

72 - Research and the Aging Process

BioBalance Podcast — Dr. Kathy Maupin and [Brett Newcomb](#)

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Dr. Kathy Maupin: Welcome to Biobalance Healthcast. I'm Dr. Kathy Maupin.

Brett Newcomb: And I'm Brett Newcomb. And today we're going to continue our conversation about some of the scientific research that is out there. We've done a number of podcasts on particular studies and we want to talk about a couple of studies today and some of the research behind those studies. One of the things that we regularly mention is the importance of being an educated consumer. So I thought I'd take a couple of minutes to talk globally about how you look at research and data and conclusions that are in it. When I was in college I was trained to be a social scientist and real scientists always get upset when social scientist call themselves scientists.

KM: I know, I'm a real scientist and I don't.

BN: Well typically they do because they say it is a social discipline not really a science because it's not rigorous in terms of research.

KM: I didn't know that.

BN: So I had to take course in research and statistics.

KM: I did too and I hated statistics but now I use it all the time.

BN: Well, there you go. And there were some things that we had to learn about that. One of the things that we were taught was be critical, intellectually critical, about taking claims from studies at face value. If you just read it, you know like the headlines. Like if you read the newspaper, if you just read the headline, you don't really get the content of the news. So there were some questions that we should ask if we want to look critically at a scientific study. What are their credentials? Who are they affiliated with? What agencies do they work for? That sort of thing. What is their agenda? Do we know that they are promoting a particular agenda? What was their methodology? Did they follow the protocols for the methodological accuracy in their research? And then what were their conclusions? So you're supposed to look at all of that stuff when you look at a piece of research and you're trying to understand it.

KM: Let's go back over methodology. Methodology has to do with how did they pick their subjects? How big is the study? How long did it go? Because, if you're looking at a disease that takes 20 years to develop, you can't look at it in 2 years.

BN: Right, you have to follow an age cohort.

KM: Right, you also have to look at if it's retrospective in other words you're looking at data from studies that you're just looking at data that has already been made, already been created and you're not really testing the subjects where you've got subjects that are affected by this, and then subjects that are a control group. Now that would be the study that would be the most accurate. Certain things you just can't do that, it just takes too many years to do that. So many studies are done retrospectively, you look for numbers.

BN: We call that data mining. There are huge databases that are out there now. Like the census bureau reports that scientist can go to and they create a thesis. I posit that this is the case and then they mine the data that preexist to see if they can prove that. If you look back at the podcast we did last week, we were talking about a study that was done on a group of Danish women. All of that was data-mined in information that had been collected by the National Health Service in Denmark. And so they kept sorting and sorting and sorting according to their parameters to get the data that they wanted.

KM: Okay, so tell me what you mean by sorting.

BN: Well they take all the data, and you have 1,000 women and you want to find; last week's study talked about the prevalence of heart disease in older women who have not had their hormones replaced. But to filter that down they went through and did a sort to take out women that were obese, and then they did a sort to take out women who smoked, and then they took out other subsets so they were reduced to a population of elderly women who weren't obese, who didn't smoke, were educated, and then they globalized their conclusion.

KM: So if you have obesity, diabetes, if you smoke then that data doesn't really apply to you, because they've already sorted all of those people out before they look at the numbers. And sadly it still ends up as a headline and you still accept it as fact that it means everybody.

BN: Oh my God this is another thing I have to worry about.

KM: Right and it's another stress on your system.

BN: But of course what they were saying in this particular study was you'd be dead from obesity and smoking and other issues you wouldn't have to worry about.

KM: That's true and in some ways that's true it puts you at risk, it doesn't mean everyone will be.

BN: No, no it does not. Which brings me to the second thing that we had to learn when we were studying methodological data and statistics. They taught us there are three categories of data; there are lies, there are damn lies, and there are statistics. And the thing about statistics that they told is that you expand or contract your base so that the

results that you have look significant or insignificant. So you manipulate the data to prove the point that you want to prove.

KM: You start the study by saying, what do I want it to say? My husband told me, he's an attorney and he said "it's like an appraiser. They come to your house and say 'what do you want it to be worth?'"

BN: What do you need out of this house?

KM: And so they set up the data, (I'm not trying to criticize appraisers), and they serve for things to be worth that and it's same thing with researchers, often they usually have a thesis that they want to prove.

BN: They almost always do, they start with a thesis and then they try to do the research, if they're actually doing research, or they do data mining. So when you're thinking about statistics and anytime somebody quotes at 5.7% of this and 82% of that remember that figures never lie, but liars always figure.

KM: So they can make it look like that with numbers.

BN: Yes, they can play with it with numbers.

KM: And generally my litmus test for a study, is I read a headline and for me I have the advantage of having watched women and their families over the period of 25 years or more and followed them and I know that in general, my patients, if they have this, they get this, and if the data at the top of the page in the newspaper is "nope, that's not true" then I know that they've manipulated that study. Because I have every age group, every socioeconomic level and I've looked at all of these women and I have a memory of exactly how each woman has progressed and what they've gotten, if they've smoked, if they had breast cancer in the end, did they take hormones or not.

BN: You should always remember that inquiring minds want to know and they want to know about the three headed baby that was fathered by an alien named Newt Gingrich in Georgia.

KM: Are we doing politics now? No, we're not doing politics now.

BN: No, we're going to go back to medicine and research. Today we're going to talk; all of this is a prelude to a JAMA article that Kathy found.

KM: Journal of the American Medical Association.

BN: Journal of the AMA. Talking about the aging process in men in particular and for those men that develop what are called MCI's. Mild cognitive impairments as they age and those are precursors for the development of Alzheimer's and dementia.

KM: And dementia.

BN: And I don't remember.

KM: And those are, just forget it I'll take care of it. That means you have difficulty concentrating. You can not remember names or places. It doesn't mean you get lost when you are driving, but forgetfulness, inability to solve problems. Loss of efficiency at work, like if you're very efficient and then you just aren't because you're just scattered. It's not exactly ADD; it's more like you just can't remember what you're supposed to do.

BN: Yeah, it's not as significant as ADD.

KM: And usually in women, this happens.

BN: But if you go into a room in your house and you stop and you look around and think, why did I come in here, or you go and open the refrigerator and think, what am I looking for? That happens to me.

KM: That happens to everybody but when you have all of these things, or many of them and you've never had them in such a number before. You've done that once a month but now you're doing it every day, then that's mild cognitive impairment. So that's what we're talking about. And they were looking at men with mild cognitive impairment. And the reason I pulled this article is that in general all the research I've done has shown that men get cognitive impairment at least 10 years after women and they don't have as much cognitive impairment because of many reasons that we'll discuss, but they have a delayed cognitive impairment. But this article said that men have more cognitive impairment than women. So because of that headline, I then went through the study to see why they said that and why the numbers did not go along with everything I knew.

BN: They were attributing, the interpretative data from their study said "you're less likely to have cognitive impairment as an older male if you're better educated and if you're married.

KM: That's true, that helps.

BN: So education and marriage helps you hold on. But you were upset when you looked at the data because there's a critical ingredient that keeps cropping up in your work and in the studies that you read that they didn't evaluate for at all.

KM: Well they said that they have it more than women. The main premise was men have more cognitive impairment than women. And my studies all show. . .

BN: 7.2 compared to 5.7.

KM: Right, that's true. That's what they said. But there's a study that showed midlife women, 62% of midlife women.

BN: And midlife women are 40–55.

KM: Are 40–55. So midlife women, 62% have cognitive impairment. So that's a huge number.

BN: I'm sorry, say that number again.

KM: 62%. Over half of women between 40 and 55 have mild cognitive impairment. So I know that when they're saying that men get it and it's as low as 7% or 6% compared to women I know something is wrong with that study. Because this other study was done with a large number of women and it was done prospectively. They did the study over many years and then collected the data from it. So I know that that study that came out in 2002 was a good, a well done study, I guess I should say. So we get this piece of information so what went wrong? What did they do wrong that they came up with the wrong conclusion?

BN: Well they evaluated 1,450 men and women between 70 and 89.

KM: And that's the problem. The problem is women get their cognitive impairment between 40 and 55, the majority of them. BUt they started at 70.

BN: So if they found a group of women in their 70's who had not developed it.

KM: Right. Everybody had to start at no cognitive impairment. And they looked at 70 year olds with no cognitive impairment. So when we look at that, all the women had already had it. They're looking for women who had never had it.

BN: So can you recover from it?

KM: Well if you start getting cognitive impairment in your 40's to 55, there's a window of time after you lose your testosterone and your estrogen, if you replace both of those you're less likely to get Alzheimer's, dementia, and cognitive impairment. And my patients, when they get their hormones back, they'd don't have cognitive impairment. And they did not address the reason for this.

BN: So there's a continuum of severity. As you start to lose mental acuity you have short term memory problems, you have short term recall issues. Those are not evidences of dementia or Alzheimer's. They're just evidences of the beginning of the aging process. And that's the part that can be interrupted.

KM: And healed.

BN: And the more significant points on the continuum, if you're genetically predisposed to get Alzheimer's, what it does is delay the onset of that.

KM: By replacing estrogen we can delay a woman 10 years before, if she was going to develop Alzheimer's or dementia we can delay her 10 years. If we replace testosterone

as well during that early window, then we can delay another 10 years. So that means 20 years for a woman can be delayed so she can die of something else before she gets dementia or Alzheimer's. So in this study they're just looking at a subset of women who have already gone through that process and they take only women who have no cognitive impairment at the age of 70. And study them.

BN: Who are not likely to die of Alzheimer's or dementia anyway, because they're already 70 and they haven't show any signs.

KM: And they didn't' look if they've taken hormones or not.

BN: Right.

KM: So they may have taken hormones to help them. And then they're looking at men who have taken nothing probably who have no cognitive impairment and then they compare them. Well the problem is they're comparing apples and oranges. Because they've already sorted out all the women who got either cognitive impairment or Alzheimer's or dementia. They're starting at 70, that's the wrong age to start. Then looked at all the women who are 45 and up and then compared men and women because women get Alzheimer's and dementia much more often if they don't have testosterone, and they don't have estrogen than men, because men lose their testosterone later.

BN: So why is all of this relevant? It's relevant because it's important to be a good consumer. It's relevant because you need to know certain things about anybody that makes a new claim for anything. Whether it's about a new miracle medicine that you can get at the GNC, you know this new herbal thing that is going to solve everything. Look into those claims. And look into them in a critical objective way.

KM: It's hard to do if you're not a physician and you don't know the other statistics, like you couldn't really evaluate this study if you didn't know that they reason it failed is because they missed the entire group of women that get dementia or cognitive impairment by raising the age.

BN: Unless of course, you watch our podcasts because we'll tell you those things.

KM: Yes, we look for these articles so we can kind of set you straight on the data. Because this headline, can you read the headline?

BN: I will read the headline. "Older Men May Be at Greater Risk For MCI Than Women."

KM: So that's mild cognitive impairment. So if your husband is forgetting things then you're worried that he's going to be going on to dementia or Alzheimer's.

BN: So if you're interested in this topic you can contact us directly. You can reach Kathy at:

KM: You can go to my website at Biobalancehealth.com or
podcast@BioBalacenhealth.com or you can call us at 314.993.0963, that's my office.

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