure you're eating adequate calories, meaning not too much and not too little. Okay. And that your, having the variety of all the different food groups that I mentioned, right.

Including nuts and seeds, that's another great one. Food groups you also include and I think that's the general thing. And then it's lots of resources online that can help you.

I think you would ask me about resources. There's something called the Plant Fission Project. Okay. You could look them up. Plant fission project. You can look up PCB, which is Physicians Committee for Responsible Medicine.

There's a couple of great books, that I recommend. There's one called Becoming Vegan, and there's another one called, vegan for life. Now, even if you're not becoming vegan and you just want to eat more plant based, these are still great books because they will guide you to shift in that direction, even if you're not doing it 100%.

Okay. So those are some, some good resources that are out there. Perfect. Now that's helpful for, for, for, viewers. So, I really think thank you for your time today to share.

Thank you. Thank you. I'm also going to plug my own lecture. If you go to plant based data. I have a lecture on plant based diet and health. Check that out.

I think it's a it's a one lecture, kind of like 40, 45 minutes where I cover all of this stuff in, in pretty good detail, you know, including things like taking your B12, you know, stuff like that.

So, so, so I say that plug in one more time. Where is where is exactly the lecture? Okay. So you go to my website plant based data.org. Look at the health section and there's a video by me in there.

Okay. Please also take a look at the environment section, and there's also a pandemic section because as people sort of vaguely know, this pandemic that we're currently suffering from is a is a direct result of, animal agriculture.

And, I have a podcast there also about the problem with animal agriculture and how that's, becoming a generator for, for, for viruses, which put us at risk for, you know, future pandemics.

There's been past current and future pandemics that come from animal agriculture. And this is another big reason why, plant based diet is important. Yeah. No.

Thank you. I think, Bill gates just came out and said we should be, you know, reducing meat consumption for to address climate change. And, yeah, we didn't get a chance to talk about all that, but that's for a different podcast. Different podcast.

There's, you know, beyond climate change, there's many, many other benefits of plant based diets with regard to the environment. But we would love to talk about that if you ever haven't back on the show.

Yeah. All right okay. Have a great day. Thanks so much. Thank you Sanjeev okay. Take care to everybody that's out there.