WEBVTT

00:00:00.000 --> 00:00:01.836 And welcome to the grand rounds

00:00:01.836 --> 00:00:03.985 that's sponsored by the Division of

00:00:03.985 --> 00:00:05.725 Women's Behavioral Health Research.

00:00:05.730 --> 00:00:07.518 The Department of Psychiatry.

00:00:07.518 --> 00:00:09.306 I am Carolyn Missouri.

00:00:09.310 --> 00:00:11.770 As the director of the division,

00:00:11.770 --> 00:00:13.834 it's a pleasure to welcome members

00:00:13.834 --> 00:00:15.970 of the Department of Psychiatry,

00:00:15.970 --> 00:00:17.110 some of whom we've said

00:00:17.110 --> 00:00:18.022 hello to this morning.

00:00:18.030 --> 00:00:20.320 Harvey, Heathers,

00:00:20.320 --> 00:00:22.595 and it's a pleasure to also welcome

00:00:22.595 --> 00:00:24.549 colleagues from other key departments,

00:00:24.550 --> 00:00:26.205 both across the medical school

NOTE Confidence: 0.921264905

00:00:26.205 --> 00:00:27.529 and across the university,

NOTE Confidence: 0.921264905

00:00:27.530 --> 00:00:29.490 as well as collaborators that we have in

NOTE Confidence: 0.921264905

00:00:29.490 --> 00:00:31.508 a variety of settings clinical settings.

NOTE Confidence: 0.921264905

00:00:31.510 --> 00:00:33.920 Search settings.

NOTE Confidence: 0.921264905

00:00:33.920 --> 00:00:36.854 The division is designed to bring

NOTE Confidence: 0.921264905

00:00:36.854 --> 00:00:39.248 together investigators who study the

NOTE Confidence: 0.921264905

00:00:39.248 --> 00:00:41.384 health of women and the influence

NOTE Confidence: 0.921264905

00:00:41.384 --> 00:00:43.863 of sex and gender on mental

NOTE Confidence: 0.921264905

00:00:43.863 --> 00:00:46.088 health and on the intersection.

NOTE Confidence: 0.921264905

00:00:46.090 --> 00:00:48.796 Of mental health with a wide

NOTE Confidence: 0.921264905

00:00:48.796 --> 00:00:50.600 variety of other disorders.

NOTE Confidence: 0.921264905

00:00:50.600 --> 00:00:53.162 We also have the opportunity to

NOTE Confidence: 0.921264905

00:00:53.162 --> 00:00:54.443 invite outstanding scientific

NOTE Confidence: 0.921264905

00:00:54.443 --> 00:00:56.537 leaders to speak with us about

NOTE Confidence: 0.921264905

00:00:56.537 --> 00:00:58.142 critical issues in the field.

NOTE Confidence: 0.921264905

00:00:58.150 --> 00:01:00.810 And so it's my privilege to introduce

NOTE Confidence: 0.921264905

00:01:00.810 --> 00:01:03.961 today's grand round speaker who is an

NOTE Confidence: 0.921264905

00:01:03.961 --> 00:01:05.897 outstanding and accomplished researcher.

NOTE Confidence: 0.921264905

00:01:05.900 --> 00:01:09.688 At a translational epidemiologist.

NOTE Confidence: 0.921264905

00:01:09.690 --> 00:01:12.330 She focuses on understanding the

NOTE Confidence: 0.921264905

00:01:12.330 --> 00:01:14.442 etiology and epidemiology of

NOTE Confidence: 0.921264905

00:01:14.442 --> 00:01:16.300 neurodegenerative and aging related

NOTE Confidence: 0.921264905

00:01:16.300 --> 00:01:18.405 diseases and sex specific differences

NOTE Confidence: 0.921264905

00:01:18.405 --> 00:01:21.249 as well as gender differences in the

NOTE Confidence: 0.921264905

00:01:21.249 --> 00:01:25.430 risk and progression of these diseases.

NOTE Confidence: 0.921264905

00:01:25.430 --> 00:01:26.774 In particular,

NOTE Confidence: 0.921264905

00:01:26.774 --> 00:01:29.462 Doctor Michelle Milky focuses

NOTE Confidence: 0.921264905

00:01:29.462 --> 00:01:31.478 on identifying biomarkers.

NOTE Confidence: 0.921264905

00:01:31.480 --> 00:01:34.819 For accelerated aging and for the diagnosis,

NOTE Confidence: 0.921264905

00:01:34.820 --> 00:01:35.445 prediction,

NOTE Confidence: 0.921264905

00:01:35.445 --> 00:01:38.570 and progression of Alzheimer's disease.

NOTE Confidence: 0.921264905

00:01:38.570 --> 00:01:40.635 And she does this really for the

NOTE Confidence: 0.921264905

00:01:40.635 --> 00:01:42.030 purpose of enhancing precision

NOTE Confidence: 0.921264905

00:01:42.030 --> 00:01:43.814 medicine initiatives and providing

NOTE Confidence: 0.921264905

00:01:43.814 --> 00:01:47.460 better care for both women and men.

NOTE Confidence: 0.921264905

00:01:47.460 --> 00:01:47.783 Previously,

NOTE Confidence: 0.921264905

00:01:47.783 --> 00:01:49.721 Doctor Milky was a professor at

NOTE Confidence: 0.921264905

00:01:49.721 --> 00:01:51.135 the Department of Quantitative

NOTE Confidence: 0.921264905

00:01:51.135 --> 00:01:53.090 Health Sciences in the division

NOTE Confidence: 0.921264905

00:01:53.090 --> 00:01:54.654 of Epidemiology and Professor

NOTE Confidence: 0.921264905

00:01:54.716 --> 00:01:56.552 of Neurology at the Mayo Clinic

NOTE Confidence: 0.921264905

00:01:56.552 --> 00:01:57.470 College of Medicine.

NOTE Confidence: 0.921264905

00:01:57.470 --> 00:01:57.844 Today,

NOTE Confidence: 0.921264905

00:01:57.844 --> 00:02:01.210 April 1 marks the start of her new position,

NOTE Confidence: 0.921264905

00:02:01.210 --> 00:02:04.306 which is at Wake Forest School of Medicine,

NOTE Confidence: 0.921264905

00:02:04.310 --> 00:02:06.694 where she is now the chair of the

NOTE Confidence: 0.921264905

00:02:06.694 --> 00:02:09.140 Department of Epidemiology and Prevention.

NOTE Confidence: 0.921264905

00:02:09.140 --> 00:02:11.420 As well as professor of Epidemiology,

NOTE Confidence: 0.921264905

00:02:11.420 --> 00:02:14.020 Gerontology and geriatric medicine,

NOTE Confidence: 0.921264905

00:02:14.020 --> 00:02:15.320 and neurology.

NOTE Confidence: 0.921264905

00:02:15.320 --> 00:02:18.981 So you can already tell there's a

NOTE Confidence: 0.921264905

00:02:18.981 --> 00:02:20.550 very significant interdisciplinary

NOTE Confidence: 0.921264905

00:02:20.628 --> 00:02:23.350 flavor to Michelle's work.

NOTE Confidence: 0.921264905

00:02:23.350 --> 00:02:25.440 Doctor Milky received her bachelor's

NOTE Confidence: 0.921264905

00:02:25.440 --> 00:02:27.112 degree in neuroscience from

NOTE Confidence: 0.921264905

00:02:27.112 --> 00:02:29.129 the University of Pittsburgh.

NOTE Confidence: 0.921264905

00:02:29.130 --> 00:02:31.265 She then went on to Johns Hopkins

NOTE Confidence: 0.921264905

00:02:31.265 --> 00:02:32.996 University to the Bloomberg School

NOTE Confidence: 0.921264905

00:02:32.996 --> 00:02:35.642 Public Health where she received her pH.

NOTE Confidence: 0.921264905

00:02:35.650 --> 00:02:38.146 D and she did a postdoctoral

NOTE Confidence: 0.921264905

00:02:38.146 --> 00:02:40.167 fellowship in the epidemiology of

NOTE Confidence: 0.921264905

00:02:40.167 --> 00:02:43.014 aging and then subsequently was

NOTE Confidence: 0.921264905

00:02:43.014 --> 00:02:45.578 awarded elidia against Gillespie

NOTE Confidence: 0.921264905

00:02:45.578 --> 00:02:48.039 Postdoctoral Fellowship in Psychiatry.

NOTE Confidence: 0.921264905

00:02:48.040 --> 00:02:50.140 Among her many achievements

NOTE Confidence: 0.921264905

00:02:50.140 --> 00:02:51.715 in leadership positions,

NOTE Confidence: 0.921264905

00:02:51.720 --> 00:02:52.842 she is currently,

NOTE Confidence: 0.921264905

00:02:52.842 --> 00:02:55.086 I'll just mention the current ways

NOTE Confidence: 0.921264905

00:02:55.086 --> 00:02:57.619 in which she is very involved in

NOTE Confidence: 0.921264905

00:02:57.619 --> 00:02:59.854 the broader scheme of understanding

NOTE Confidence: 0.921264905

00:02:59.854 --> 00:03:01.398 Alzheimer's disease.

NOTE Confidence: 0.921264905

00:03:01.400 --> 00:03:03.404 Doctor Melki is currently a member

NOTE Confidence: 0.921264905

00:03:03.404 --> 00:03:05.323 of the Alzheimer's Drug Discovery

NOTE Confidence: 0.921264905

00:03:05.323 --> 00:03:07.399 Foundation Scientific Review Board.

NOTE Confidence: 0.921264905

00:03:07.400 --> 00:03:09.137 The Alzheimer's Association

NOTE Confidence: 0.921264905

00:03:09.137 --> 00:03:11.453 International Society to advance

NOTE Confidence: 0.921264905

00:03:11.453 --> 00:03:13.950 Alzheimer's Research and treatment.

NOTE Confidence: 0.921264905

00:03:13.950 --> 00:03:16.298 The global Biomarker Standardization

NOTE Confidence: 0.921264905

00:03:16.298 --> 00:03:18.646 Consortium and the standardization

NOTE Confidence: 0.921264905

00:03:18.646 --> 00:03:21.049 of Alzheimer's blood biomarkers.

NOTE Confidence: 0.921264905

00:03:21.050 --> 00:03:24.386 She's also on the CDC's World Trade Center,

NOTE Confidence: 0.921264905

00:03:24.390 --> 00:03:26.510 Cognitive aging and impairment

NOTE Confidence: 0.921264905

00:03:26.510 --> 00:03:28.100 scientific working group.

NOTE Confidence: 0.921264905

00:03:28.100 --> 00:03:30.580 And finally, one other example.

NOTE Confidence: 0.921264905

00:03:30.580 --> 00:03:33.198 She's one of the members of the

NOTE Confidence: 0.921264905

00:03:33.198 --> 00:03:35.139 External Advisory Board for Brigham

NOTE Confidence: 0.921264905

00:03:35.140 --> 00:03:38.788 Harvard's NIH funded U 54 score,

NOTE Confidence: 0.921264905

00:03:38.790 --> 00:03:41.358 which studies neural processing of stress,

NOTE Confidence: 0.921264905

00:03:41.360 --> 00:03:43.715 which is strongly linked to

NOTE Confidence: 0.921264905

00:03:43.715 --> 00:03:46.070 health outcomes in aging women.

NOTE Confidence: 0.805797796111111

00:03:46.070 --> 00:03:47.855 She also served on many NIH as

NOTE Confidence: 0.805797796111111

00:03:47.855 --> 00:03:50.325 well as FDA and DoD review panels

NOTE Confidence: 0.805797796111111

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00:03:50.325 --> 00:03:51.965 focusing on Alzheimer's disease.

00:03:51.970 --> 00:03:54.310 Research has done extensive mentoring in

00:03:54.310 --> 00:03:57.647 this area with a large number of students.

00:03:57.650 --> 00:03:59.876 And she has provided service on

00:03:59.876 --> 00:04:01.850 a variety of editorial board.

00:04:01.850 --> 00:04:03.222 She's a member of the editorial board

00:04:03.222 --> 00:04:05.211 of the journal, Neurology and senior

00:04:05.211 --> 00:04:07.546 editor of Alzheimer's and dementia,

00:04:07.550 --> 00:04:10.182 the Journal of Alzheimer's,

00:04:10.182 --> 00:04:12.156 the Alzheimer's Association.

00:04:12.160 --> 00:04:12.569 Consistently,

00:04:12.569 --> 00:04:14.614 she's been funded throughout her

00:04:14.614 --> 00:04:16.600 career with multiple oral ones.

00:04:16.600 --> 00:04:17.876 You owe one RF,

00:04:17.876 --> 00:04:20.398 one NIH grants on topics such as

00:04:20.398 --> 00:04:22.542 reproductive risk factors for

NOTE Confidence: 0.805797796111111

00:04:22.542 --> 00:04:24.188 Alzheimer's disease, dementia,

NOTE Confidence: 0.805797796111111

00:04:24.188 --> 00:04:26.460 and pathology, and sex.

NOTE Confidence: 0.805797796111111

00:04:26.460 --> 00:04:29.245 Specific effects of endocrine disruption

NOTE Confidence: 0.805797796111111

00:04:29.245 --> 00:04:32.030 on aging and Alzheimer's disease.

NOTE Confidence: 0.805797796111111

00:04:32.030 --> 00:04:34.330 Most notably to me, however,

NOTE Confidence: 0.805797796111111

00:04:34.330 --> 00:04:36.002 beyond her many achievements

NOTE Confidence: 0.805797796111111

00:04:36.002 --> 00:04:36.838 and contributions,

NOTE Confidence: 0.805797796111111

00:04:36.840 --> 00:04:38.910 is the quality of her work.

NOTE Confidence: 0.805797796111111

00:04:38.910 --> 00:04:41.150 As well as the strength of her

NOTE Confidence: 0.805797796111111

00:04:41.150 --> 00:04:42.649 commitment in informing our view

NOTE Confidence: 0.805797796111111

00:04:42.650 --> 00:04:45.107 on the influence of sex and gender

NOTE Confidence: 0.805797796111111

00:04:45.107 --> 00:04:47.150 on human health and behavior,

NOTE Confidence: 0.805797796111111

00:04:47.150 --> 00:04:49.250 we're thrilled to have doctor Milky

NOTE Confidence: 0.805797796111111

00:04:49.250 --> 00:04:52.534 here today to talk about sex and gender

NOTE Confidence: 0.805797796111111

00:04:52.534 --> 00:04:54.350 differences in Alzheimer's disease.

NOTE Confidence: 0.805797796111111

00:04:54.350 --> 00:04:57.402 Epidemiology, risk factors, genetics,

NOTE Confidence: 0.805797796111111

00:04:57.402 --> 00:04:59.738 brain structure and pathologies.

NOTE Confidence: 0.805797796111111

00:04:59.738 --> 00:05:02.366 And with that, I turn it over to you.

NOTE Confidence: 0.805797796111111

00:05:02.370 --> 00:05:03.080 Doctor milk.

NOTE Confidence: 0.815164174

00:05:04.470 --> 00:05:06.030 Well, thank you so much.

NOTE Confidence: 0.815164174

00:05:06.030 --> 00:05:09.310 Doctor Missouri really appreciate that.

NOTE Confidence: 0.815164174

00:05:09.310 --> 00:05:11.350 The wonderful opportunity to present

NOTE Confidence: 0.815164174

00:05:11.350 --> 00:05:14.290 with you to you today and again.

NOTE Confidence: 0.815164174

00:05:14.290 --> 00:05:16.228 I, I apologize. As you mentioned,

NOTE Confidence: 0.815164174

00:05:16.230 --> 00:05:18.350 it's my first day and so we're we're

NOTE Confidence: 0.815164174

00:05:18.350 --> 00:05:20.008 hiring out a lot of the kings.

NOTE Confidence: 0.815164174

00:05:20.010 --> 00:05:22.920 It is my background too loud.

NOTE Confidence: 0.815164174

00:05:22.920 --> 00:05:24.946 No, you're good. I'm good.

NOTE Confidence: 0.815164174

00:05:24.946 --> 00:05:27.627 OK, alright great so hopefully there won't

NOTE Confidence: 0.815164174

00:05:27.627 --> 00:05:30.656 be any more interruptions and and again,

NOTE Confidence: 0.815164174

00:05:30.660 --> 00:05:32.730 I apologize.

NOTE Confidence: 0.815164174

00:05:32.730 --> 00:05:34.900 So yes, I'm I'm really excited to

NOTE Confidence: 0.815164174

00:05:34.900 --> 00:05:37.160 talk with you today and and also

NOTE Confidence: 0.815164174

00:05:37.160 --> 00:05:38.735 talk after this as well.

NOTE Confidence: 0.815164174

00:05:38.740 --> 00:05:40.840 Focus today will be on sex and

NOTE Confidence: 0.815164174

00:05:40.840 --> 00:05:41.440 gender differences,

NOTE Confidence: 0.815164174

00:05:41.440 --> 00:05:43.858 but as Doctor Missouri had mentioned,

NOTE Confidence: 0.815164174

00:05:43.860 --> 00:05:45.652 I do do quite a bit with blood

NOTE Confidence: 0.815164174

00:05:45.652 --> 00:05:46.100 based biomarkers,

NOTE Confidence: 0.815164174

00:05:46.100 --> 00:05:48.100 which I'm not going to talk about today,

NOTE Confidence: 0.815164174

00:05:48.100 --> 00:05:49.850 but I'm happy to have a call

NOTE Confidence: 0.815164174

00:05:49.850 --> 00:05:51.215 with anybody to talk about

NOTE Confidence: 0.815164174

00:05:51.215 --> 00:05:52.877 those down the road as well.

NOTE Confidence: 0.94192168

00:05:58.320 --> 00:05:59.970 And these are my disclosures.

NOTE Confidence: 0.9321223075

00:06:02.440 --> 00:06:05.539 So what I thought I would do today was

NOTE Confidence: 0.9321223075

00:06:05.539 --> 00:06:07.691 to give more of a a general outline

NOTE Confidence: 0.9321223075

00:06:07.691 --> 00:06:09.528 covering a variety of topics and ways

NOTE Confidence: 0.9321223075

00:06:09.528 --> 00:06:12.026 in which we need to think about sex

NOTE Confidence: 0.9321223075

00:06:12.026 --> 00:06:13.816 and gender differences in Alzheimer's

NOTE Confidence: 0.9321223075

00:06:13.816 --> 00:06:15.971 disease and related dementias.

NOTE Confidence: 0.9321223075

00:06:15.971 --> 00:06:19.553 From incidents to understanding of brain

NOTE Confidence: 0.9321223075

00:06:19.553 --> 00:06:21.276 structure and neuropathology's genetics,

NOTE Confidence: 0.9321223075

00:06:21.276 --> 00:06:23.664 as well as risk factors including

NOTE Confidence: 0.9321223075

00:06:23.664 --> 00:06:25.949 both sex differences in the risk

NOTE Confidence: 0.9321223075

00:06:25.949 --> 00:06:28.091 factors and sex specific risk factors.

NOTE Confidence: 0.9321223075

00:06:28.100 --> 00:06:31.524 And as you, I'm sure all can understand.

NOTE Confidence: 0.9321223075

00:06:31.530 --> 00:06:32.688 You know, once you start to

NOTE Confidence: 0.9321223075

00:06:32.688 --> 00:06:33.750 dive deeper in this topic,

NOTE Confidence: 0.9321223075

00:06:33.750 --> 00:06:36.468 you realize that there are a lot of areas,

NOTE Confidence: 0.9321223075

00:06:36.470 --> 00:06:38.495 a lot of gaps, a lot of things that

NOTE Confidence: 0.9321223075

00:06:38.495 --> 00:06:40.958 are not yet understood and, and I,

NOTE Confidence: 0.9321223075

00:06:40.958 --> 00:06:43.730 I hope to put forward that the

00:06:43.730 --> 00:06:46.506 appreciation of that today and the

00:06:46.506 --> 00:06:49.696 need for much additional research.

00:06:49.700 --> 00:06:52.382 So the the first thing I'm going to start

00:06:52.382 --> 00:06:55.480 with is are women affected by a D more

00:06:55.480 --> 00:06:59.024 than men and or women are at greater risk?

00:06:59.030 --> 00:07:02.014 A lot of times we hear through the

00:07:02.014 --> 00:07:05.070 media as well as some of the top.

00:07:05.070 --> 00:07:06.902 Newspapers, New York Times,

00:07:06.902 --> 00:07:07.818 Washington Post.

00:07:07.820 --> 00:07:10.420 Variety of others that women are at greater

00:07:10.420 --> 00:07:12.943 risk and sometimes I've even heard that

00:07:12.943 --> 00:07:15.820 Alzheimer's disease is is a woman's disease.

00:07:15.820 --> 00:07:19.726 But I think when you start to look at

00:07:19.726 --> 00:07:22.876 the numbers and also how you define risk,

00:07:22.880 --> 00:07:25.556 this is a little bit questionable.

00:07:25.560 --> 00:07:26.890 So if we start to talk about

00:07:26.890 --> 00:07:28.019 the frequency of the disease,

00:07:28.020 --> 00:07:29.600 so that's the the count.

00:07:29.600 --> 00:07:31.959 The number of people with a diagnosis.

00:07:31.960 --> 00:07:35.114 It's absolutely true that more women can have

00:07:35.114 --> 00:07:37.376 a clinical diagnosis of Alzheimer's disease,

00:07:37.380 --> 00:07:40.250 and this graph here comes from the

00:07:40.250 --> 00:07:41.860 Alzheimer's Association awhile back,

00:07:41.860 --> 00:07:44.670 but it generally has maintained

00:07:44.670 --> 00:07:46.800 throughout the past ten years that

00:07:46.800 --> 00:07:49.600 about 2/3 of those with the diagnosis

00:07:49.600 --> 00:07:51.780 of Alzheimer's disease are women.

00:07:51.780 --> 00:07:52.181 However,

00:07:52.181 --> 00:07:54.186 when we think of frequency,

00:07:54.190 --> 00:07:56.800 essentially any aging related disease,

00:07:56.800 --> 00:07:59.808 there's more women than men at older ages.

NOTE Confidence: 0.9321223075

00:07:59.810 --> 00:08:02.127 And so there's going to be more

NOTE Confidence: 0.9321223075

00:08:02.127 --> 00:08:05.264 women than men with most chronic and

NOTE Confidence: 0.9321223075

00:08:05.264 --> 00:08:08.799 conditions and aging related diseases.

NOTE Confidence: 0.9321223075

00:08:08.800 --> 00:08:11.284 So what about when we think

NOTE Confidence: 0.9321223075

00:08:11.284 --> 00:08:12.526 about the prevalence?

NOTE Confidence: 0.9321223075

00:08:12.530 --> 00:08:16.738 So this is a graph that was published

NOTE Confidence: 0.9321223075

00:08:16.738 --> 00:08:19.800 in The Lancet by the GBS 2016

NOTE Confidence: 0.9321223075

00:08:19.800 --> 00:08:22.800 Dementia Consortium and I just want

NOTE Confidence: 0.9321223075

00:08:22.800 --> 00:08:25.742 to highlight here that women are in

NOTE Confidence: 0.9321223075

00:08:25.742 --> 00:08:28.594 blue and men are in red and this

NOTE Confidence: 0.9321223075

00:08:28.594 --> 00:08:30.229 is looking at Alzheimer's disease

NOTE Confidence: 0.9321223075

00:08:30.229 --> 00:08:32.759 as well as other related dementias.

NOTE Confidence: 0.9321223075

00:08:32.760 --> 00:08:35.432 And there is a higher prevalence so the

NOTE Confidence: 0.9321223075

00:08:35.432 --> 00:08:37.875 number of women for example with the

NOTE Confidence: 0.9321223075

00:08:37.875 --> 00:08:40.390 disease divided by in a certain age

NOTE Confidence: 0.9321223075

00:08:40.390 --> 00:08:42.987 group divided by the number of women.

NOTE Confidence: 0.9321223075

00:08:42.990 --> 00:08:44.206 In that age group.

NOTE Confidence: 0.9321223075

00:08:44.206 --> 00:08:46.660 So when we take that into account,

NOTE Confidence: 0.9321223075

00:08:46.660 --> 00:08:48.560 there is slightly higher prevalence

NOTE Confidence: 0.9321223075

00:08:48.560 --> 00:08:50.080 for women than men.

NOTE Confidence: 0.9321223075

00:08:50.080 --> 00:08:50.388 However,

NOTE Confidence: 0.9321223075

00:08:50.388 --> 00:08:52.852 there's a lot of overlap and and then

NOTE Confidence: 0.9321223075

00:08:52.852 --> 00:08:55.040 it's not statistically significant.

NOTE Confidence: 0.8438418

00:08:57.430 --> 00:08:59.649 So then the next question then is,

NOTE Confidence: 0.8438418

00:08:59.650 --> 00:09:00.950 are women at greater risk?

NOTE Confidence: 0.8438418

00:09:00.950 --> 00:09:03.434 Do they have a greater incidence

NOTE Confidence: 0.8438418

00:09:03.434 --> 00:09:05.090 of developing Alzheimer's disease?

NOTE Confidence: 0.8438418

00:09:05.090 --> 00:09:07.706 And what's really interesting is that

NOTE Confidence: 0.8438418

00:09:07.706 --> 00:09:10.362 when you start to look at various

NOTE Confidence: 0.8438418

00:09:10.362 --> 00:09:12.186 countries and regions of the world,

NOTE Confidence: 0.8438418

00:09:12.190 --> 00:09:14.620 we start to see different answers.

NOTE Confidence: 0.8438418

00:09:14.620 --> 00:09:16.330 So if we look at the top of this.

NOTE Confidence: 0.7290100603125

00:09:18.690 --> 00:09:20.314 This is kind of covering this up

NOTE Confidence: 0.7290100603125

00:09:20.314 --> 00:09:22.576 it so I I think it's a stock home,

NOTE Confidence: 0.7290100603125

00:09:22.580 --> 00:09:25.622 the UK, Southwest France as well

NOTE Confidence: 0.7290100603125

00:09:25.622 --> 00:09:28.682 as the pooled eurodam data we we

NOTE Confidence: 0.7290100603125

00:09:28.682 --> 00:09:30.649 do see that there is a greater

NOTE Confidence: 0.7290100603125

00:09:30.649 --> 00:09:32.577 incidence for women compared to men,

NOTE Confidence: 0.7290100603125

00:09:32.580 --> 00:09:34.632 and this generally starts

NOTE Confidence: 0.7290100603125

00:09:34.632 --> 00:09:37.197 around the age of 85.

NOTE Confidence: 0.7290100603125

00:09:37.200 --> 00:09:38.640 However, when we look at some

NOTE Confidence: 0.7290100603125

00:09:38.640 --> 00:09:39.980 studies in the United States,

NOTE Confidence: 0.7290100603125

00:09:39.980 --> 00:09:41.846 including the Framingham Heart study as

NOTE Confidence: 0.7290100603125

00:09:41.846 --> 00:09:45.041 well as some early work that was done in the

NOTE Confidence: 0.7290100603125

00:09:45.041 --> 00:09:46.900 Rochester Epidemiology project in Rochester,

NOTE Confidence: 0.7290100603125

00:09:46.900 --> 00:09:50.644 MN, we don't see it a sex difference.

NOTE Confidence: 0.7290100603125

00:09:50.650 --> 00:09:52.852 Now, you'll probably notice right away

NOTE Confidence: 0.7290100603125

00:09:52.852 --> 00:09:55.558 that this paper was published in 2002,

NOTE Confidence: 0.7290100603125

00:09:55.558 --> 00:09:58.414 and there's been a lot of additional

NOTE Confidence: 0.7290100603125

00:09:58.414 --> 00:10:00.599 epidemiological studies in the past 20 years.

NOTE Confidence: 0.7290100603125

00:10:00.600 --> 00:10:03.344 I I'd like to show this because it

NOTE Confidence: 0.7290100603125

00:10:03.344 --> 00:10:05.784 does split it out by country and

NOTE Confidence: 0.7290100603125

00:10:05.784 --> 00:10:08.699 and show some of these differences.

NOTE Confidence: 0.7290100603125

00:10:08.700 --> 00:10:10.800 But for the vast majority

NOTE Confidence: 0.7290100603125

00:10:10.800 --> 00:10:13.760 of studies since 2002.

NOTE Confidence: 0.7290100603125

00:10:13.760 --> 00:10:15.148 Particularly in the US,

NOTE Confidence: 0.7290100603125

00:10:15.148 --> 00:10:18.101 we do not see sex differences in terms

NOTE Confidence: 0.7290100603125

00:10:18.101 --> 00:10:20.507 of the incidence of Alzheimer's disease,

NOTE Confidence: 0.7290100603125

00:10:20.510 --> 00:10:22.808 and these are just some of

NOTE Confidence: 0.7290100603125

00:10:22.808 --> 00:10:24.810 the studies listed down here.

NOTE Confidence: 0.7290100603125

00:10:24.810 --> 00:10:26.498 The only one that I'm aware of in

NOTE Confidence: 0.7290100603125

00:10:26.498 --> 00:10:28.300 the US is Cache County study of

00:10:28.300 --> 00:10:30.050 memory and aging in Cache County,

00:10:30.050 --> 00:10:30.576 Utah,

00:10:30.576 --> 00:10:33.732 which did identify a greater incidence

00:10:33.732 --> 00:10:36.630 for women after the age of 85.

00:10:36.630 --> 00:10:37.037 However,

00:10:37.037 --> 00:10:39.886 the 90 plus study recently in California

00:10:39.886 --> 00:10:42.558 had did not find that difference.

00:10:42.560 --> 00:10:45.190 When we look at systematic

00:10:45.190 --> 00:10:47.294 reviews and meta analysis,

00:10:47.300 --> 00:10:49.844 there was one that was funded by the

00:10:49.844 --> 00:10:51.279 Canadian government feast at all,

00:10:51.280 --> 00:10:54.004 which is a compilation of more

00:10:54.004 --> 00:10:55.820 than 20 different studies.

00:10:55.820 --> 00:10:58.220 The vast majority of them in

00:10:58.220 --> 00:11:00.428 North America and again for both

00:11:00.428 --> 00:11:01.836 the prevalence and incidence.

NOTE Confidence: 0.7290100603125

00:11:01.840 --> 00:11:03.737 They did find a trend for women,

NOTE Confidence: 0.7290100603125

00:11:03.740 --> 00:11:05.840 but it wasn't statistically

NOTE Confidence: 0.7290100603125

00:11:05.840 --> 00:11:07.940 significant and by statistically

NOTE Confidence: 0.7290100603125

00:11:07.940 --> 00:11:10.658 significant the P values were about .6,

NOTE Confidence: 0.7290100603125

00:11:10.660 --> 00:11:12.725 so it's it wasn't even that that

NOTE Confidence: 0.7290100603125

00:11:12.725 --> 00:11:14.020 it was necessarily close.

NOTE Confidence: 0.7290100603125

00:11:14.020 --> 00:11:14.828 But interestingly,

NOTE Confidence: 0.7290100603125

00:11:14.828 --> 00:11:17.656 roughly a year after this was funded,

NOTE Confidence: 0.7290100603125

00:11:17.660 --> 00:11:19.236 or this was published,

NOTE Confidence: 0.7290100603125

00:11:19.236 --> 00:11:21.206 there was another meta analysis

NOTE Confidence: 0.7290100603125

00:11:21.206 --> 00:11:22.878 completely of European studies.

NOTE Confidence: 0.7290100603125

00:11:22.880 --> 00:11:24.917 And again they did show that there

NOTE Confidence: 0.7290100603125

00:11:24.917 --> 00:11:26.584 was a higher incidence overall

NOTE Confidence: 0.7290100603125

00:11:26.584 --> 00:11:28.768 for women as compared to men.

NOTE Confidence: 0.95060555

00:11:31.560 --> 00:11:34.620 So what about trends overtime?

20

NOTE Confidence: 0.95060555

00:11:34.620 --> 00:11:36.335 Here we're showing the cognitive

NOTE Confidence: 0.95060555

00:11:36.335 --> 00:11:38.540 function and aging studies one and two.

NOTE Confidence: 0.95060555

00:11:38.540 --> 00:11:40.820 So the first incident wave was

NOTE Confidence: 0.95060555

00:11:40.820 --> 00:11:44.920 between 1989 and 19, roughly 92,

NOTE Confidence: 0.95060555

00:11:44.920 --> 00:11:47.464 and the 2nd incidence wave was

NOTE Confidence: 0.95060555

00:11:47.464 --> 00:11:50.402 between 20 or 2008 and 2011,

NOTE Confidence: 0.95060555

00:11:50.402 --> 00:11:53.172 and there's some some interesting

NOTE Confidence: 0.95060555

00:11:53.172 --> 00:11:56.130 findings in the United Kingdom.

NOTE Confidence: 0.95060555

00:11:56.130 --> 00:11:58.506 Man on the left and women on the right.

NOTE Confidence: 0.95060555

00:11:58.510 --> 00:12:00.534 And of course the first wave is in

NOTE Confidence: 0.95060555

00:12:00.534 --> 00:12:02.630 blue and the 2nd wave is in purple.

NOTE Confidence: 0.95060555

00:12:02.630 --> 00:12:04.485 And what we can see to start

NOTE Confidence: 0.95060555

00:12:04.485 --> 00:12:06.438 with was that the incidence was

NOTE Confidence: 0.95060555

00:12:06.438 --> 00:12:08.622 actually higher in men than women.

NOTE Confidence: 0.95060555

00:12:08.630 --> 00:12:10.606 During this first wave.

NOTE Confidence: 0.95060555

00:12:10.606 --> 00:12:11.576 However, interestingly,

00:12:11.576 --> 00:12:13.480 about 20 years later,

00:12:13.480 --> 00:12:15.951 during the second wave there was a

00:12:15.951 --> 00:12:18.153 a large decrease in the incidence

00:12:18.153 --> 00:12:20.394 of dementia for men and an

00:12:20.394 --> 00:12:22.429 increase or maintenance for women.

00:12:22.430 --> 00:12:23.965 And So what happened subsequently

00:12:23.965 --> 00:12:25.825 was that the incidence for women

00:12:25.825 --> 00:12:27.445 ended up being higher than men.

00:12:30.460 --> 00:12:32.518 Now when we look at the

00:12:32.518 --> 00:12:34.150 Framingham Heart study here again,

00:12:34.150 --> 00:12:36.250 we do find that the trends for

00:12:36.250 --> 00:12:38.452 dementia and this is all caused

00:12:38.452 --> 00:12:39.920 dementia have decreased overtime,

00:12:39.920 --> 00:12:42.480 but the decrease has been much sooner and

00:12:42.480 --> 00:12:44.666 much greater in women compared to men.

NOTE Confidence: 0.841066002

00:12:47.570 --> 00:12:50.378 So I I just showed you a lot of

NOTE Confidence: 0.841066002

00:12:50.378 --> 00:12:53.130 discrepancies, a lot of questions.

NOTE Confidence: 0.841066002

00:12:53.130 --> 00:12:55.650 For me. This is actually really exciting

NOTE Confidence: 0.841066002

00:12:55.650 --> 00:12:58.248 because as an epidemiologist it suggests

NOTE Confidence: 0.841066002

00:12:58.248 --> 00:13:01.134 that if we're seeing differences by

NOTE Confidence: 0.841066002

00:13:01.134 --> 00:13:03.818 countries or even by regions of countries.

NOTE Confidence: 0.841066002

00:13:03.820 --> 00:13:06.520 Potentially modifiable risk factors

NOTE Confidence: 0.841066002

00:13:06.520 --> 00:13:09.220 and possibilities to intervene,

NOTE Confidence: 0.841066002

00:13:09.220 --> 00:13:11.278 and so I get really excited about

NOTE Confidence: 0.841066002

00:13:11.278 --> 00:13:13.251 this and and thinking about what

NOTE Confidence: 0.841066002

00:13:13.251 --> 00:13:15.297 some of the causes might be,

NOTE Confidence: 0.841066002

00:13:15.300 --> 00:13:17.226 and whether there are some biases

NOTE Confidence: 0.841066002

00:13:17.226 --> 00:13:19.794 that may play a role in interpreting

NOTE Confidence: 0.841066002

00:13:19.794 --> 00:13:21.406 some of these results.

NOTE Confidence: 0.841066002

00:13:21.410 --> 00:13:23.842 So I mean, one thing we we do

NOTE Confidence: 0.841066002

23

00:13:23.842 --> 00:13:26.420 have to keep in mind is that from

NOTE Confidence: 0.841066002

00:13:26.420 --> 00:13:28.100 the studies that I did show that

NOTE Confidence: 0.841066002

00:13:28.100 --> 00:13:29.660 there was a sex difference in,

NOTE Confidence: 0.841066002

00:13:29.660 --> 00:13:30.605 particularly in Europe,

NOTE Confidence: 0.841066002

00:13:30.605 --> 00:13:33.240 it tends to be after the age of 80,

NOTE Confidence: 0.841066002

00:13:33.240 --> 00:13:34.164 and by that.

NOTE Confidence: 0.841066002

00:13:34.164 --> 00:13:37.470 Point in time nobody is going to have peer

NOTE Confidence: 0.841066002

00:13:37.470 --> 00:13:39.618 Alzheimer's disease dementia anymore.

NOTE Confidence: 0.841066002

00:13:39.620 --> 00:13:41.699 It's going to generally be mixed pathology,

NOTE Confidence: 0.841066002

00:13:41.700 --> 00:13:43.416 so you might have vascular dementia,

NOTE Confidence: 0.841066002

00:13:43.420 --> 00:13:45.664 Lewy bodies, Alzheimer's pathology,

NOTE Confidence: 0.841066002

00:13:45.664 --> 00:13:50.152 TDP 43 and and also general brain aging

NOTE Confidence: 0.841066002

00:13:50.152 --> 00:13:53.224 that are are being mixed together.

NOTE Confidence: 0.841066002

00:13:53.230 --> 00:13:55.568 That there is the possibility that there

NOTE Confidence: 0.841066002

00:13:55.568 --> 00:13:58.610 could be a differential diagnosis by sex,

NOTE Confidence: 0.841066002

00:13:58.610 --> 00:14:00.506 and this is something that I I will

NOTE Confidence: 0.841066002

00:14:00.506 --> 00:14:02.686 go into a little bit more depth later,

NOTE Confidence: 0.841066002

00:14:02.690 --> 00:14:03.518 but it does.

NOTE Confidence: 0.841066002

00:14:03.518 --> 00:14:05.174 It is something that worries me

NOTE Confidence: 0.841066002

00:14:05.174 --> 00:14:06.921 when we see all these headlines

NOTE Confidence: 0.841066002

00:14:06.921 --> 00:14:08.670 of women are at greater risk.

NOTE Confidence: 0.841066002

00:14:08.670 --> 00:14:10.770 Melissa Murray from Mayo Clinic,

NOTE Confidence: 0.841066002

00:14:10.770 --> 00:14:12.445 Jacksonville had published a paper

NOTE Confidence: 0.841066002

00:14:12.445 --> 00:14:14.867 where they looked in the Florida brain

NOTE Confidence: 0.841066002

00:14:14.867 --> 00:14:17.290 bank and about 3000 different brains.

NOTE Confidence: 0.841066002

00:14:17.290 --> 00:14:19.954 And they compared both the clinical

NOTE Confidence: 0.841066002

00:14:19.954 --> 00:14:22.480 diagnosis and the pathological diagnosis.

NOTE Confidence: 0.841066002

00:14:22.480 --> 00:14:23.666 And interestingly,

NOTE Confidence: 0.841066002

00:14:23.666 --> 00:14:26.631 they found for men generally

NOTE Confidence: 0.841066002

00:14:26.631 --> 00:14:29.709 between the ages of 60 and 70.

NOTE Confidence: 0.841066002

00:14:29.710 --> 00:14:32.722 There were men were more likely

NOTE Confidence: 0.841066002

00:14:32.722 --> 00:14:34.814 to have Alzheimer's pathology,

NOTE Confidence: 0.841066002

00:14:34.814 --> 00:14:37.998 but to have a different dementia

NOTE Confidence: 0.841066002

00:14:37.998 --> 00:14:40.806 diagnosis so they they weren't clinically

NOTE Confidence: 0.841066002

00:14:40.806 --> 00:14:43.154 diagnosed as Alzheimer's disease despite

NOTE Confidence: 0.841066002

00:14:43.154 --> 00:14:45.410 the theology and then at older ages,

NOTE Confidence: 0.841066002

00:14:45.410 --> 00:14:48.074 there were generally past the age of 80

NOTE Confidence: 0.841066002

00:14:48.074 --> 00:14:51.100 that tend to be is like over clinical

NOTE Confidence: 0.841066002

00:14:51.100 --> 00:14:53.170 diagnosis for women compared to men,

NOTE Confidence: 0.841066002

00:14:53.170 --> 00:14:55.794 and so women were a little bit more

NOTE Confidence: 0.841066002

00:14:55.794 --> 00:14:57.279 automatically determined to have

NOTE Confidence: 0.841066002

00:14:57.279 --> 00:14:58.428 Alzheimer's disease clinically,

NOTE Confidence: 0.841066002

00:14:58.430 --> 00:14:59.180 even though pathologically.

NOTE Confidence: 0.841066002

00:14:59.180 --> 00:15:00.930 That may have not been the case,

NOTE Confidence: 0.841066002

00:15:00.930 --> 00:15:04.577 or it was a very mixed apology.

NOTE Confidence: 0.841066002

00:15:04.580 --> 00:15:06.540 And then you know lastly,

NOTE Confidence: 0.841066002

00:15:06.540 --> 00:15:09.078 and I think a very important

NOTE Confidence: 0.841066002

00:15:09.080 --> 00:15:09.684 consideration here,

NOTE Confidence: 0.841066002

00:15:09.684 --> 00:15:11.194 as we're looking at these,

NOTE Confidence: 0.841066002

00:15:11.200 --> 00:15:12.830 is that these sex differences

NOTE Confidence: 0.841066002

00:15:12.830 --> 00:15:14.828 across the regions of the world

NOTE Confidence: 0.841066002

00:15:14.828 --> 00:15:16.658 is that there are many social,

NOTE Confidence: 0.841066002

00:15:16.660 --> 00:15:17.185 cultural,

NOTE Confidence: 0.841066002

00:15:17.185 --> 00:15:20.860 and historical events that have taken place.

NOTE Confidence: 0.841066002

00:15:20.860 --> 00:15:22.000 Certainly the women,

NOTE Confidence: 0.841066002

00:15:22.000 --> 00:15:24.280 for example in the United States,

NOTE Confidence: 0.841066002

00:15:24.280 --> 00:15:26.400 experience World War Two much

NOTE Confidence: 0.841066002

00:15:26.400 --> 00:15:28.520 differently than those in Europe

NOTE Confidence: 0.841066002

00:15:28.595 --> 00:15:30.460 did similarly to the Cold War.

NOTE Confidence: 0.841066002

00:15:30.460 --> 00:15:33.370 And I really like to discuss

NOTE Confidence: 0.841066002

00:15:33.370 --> 00:15:34.825 with Walter Rocha.

NOTE Confidence: 0.841066002

00:15:34.830 --> 00:15:36.918 Who's at mail clinic as well?

NOTE Confidence: 0.841066002

00:15:36.920 --> 00:15:39.472 His family grew up in Italy and hearing

NOTE Confidence: 0.841066002

00:15:39.472 --> 00:15:41.704 about kind of Faustus was regime and

NOTE Confidence: 0.841066002

00:15:41.704 --> 00:15:44.049 the effect and the the stress and

NOTE Confidence: 0.841066002

00:15:44.049 --> 00:15:46.293 and implications on that on disease.

NOTE Confidence: 0.841066002

00:15:46.300 --> 00:15:48.628 And certainly that plays a role

NOTE Confidence: 0.841066002

00:15:48.628 --> 00:15:51.263 for women and men right now that

NOTE Confidence: 0.841066002

00:15:51.263 --> 00:15:53.429 are at greatest risk of dementia

NOTE Confidence: 0.841066002

00:15:53.429 --> 00:15:55.068 and older age ranges.

NOTE Confidence: 0.841066002

00:15:55.070 --> 00:15:57.056 So a question is whether some

NOTE Confidence: 0.841066002

00:15:57.056 --> 00:15:58.380 of these European countries

NOTE Confidence: 0.852782003888889

00:15:58.441 --> 00:16:00.401 will see similar sex differences

NOTE Confidence: 0.852782003888889

00:16:00.401 --> 00:16:01.577 in future generation.

NOTE Confidence: 0.852782003888889

00:16:01.580 --> 00:16:03.008 And we also have to think about

NOTE Confidence: 0.852782003888889

00:16:03.008 --> 00:16:03.990 other countries and regions.

NOTE Confidence: 0.852782003888889

00:16:03.990 --> 00:16:05.170 There's a variety of countries.

NOTE Confidence: 0.852782003888889

00:16:05.170 --> 00:16:09.180 They're going through stressful situations.

NOTE Confidence: 0.852782003888889

00:16:09.180 --> 00:16:13.030 Wars, variety of other things as well.

NOTE Confidence: 0.852782003888889

00:16:13.030 --> 00:16:16.336 And in addition, there are one of

NOTE Confidence: 0.852782003888889

00:16:16.336 --> 00:16:17.770 the things we're thinking about.

NOTE Confidence: 0.852782003888889

00:16:17.770 --> 00:16:19.755 These country differences is that

NOTE Confidence: 0.852782003888889

00:16:19.755 --> 00:16:21.740 there are social cultural factors

NOTE Confidence: 0.852782003888889

00:16:21.803 --> 00:16:24.060 that the impact of gender that

NOTE Confidence: 0.852782003888889

00:16:24.060 --> 00:16:26.080 particularly affect risk and that

NOTE Confidence: 0.852782003888889

00:16:26.152 --> 00:16:28.546 differ across regions of the world,

NOTE Confidence: 0.852782003888889

00:16:28.550 --> 00:16:30.566 but that also differ, for example,

NOTE Confidence: 0.852782003888889

00:16:30.570 --> 00:16:31.742 within the United States.

NOTE Confidence: 0.852782003888889

00:16:31.742 --> 00:16:33.500 So we think about North versus

NOTE Confidence: 0.852782003888889

00:16:33.554 --> 00:16:35.019 South in terms of education.

NOTE Confidence: 0.835042964444444

00:16:37.940 --> 00:16:40.580 So as we're thinking about these

NOTE Confidence: 0.835042964444444

00:16:40.580 --> 00:16:41.900 gender differences historically.

NOTE Confidence: 0.835042964444444

00:16:41.900 --> 00:16:44.060 Women have had less access to

NOTE Confidence: 0.835042964444444

00:16:44.060 --> 00:16:45.500 education compared to men,

NOTE Confidence: 0.835042964444444

00:16:45.500 --> 00:16:46.660 and as I mentioned,

NOTE Confidence: 0.835042964444444

00:16:46.660 --> 00:16:48.758 this does vary by different or does

NOTE Confidence: 0.835042964444444

00:16:48.758 --> 00:16:51.264 differ by country as well as culture,

NOTE Confidence: 0.835042964444444

00:16:51.270 --> 00:16:53.790 but also region within the USI know

NOTE Confidence: 0.835042964444444

00:16:53.790 --> 00:16:56.670 some states women were able to get high

NOTE Confidence: 0.835042964444444

00:16:56.670 --> 00:16:59.460 school education sooner than other states.

NOTE Confidence: 0.835042964444444

00:16:59.460 --> 00:17:02.076 There was a nice study that was recently

NOTE Confidence: 0.835042964444444

00:17:02.076 --> 00:17:03.802 published in Lancet public health

NOTE Confidence: 0.835042964444444

00:17:03.802 --> 00:17:06.313 by Bloomberg ET al using two studies

NOTE Confidence: 0.835042964444444

00:17:06.313 --> 00:17:09.300 from England consisting of over 15,000

NOTE Confidence: 0.835042964444444

00:17:09.300 --> 00:17:12.362 participants born between 1930 and 1955

NOTE Confidence: 0.835042964444444

00:17:12.362 --> 00:17:15.596 who had over 19 years of follow-up,

NOTE Confidence: 0.835042964444444

00:17:15.600 --> 00:17:18.288 and they found that there have

NOTE Confidence: 0.835042964444444

00:17:18.288 --> 00:17:20.080 been significant trends in

NOTE Confidence: 0.835042964444444

00:17:20.080 --> 00:17:22.474 memory performance overtime.

NOTE Confidence: 0.835042964444444

00:17:22.474 --> 00:17:24.070 So historically,

NOTE Confidence: 0.835042964444444

00:17:24.070 --> 00:17:26.005 women tended to perform better

NOTE Confidence: 0.835042964444444

00:17:26.005 --> 00:17:27.166 on verbal memory,

NOTE Confidence: 0.835042964444444

00:17:27.170 --> 00:17:30.150 which is generally well known,

NOTE Confidence: 0.835042964444444

00:17:30.150 --> 00:17:31.785 but the performance was much

NOTE Confidence: 0.835042964444444

00:17:31.785 --> 00:17:33.843 better for those that were later

NOTE Confidence: 0.835042964444444

00:17:33.843 --> 00:17:35.628 born compared to earlier born.

NOTE Confidence: 0.835042964444444

00:17:35.630 --> 00:17:38.162 And the memory decline was actually

NOTE Confidence: 0.835042964444444

00:17:38.162 --> 00:17:41.284 faster in men versus women after

NOTE Confidence: 0.835042964444444

00:17:41.284 --> 00:17:43.996 considering these educational differences.

NOTE Confidence: 0.835042964444444

00:17:44.000 --> 00:17:45.580 So these results further suggest

NOTE Confidence: 0.835042964444444

00:17:45.580 --> 00:17:47.652 a role of education and secular

NOTE Confidence: 0.835042964444444

00:17:47.652 --> 00:17:49.797 changes in education in determining

NOTE Confidence: 0.835042964444444

00:17:49.797 --> 00:17:51.513 cognitive performance and women.

NOTE Confidence: 0.835042964444444

00:17:51.520 --> 00:17:52.268 And it, you know,

NOTE Confidence: 0.835042964444444

00:17:52.268 --> 00:17:54.060 as we think about in the United States,

NOTE Confidence: 0.835042964444444

00:17:54.060 --> 00:17:55.830 where now there are more women

NOTE Confidence: 0.835042964444444

00:17:55.830 --> 00:17:57.959 than men in four year colleges,

NOTE Confidence: 0.835042964444444

00:17:57.960 --> 00:18:00.272 it will be interesting to see how this

NOTE Confidence: 0.835042964444444

00:18:00.272 --> 00:18:02.226 might affect the sex differences in

NOTE Confidence: 0.835042964444444

00:18:02.226 --> 00:18:04.200 terms of the incidence of dementia,

NOTE Confidence: 0.835042964444444

00:18:04.200 --> 00:18:05.385 particularly Alzheimer's disease

NOTE Confidence: 0.835042964444444

00:18:05.385 --> 00:18:06.570 down the road.

NOTE Confidence: 0.934070618888889

00:18:08.910 --> 00:18:10.700 Another aspect that is is

NOTE Confidence: 0.934070618888889

00:18:10.700 --> 00:18:12.132 really important to consider,

NOTE Confidence: 0.934070618888889

00:18:12.140 --> 00:18:14.185 but until recently there have

NOTE Confidence: 0.934070618888889

00:18:14.185 --> 00:18:16.720 been a few studies on this.

NOTE Confidence: 0.934070618888889

00:18:16.720 --> 00:18:19.646 Is the effect of work and family

NOTE Confidence: 0.934070618888889

00:18:19.646 --> 00:18:22.229 experience on subsequent risk of dementia.

NOTE Confidence: 0.934070618888889

00:18:22.230 --> 00:18:24.710 And made it all and made a colleagues

NOTE Confidence: 0.934070618888889

00:18:24.710 --> 00:18:27.298 using the health Retirement Study examined

NOTE Confidence: 0.934070618888889

00:18:27.298 --> 00:18:30.148 the life course patterns of employment,

NOTE Confidence: 0.934070618888889

00:18:30.150 --> 00:18:31.590 marriage and childbearing between

NOTE Confidence: 0.934070618888889

00:18:31.590 --> 00:18:34.210 the ages of 16 and 50 years.

NOTE Confidence: 0.934070618888889

00:18:34.210 --> 00:18:37.585 And then memory decline after the age of 55.

NOTE Confidence: 0.934070618888889

00:18:37.590 --> 00:18:40.411 And overall what they found was that

NOTE Confidence: 0.934070618888889

00:18:40.411 --> 00:18:42.920 women who worked outside the home

NOTE Confidence: 0.934070618888889

00:18:42.920 --> 00:18:45.768 had less decline after the age of 55.

NOTE Confidence: 0.934070618888889

00:18:45.770 --> 00:18:47.690 Whether it's memory decline or

NOTE Confidence: 0.934070618888889

00:18:47.690 --> 00:18:50.488 or even global cognitive decline.

NOTE Confidence: 0.934070618888889

00:18:50.488 --> 00:18:51.840 Now this.

NOTE Confidence: 0.934070618888889

00:18:51.840 --> 00:18:53.946 It impact was regardless of whether

NOTE Confidence: 0.934070618888889

00:18:53.946 --> 00:18:56.470 women took time off to have their

NOTE Confidence: 0.934070618888889

00:18:56.470 --> 00:18:58.927 children and went back into IT workforce.

NOTE Confidence: 0.934070618888889

00:18:58.930 --> 00:19:01.178 Some women took up to 20 years off,

NOTE Confidence: 0.934070618888889

00:19:01.180 --> 00:19:03.637 went back and and still had benefits,

NOTE Confidence: 0.934070618888889

00:19:03.640 --> 00:19:06.504 and it was also regardless of marital status,

NOTE Confidence: 0.934070618888889

00:19:06.510 --> 00:19:08.540 so there there was some concern that

NOTE Confidence: 0.934070618888889

00:19:08.540 --> 00:19:10.803 those women who were single that were

NOTE Confidence: 0.934070618888889

00:19:10.803 --> 00:19:12.473 also raising families and working

NOTE Confidence: 0.934070618888889

00:19:12.473 --> 00:19:14.707 that would result in more stress and

NOTE Confidence: 0.934070618888889

00:19:14.707 --> 00:19:16.243 more negative impact on cognition.

NOTE Confidence: 0.934070618888889

00:19:16.243 --> 00:19:18.061 But that actually was not found

NOTE Confidence: 0.934070618888889

00:19:18.061 --> 00:19:19.320 to be the case.

NOTE Confidence: 0.934070618888889

00:19:19.320 --> 00:19:20.439 And so again,

NOTE Confidence: 0.934070618888889

00:19:20.439 --> 00:19:22.677 you know in terms of our

NOTE Confidence: 0.934070618888889

00:19:22.677 --> 00:19:25.000 culture and gender experiences,

NOTE Confidence: 0.934070618888889

00:19:25.000 --> 00:19:27.856 gender roles these are changing over

NOTE Confidence: 0.934070618888889

00:19:27.860 --> 00:19:30.667 time and the impact of those on

NOTE Confidence: 0.934070618888889

00:19:30.670 --> 00:19:32.956 cognitive decline and and risk of

NOTE Confidence: 0.934070618888889

00:19:32.956 --> 00:19:35.266 dementia still need to be examined further.

NOTE Confidence: 0.935304768

00:19:37.670 --> 00:19:40.196 So I I've given you, you know,

NOTE Confidence: 0.935304768

00:19:40.196 --> 00:19:42.044 obviously it's not a straight answer.

NOTE Confidence: 0.935304768

00:19:42.050 --> 00:19:43.709 Are women at greater risk than men?

NOTE Confidence: 0.935304768

00:19:43.710 --> 00:19:47.850 There does appear to be a lot of caveats.

NOTE Confidence: 0.935304768

00:19:47.850 --> 00:19:49.860 I have been asked multiple times

NOTE Confidence: 0.935304768

00:19:49.860 --> 00:19:52.828 that if women are not at greater risk

NOTE Confidence: 0.935304768

00:19:52.828 --> 00:19:54.768 of Alzheimer's disease than men,

NOTE Confidence: 0.935304768

00:19:54.770 --> 00:19:56.338 why do we have to look at

NOTE Confidence: 0.935304768

00:19:56.338 --> 00:19:57.740 sex and gender differences?

NOTE Confidence: 0.935304768

00:19:57.740 --> 00:20:00.068 And this you know particularly bothers

NOTE Confidence: 0.935304768

00:20:00.068 --> 00:20:02.659 me because you shouldn't have to have

NOTE Confidence: 0.935304768

00:20:02.659 --> 00:20:04.615 a greater prevalence or incidence in

NOTE Confidence: 0.935304768

00:20:04.615 --> 00:20:06.705 one sex forces another in order to

NOTE Confidence: 0.935304768

00:20:06.705 --> 00:20:09.004 look at sex and gender differences.

NOTE Confidence: 0.935304768

00:20:09.004 --> 00:20:11.914 I mean, if we take.

NOTE Confidence: 0.935304768

00:20:11.920 --> 00:20:14.172 We take cardiovascular disease,

NOTE Confidence: 0.935304768

00:20:14.172 --> 00:20:15.298 for example.

NOTE Confidence: 0.935304768

00:20:15.300 --> 00:20:16.845 Cardiovascular disease is the number

NOTE Confidence: 0.935304768

00:20:16.845 --> 00:20:18.839 one killer for both women and men,

NOTE Confidence: 0.935304768

00:20:18.840 --> 00:20:20.760 but we know that there are

NOTE Confidence: 0.935304768

00:20:20.760 --> 00:20:21.720 different risk factors.

NOTE Confidence: 0.935304768

00:20:21.720 --> 00:20:24.285 There are differences in terms

NOTE Confidence: 0.935304768

00:20:24.285 --> 00:20:26.337 of morbidity and mortality.

NOTE Confidence: 0.935304768

00:20:26.340 --> 00:20:28.280 There are differences in terms

NOTE Confidence: 0.935304768

00:20:28.280 --> 00:20:29.816 of heart attack symptoms.

NOTE Confidence: 0.935304768

00:20:29.816 --> 00:20:31.726 There are differences in terms

NOTE Confidence: 0.935304768

00:20:31.726 --> 00:20:33.319 of response to treatment,

NOTE Confidence: 0.935304768

00:20:33.320 --> 00:20:35.126 and so even if the prevalence

NOTE Confidence: 0.935304768

00:20:35.126 --> 00:20:36.700 and incidence is the same,

NOTE Confidence: 0.935304768

00:20:36.700 --> 00:20:38.572 there still are a lot of other factors

NOTE Confidence: 0.935304768

00:20:38.572 --> 00:20:40.269 that we need to think about in

NOTE Confidence: 0.935304768

00:20:40.269 --> 00:20:42.110 terms of sex and gender differences.

NOTE Confidence: 0.935304768

00:20:42.110 --> 00:20:44.302 Both for the incidence,

NOTE Confidence: 0.935304768

00:20:44.302 --> 00:20:47.042 prevalence and treatment of Alzheimer's

NOTE Confidence: 0.935304768

00:20:47.042 --> 00:20:49.369 disease and related dementias.

NOTE Confidence: 0.935304768

00:20:49.370 --> 00:20:51.278 So I'm next going to transition

NOTE Confidence: 0.935304768

00:20:51.278 --> 00:20:53.310 to talking about what some of

NOTE Confidence: 0.935304768

00:20:53.310 --> 00:20:54.710 these differences might be,

NOTE Confidence: 0.935304768

00:20:54.710 --> 00:20:57.223 and so one is potential sex differences

NOTE Confidence: 0.935304768

00:20:57.223 --> 00:20:59.502 in brain structure as well as

NOTE Confidence: 0.935304768

00:20:59.502 --> 00:21:01.397 different types of neural pathologies.

NOTE Confidence: 0.859801465294118

00:21:03.700 --> 00:21:06.230 So it is well known that men have a larger

NOTE Confidence: 0.859801465294118

00:21:06.290 --> 00:21:08.698 head size and through volume than women,

NOTE Confidence: 0.859801465294118

00:21:08.700 --> 00:21:11.046 and this has historically been put

NOTE Confidence: 0.859801465294118

00:21:11.046 --> 00:21:13.798 forth as women having a smaller brain.

NOTE Confidence: 0.859801465294118

00:21:13.800 --> 00:21:15.792 Therefore, they're more susceptible

NOTE Confidence: 0.859801465294118

00:21:15.792 --> 00:21:18.282 to Alzheimer's disease and other

NOTE Confidence: 0.859801465294118

00:21:18.282 --> 00:21:21.080 types of of dementia, but really,

NOTE Confidence: 0.859801465294118

00:21:21.080 --> 00:21:23.520 among cognitively normal individuals,

NOTE Confidence: 0.859801465294118

00:21:23.520 --> 00:21:25.248 men have greater age,

NOTE Confidence: 0.859801465294118

00:21:25.248 --> 00:21:26.976 associated brain volume decline

NOTE Confidence: 0.859801465294118

00:21:26.980 --> 00:21:28.328 as compared to women.

NOTE Confidence: 0.859801465294118

00:21:28.328 --> 00:21:30.760 There are also some differences in in

NOTE Confidence: 0.859801465294118

00:21:30.760 --> 00:21:32.818 Gray and white matter percentages such

NOTE Confidence: 0.859801465294118

00:21:32.818 --> 00:21:34.836 that women have a higher percentage

NOTE Confidence: 0.859801465294118

00:21:34.836 --> 00:21:37.650 of brain matter and men tend to have a

NOTE Confidence: 0.859801465294118

00:21:37.650 --> 00:21:39.630 higher higher percentage of white matter.

NOTE Confidence: 0.859801465294118

00:21:39.630 --> 00:21:42.335 However, how these differences contribute

NOTE Confidence: 0.859801465294118

00:21:42.335 --> 00:21:45.040 to susceptibility of dementia and

NOTE Confidence: 0.859801465294118

00:21:45.117 --> 00:21:47.499 dementia types are not yet clear.

NOTE Confidence: 0.7981560725

00:21:49.550 --> 00:21:51.560 To further highlight some of these

NOTE Confidence: 0.7981560725

00:21:51.560 --> 00:21:54.360 sex differences, I I'd like to show

NOTE Confidence: 0.7981560725

00:21:54.360 --> 00:21:57.090 this particular study by Kotani ET al.

NOTE Confidence: 0.7981560725

00:21:57.090 --> 00:22:00.114 Looking at language lateralization so that

NOTE Confidence: 0.7981560725

00:22:00.114 --> 00:22:04.070 they brought in a group of men and women

NOTE Confidence: 0.7981560725

00:22:04.070 --> 00:22:07.085 looking to understand whether language

NOTE Confidence: 0.7981560725

00:22:07.085 --> 00:22:10.792 lateralization tended to be at strong,

NOTE Confidence: 0.7981560725

00:22:10.792 --> 00:22:13.648 left, or bilateral, and in general,

NOTE Confidence: 0.7981560725

00:22:13.648 --> 00:22:15.484 what they thought or what they

NOTE Confidence: 0.7981560725

00:22:15.484 --> 00:22:17.149 found among all individuals.

NOTE Confidence: 0.7981560725

00:22:17.150 --> 00:22:18.662 Was that about 2/3?

NOTE Confidence: 0.7981560725

00:22:18.662 --> 00:22:22.020 Had a strong left lateral isation and then

NOTE Confidence: 0.7981560725

00:22:22.020 --> 00:22:25.835 about 20% either had bilateral with left,

NOTE Confidence: 0.7981560725

00:22:25.840 --> 00:22:28.268 predominant or bilateral symmetrical,

NOTE Confidence: 0.7981560725

00:22:28.268 --> 00:22:31.303 both right and left lateralization.

NOTE Confidence: 0.7981560725

00:22:31.310 --> 00:22:33.566 But what was interesting is when they met,

NOTE Confidence: 0.7981560725

00:22:33.570 --> 00:22:36.878 then looked at sex differences so men

NOTE Confidence: 0.7981560725

00:22:36.878 --> 00:22:39.550 are in blue and women are in pink.

NOTE Confidence: 0.7981560725

00:22:39.550 --> 00:22:42.154 They found that men were primarily

NOTE Confidence: 0.7981560725

00:22:42.154 --> 00:22:43.890 strong left lateral isation,

NOTE Confidence: 0.7981560725

00:22:43.890 --> 00:22:46.515 whereas women were pretty much split equally

NOTE Confidence: 0.7981560725

00:22:46.515 --> 00:22:48.699 between these three different groups.

NOTE Confidence: 0.7981560725

00:22:48.700 --> 00:22:49.526 So again,

NOTE Confidence: 0.7981560725

00:22:49.526 --> 00:22:52.004 how this might predispose women versus

NOTE Confidence: 0.7981560725

00:22:52.004 --> 00:22:54.938 men to certain types of dementias,

NOTE Confidence: 0.7981560725

00:22:54.940 --> 00:22:56.468 such as primary progressive

NOTE Confidence: 0.7981560725

00:22:56.468 --> 00:22:58.378 aphasia is not understood yet,

NOTE Confidence: 0.7981560725

00:22:58.380 --> 00:23:00.242 but could be a reason for some

NOTE Confidence: 0.7981560725

00:23:00.242 --> 00:23:01.569 of these differences or risks.

NOTE Confidence: 0.884554223333333

00:23:03.870 --> 00:23:07.086 In terms of biomarkers of amyloid,

NOTE Confidence: 0.884554223333333

00:23:07.090 --> 00:23:09.710 there are really no consistent,

NOTE Confidence: 0.884554223333333

00:23:09.710 --> 00:23:12.038 consistently reported sex differences

NOTE Confidence: 0.884554223333333

00:23:12.038 --> 00:23:16.457 in amyloid pet CSF amyloid beta 42 or

NOTE Confidence: 0.884554223333333

00:23:16.457 --> 00:23:18.983 even blood amyloid beta 42 levels.

NOTE Confidence: 0.884554223333333

00:23:18.990 --> 00:23:20.930 However, there have recently been

NOTE Confidence: 0.884554223333333

00:23:20.930 --> 00:23:22.870 a couple studies that suggest,

NOTE Confidence: 0.884554223333333

00:23:22.870 --> 00:23:27.028 for a given CSF amyloid beta level,

NOTE Confidence: 0.884554223333333

00:23:27.030 --> 00:23:29.808 women have greater declines in memory

NOTE Confidence: 0.884554223333333

00:23:29.808 --> 00:23:32.229 and hippocampal volume that men do.

NOTE Confidence: 0.884554223333333

00:23:32.230 --> 00:23:35.296 It may also have a greater increase

NOTE Confidence: 0.884554223333333

00:23:35.296 --> 00:23:37.870 in CSFP tell now again the results

NOTE Confidence: 0.884554223333333

00:23:37.870 --> 00:23:40.499 are not consistent and I I can say

NOTE Confidence: 0.884554223333333

00:23:40.499 --> 00:23:42.844 within the Mayo Clinic study of Aging.

NOTE Confidence: 0.884554223333333

00:23:42.850 --> 00:23:45.027 We do not find that pattern either,

NOTE Confidence: 0.884554223333333

00:23:45.030 --> 00:23:47.238 but it could depend on the samples that

NOTE Confidence: 0.884554223333333

00:23:47.238 --> 00:23:49.214 are used and it's certainly something

NOTE Confidence: 0.884554223333333

00:23:49.214 --> 00:23:51.829 to consider because if that is the case,

NOTE Confidence: 0.884554223333333

00:23:51.830 --> 00:23:54.014 this could have an effect on cut points

NOTE Confidence: 0.884554223333333

00:23:54.014 --> 00:23:56.321 and there could be a need for sex

NOTE Confidence: 0.884554223333333

00:23:56.321 --> 00:23:58.239 specific cutpoints in terms of prognosis.

NOTE Confidence: 0.71135454

00:24:01.040 --> 00:24:02.960 Richard Buckley and and colleagues,

NOTE Confidence: 0.71135454

00:24:02.960 --> 00:24:04.820 as well as several other groups,

NOTE Confidence: 0.71135454

00:24:04.820 --> 00:24:06.836 have really been looking at sex

NOTE Confidence: 0.71135454

00:24:06.836 --> 00:24:09.100 differences in terms of Tau pathology.

NOTE Confidence: 0.71135454

00:24:09.100 --> 00:24:11.450 Of course, Tau, being associated

NOTE Confidence: 0.71135454

00:24:11.450 --> 00:24:12.860 with neurofibrillary tangles.

NOTE Confidence: 0.71135454

00:24:12.860 --> 00:24:15.080 The other homework pathology

NOTE Confidence: 0.71135454

00:24:15.080 --> 00:24:16.745 of Alzheimer's disease,

NOTE Confidence: 0.71135454

00:24:16.750 --> 00:24:19.372 and again here there are some

NOTE Confidence: 0.71135454

00:24:19.372 --> 00:24:20.640 conflicting results what?

NOTE Confidence: 0.71135454

00:24:20.640 --> 00:24:22.980 He has has suggested was that

NOTE Confidence: 0.71135454

00:24:22.980 --> 00:24:25.384 for a given level of amyloid

NOTE Confidence: 0.71135454

00:24:25.384 --> 00:24:28.557 women do have Tau in more Tau and

NOTE Confidence: 0.71135454

00:24:28.557 --> 00:24:31.047 some brain regions than men do,

NOTE Confidence: 0.71135454

00:24:31.050 --> 00:24:34.350 and these are highlighted up here in red

00:24:34.350 --> 00:24:36.750 such that female have greater levels.

00:24:36.750 --> 00:24:38.700 Now there's been another study

00:24:38.700 --> 00:24:40.650 that has not replicated this,

00:24:40.650 --> 00:24:42.878 and there's currently an

00:24:42.878 --> 00:24:44.549 ongoing meta analysis.

00:24:44.550 --> 00:24:46.720 Buckley is leading combining a

00:24:46.720 --> 00:24:49.432 variety of our studies and so

00:24:49.432 --> 00:24:51.030 hopefully by combining and increasing

00:24:51.030 --> 00:24:53.082 the sample size will be able to

00:24:53.082 --> 00:24:54.222 really understand whether there

00:24:54.222 --> 00:24:56.059 is a a sex difference or not.

00:24:59.190 --> 00:25:01.992 In addition, there are sex differences

00:25:01.992 --> 00:25:03.860 in cerebral vascular disease,

00:25:03.860 --> 00:25:07.595 and so this is a courtesy of my colleague

00:25:07.595 --> 00:25:10.699 Prashanti Burberry and has been published,

00:25:10.700 --> 00:25:12.640 and I, I believe neurology,

NOTE Confidence: 0.74323927

00:25:12.640 --> 00:25:14.800 but looking within our population,

NOTE Confidence: 0.74323927

00:25:14.800 --> 00:25:18.320 we find that women have a greater probability

NOTE Confidence: 0.74323927

00:25:18.320 --> 00:25:21.278 of having white matter intensities.

NOTE Confidence: 0.74323927

00:25:21.280 --> 00:25:22.868 Hyper intensities across ages

NOTE Confidence: 0.74323927

00:25:22.868 --> 00:25:25.250 and a greater number of white

NOTE Confidence: 0.74323927

00:25:25.319 --> 00:25:27.539 matter hyperintensities than men.

NOTE Confidence: 0.74323927

00:25:27.540 --> 00:25:28.012 Interestingly,

NOTE Confidence: 0.74323927

00:25:28.012 --> 00:25:30.704 when we look at subcortical infarcts,

NOTE Confidence: 0.74323927

00:25:30.704 --> 00:25:33.116 we don't see a sex difference.

NOTE Confidence: 0.74323927

00:25:33.120 --> 00:25:35.696 But when we look at cortical infarcts,

NOTE Confidence: 0.74323927

00:25:35.700 --> 00:25:37.350 there are more cortical infarcts

NOTE Confidence: 0.74323927

00:25:37.350 --> 00:25:39.760 among men than there are among women.

NOTE Confidence: 0.74323927

00:25:39.760 --> 00:25:42.394 Some further research that I haven't

NOTE Confidence: 0.74323927

00:25:42.394 --> 00:25:45.510 shown here is using DTI and assessing

NOTE Confidence: 0.74323927

00:25:45.510 --> 00:25:48.054 white matter integrity and we do

NOTE Confidence: 0.74323927

00:25:48.054 --> 00:25:49.884 see less white matter integrity

NOTE Confidence: 0.74323927

00:25:49.884 --> 00:25:52.380 or or more problems in that area,

NOTE Confidence: 0.74323927

00:25:52.380 --> 00:25:54.150 typically across the age for

NOTE Confidence: 0.74323927

00:25:54.150 --> 00:25:55.920 women as compared to men.

NOTE Confidence: 0.74323927

00:25:55.920 --> 00:25:57.738 But again it it does specifically

NOTE Confidence: 0.74323927

00:25:57.738 --> 00:25:58.950 depend on the region.

NOTE Confidence: 0.909464476666667

00:26:01.640 --> 00:26:03.845 So next time I'm going to discuss

NOTE Confidence: 0.909464476666667

00:26:03.845 --> 00:26:06.269 some of the genetic differences.

NOTE Confidence: 0.909464476666667

00:26:06.270 --> 00:26:08.526 And of course, we all know that Apple

NOTE Confidence: 0.909464476666667

00:26:08.526 --> 00:26:10.816 we for a Leo is the greatest risk

NOTE Confidence: 0.909464476666667

00:26:10.816 --> 00:26:13.444 factor for us or genetic risk factor

NOTE Confidence: 0.909464476666667

00:26:13.444 --> 00:26:15.388 for sporadic Alzheimer's disease.

NOTE Confidence: 0.909464476666667

00:26:15.390 --> 00:26:17.660 But interestingly, there are some

NOTE Confidence: 0.909464476666667

00:26:17.660 --> 00:26:20.599 sex differences in in terms of risk.

NOTE Confidence: 0.909464476666667

00:26:20.600 --> 00:26:22.802 So here, when the first papers

NOTE Confidence: 0.909464476666667

45

00:26:22.802 --> 00:26:25.060 that were published on this by

NOTE Confidence: 0.909464476666667

00:26:25.060 --> 00:26:26.668 far and colleagues up here,

NOTE Confidence: 0.909464476666667

00:26:26.668 --> 00:26:29.129 we have men and women with two E 4

NOTE Confidence: 0.909464476666667

00:26:29.129 --> 00:26:31.676 alleles and down here with one E 4 allele.

NOTE Confidence: 0.909464476666667

00:26:31.680 --> 00:26:34.713 And here in the diamonds we can see that

NOTE Confidence: 0.909464476666667

00:26:34.713 --> 00:26:37.285 women have a greater odds of having

NOTE Confidence: 0.909464476666667

00:26:37.285 --> 00:26:39.879 dementia with two E 4 Leos compared

NOTE Confidence: 0.909464476666667

00:26:39.879 --> 00:26:42.810 to men starting around the age of 60.

NOTE Confidence: 0.909464476666667

00:26:42.810 --> 00:26:45.680 And even for one E 4 allele,

NOTE Confidence: 0.909464476666667

00:26:45.680 --> 00:26:49.740 women have a greater odds of having

NOTE Confidence: 0.909464476666667

00:26:49.740 --> 00:26:52.209 Alzheimer's disease compared to men.

NOTE Confidence: 0.909464476666667

00:26:52.210 --> 00:26:54.530 Now there has been a lot more work

NOTE Confidence: 0.909464476666667

00:26:54.530 --> 00:26:57.040 on this and there you know further

NOTE Confidence: 0.909464476666667

00:26:57.040 --> 00:26:58.584 in terms of prognosis.

NOTE Confidence: 0.909464476666667

00:26:58.590 --> 00:27:00.605 So among cognitively normal individuals

NOTE Confidence: 0.909464476666667

00:27:00.605 --> 00:27:03.561 it's also found that women with an E4

NOTE Confidence: 0.909464476666667

00:27:03.561 --> 00:27:05.612 allele compared to men are at greater

NOTE Confidence: 0.909464476666667

00:27:05.675 --> 00:27:07.810 risk of developing mild cognitive

NOTE Confidence: 0.909464476666667

00:27:07.810 --> 00:27:10.530 impairment and also progressing from Mayo,

NOTE Confidence: 0.909464476666667

00:27:10.530 --> 00:27:12.850 cognitive impairment to dementia.

NOTE Confidence: 0.909464476666667

00:27:12.850 --> 00:27:13.861 Now of note,

NOTE Confidence: 0.909464476666667

00:27:13.861 --> 00:27:16.692 pretty much all of these studies has have

NOTE Confidence: 0.909464476666667

00:27:16.692 --> 00:27:19.104 been done on white Caucasian samples

NOTE Confidence: 0.909464476666667

00:27:19.110 --> 00:27:22.512 and the role of appellee in risk of dementia.

NOTE Confidence: 0.909464476666667

00:27:22.520 --> 00:27:24.896 Non African Americans and some Hispanics,

NOTE Confidence: 0.909464476666667

00:27:24.900 --> 00:27:28.320 depending on origin are appearing to

NOTE Confidence: 0.909464476666667

00:27:28.320 --> 00:27:31.710 be less so whether we would see similar

NOTE Confidence: 0.909464476666667

00:27:31.710 --> 00:27:33.974 sex differences and those racial and

NOTE Confidence: 0.909464476666667

00:27:33.974 --> 00:27:36.050 ethnic groups is not yet known.

NOTE Confidence: 0.914228080833333

00:27:39.110 --> 00:27:41.224 Most of the genetic work that has

NOTE Confidence: 0.914228080833333

00:27:41.224 --> 00:27:43.490 been done for Alzheimer's disease,

NOTE Confidence: 0.914228080833333

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00:27:43.490 --> 00:27:46.028 if they look at sex differences,

NOTE Confidence: 0.914228080833333

00:27:46.030 --> 00:27:48.476 it's been primarily focused on Autozone's.

NOTE Confidence: 0.914228080833333

00:27:48.476 --> 00:27:50.924 There is very little work to date that

NOTE Confidence: 0.914228080833333

00:27:50.924 --> 00:27:53.184 have focused on the X or Y chromosomes,

NOTE Confidence: 0.914228080833333

00:27:53.190 --> 00:27:55.248 and obviously as you can see here,

NOTE Confidence: 0.914228080833333

00:27:55.250 --> 00:27:58.408 looking at some of the factors

NOTE Confidence: 0.914228080833333

00:27:58.408 --> 00:28:00.490 and genes on the X chromosome,

NOTE Confidence: 0.914228080833333

00:28:00.490 --> 00:28:02.625 there are several that affect the brain.

NOTE Confidence: 0.914228080833333

00:28:02.630 --> 00:28:04.315 There are also several that

NOTE Confidence: 0.914228080833333

00:28:04.315 --> 00:28:04.989 affect cardiovascular,

NOTE Confidence: 0.914228080833333

00:28:04.990 --> 00:28:06.484 endocrine and immunological

NOTE Confidence: 0.914228080833333

00:28:06.484 --> 00:28:08.476 function which themselves can.

NOTE Confidence: 0.914228080833333

00:28:08.480 --> 00:28:10.520 Also contribute to Alzheimer's disease

NOTE Confidence: 0.914228080833333

00:28:10.520 --> 00:28:12.872 and other types of of dementia,

NOTE Confidence: 0.914228080833333

00:28:12.872 --> 00:28:13.940 and so there.

NOTE Confidence: 0.914228080833333

00:28:13.940 --> 00:28:16.726 There's certainly a very important need to

NOTE Confidence: 0.914228080833333

00:28:16.726 --> 00:28:20.018 look at some of these X chromosome genes,

NOTE Confidence: 0.914228080833333

00:28:20.020 --> 00:28:21.724 and even more importantly,

NOTE Confidence: 0.914228080833333

00:28:21.724 --> 00:28:23.854 or maybe not more importantly,

NOTE Confidence: 0.914228080833333

00:28:23.860 --> 00:28:26.040 but to go beyond that,

NOTE Confidence: 0.914228080833333

00:28:26.040 --> 00:28:29.280 you know women are complex and in that way

NOTE Confidence: 0.914228080833333

00:28:29.280 --> 00:28:32.597 in terms of the role of X inactivation,

NOTE Confidence: 0.914228080833333

00:28:32.600 --> 00:28:35.978 where not all of the chromosomes will

NOTE Confidence: 0.914228080833333

00:28:35.978 --> 00:28:39.884 be inactivated for 1X versus the other.

NOTE Confidence: 0.914228080833333

00:28:39.890 --> 00:28:41.350 But many of them are,

NOTE Confidence: 0.914228080833333

00:28:41.350 --> 00:28:44.476 and it's that the randomization of

NOTE Confidence: 0.914228080833333

00:28:44.476 --> 00:28:48.060 the X chromosome that is inactivated.

NOTE Confidence: 0.914228080833333

00:28:48.060 --> 00:28:51.217 It is independent across a variety of

NOTE Confidence: 0.914228080833333

00:28:51.217 --> 00:28:54.869 of tissues as well as organs and cells.

NOTE Confidence: 0.914228080833333

00:28:54.870 --> 00:28:58.104 And so how this might play into

NOTE Confidence: 0.914228080833333

00:28:58.104 --> 00:28:59.490 susceptibility of developing

NOTE Confidence: 0.914228080833333

00:28:59.569 --> 00:29:01.958 cognitive impairment and dementia

NOTE Confidence: 0.914228080833333

00:29:01.958 --> 00:29:04.926 again is is not well understood and

NOTE Confidence: 0.914228080833333

00:29:04.926 --> 00:29:07.510 really has not been looked at yet.

NOTE Confidence: 0.914228080833333

00:29:07.510 --> 00:29:09.940 And just I'm going to put this out there.

NOTE Confidence: 0.914228080833333

00:29:09.940 --> 00:29:11.851 This is something that I I saw

NOTE Confidence: 0.914228080833333

00:29:11.851 --> 00:29:13.060 a few years back,

NOTE Confidence: 0.914228080833333

00:29:13.060 --> 00:29:15.433 which I've been really intrigued in and

NOTE Confidence: 0.914228080833333

00:29:15.433 --> 00:29:17.150 I've been encouraging my neuropathology

NOTE Confidence: 0.914228080833333

00:29:17.150 --> 00:29:19.397 colleagues to take a look at more.

NOTE Confidence: 0.914228080833333

00:29:19.400 --> 00:29:20.920 There was a this one,

NOTE Confidence: 0.914228080833333

00:29:20.920 --> 00:29:23.432 this study here that was done in mice

NOTE Confidence: 0.914228080833333

00:29:23.432 --> 00:29:26.289 looking at the laterality of X inactivation.

NOTE Confidence: 0.914228080833333

00:29:26.290 --> 00:29:27.234 And interestingly,

NOTE Confidence: 0.914228080833333

00:29:27.234 --> 00:29:30.066 the the red dots indicate paternal

NOTE Confidence: 0.914228080833333

00:29:30.066 --> 00:29:32.582 inheritance and the green dots

NOTE Confidence: 0.914228080833333

00:29:32.582 --> 00:29:34.085 indicate maternal inheritance

NOTE Confidence: 0.914228080833333

00:29:34.090 --> 00:29:35.570 and what was interesting,

NOTE Confidence: 0.914228080833333

00:29:35.570 --> 00:29:37.050 particularly about this figure,

NOTE Confidence: 0.914228080833333

00:29:37.050 --> 00:29:37.950 is, as you can see,

NOTE Confidence: 0.914228080833333

00:29:37.950 --> 00:29:40.225 is that there tend to be laterality

NOTE Confidence: 0.914228080833333

00:29:40.225 --> 00:29:42.691 in in terms of paternal and

NOTE Confidence: 0.914228080833333

00:29:42.691 --> 00:29:44.110 maternal her inheritance.

NOTE Confidence: 0.914228080833333

00:29:44.110 --> 00:29:47.710 And so whether this is a common aspect,

NOTE Confidence: 0.914228080833333

00:29:47.710 --> 00:29:49.852 whether this is unique and really

NOTE Confidence: 0.914228080833333

00:29:49.852 --> 00:29:52.286 how this might affect risk of

NOTE Confidence: 0.914228080833333

00:29:52.286 --> 00:29:54.158 cognitive decline and Alzheimer's

NOTE Confidence: 0.914228080833333

00:29:54.158 --> 00:29:56.030 disease is completely unknown.

NOTE Confidence: 0.914228080833333

00:29:56.030 --> 00:29:57.794 But something that absolutely

NOTE Confidence: 0.914228080833333

00:29:57.794 --> 00:29:59.558 needs to be investigated.

NOTE Confidence: 0.521500302

00:30:02.520 --> 00:30:04.620 Next thing or more lastly,

NOTE Confidence: 0.521500302

00:30:04.620 --> 00:30:06.573 I'll talk a little bit more about

NOTE Confidence: 0.521500302

00:30:06.573 --> 00:30:08.744 sex and gender differences in risk

NOTE Confidence: 0.521500302

00:30:08.744 --> 00:30:10.956 factors for Alzheimer's disease and

NOTE Confidence: 0.521500302

00:30:10.956 --> 00:30:13.744 before I dive into just talking

NOTE Confidence: 0.521500302

00:30:13.744 --> 00:30:15.554 about some of these differences,

NOTE Confidence: 0.521500302

00:30:15.560 --> 00:30:18.665 I do want to highlight that we're at a

NOTE Confidence: 0.521500302

00:30:18.665 --> 00:30:20.913 point where we need to move beyond just

NOTE Confidence: 0.521500302

00:30:20.913 --> 00:30:22.863 saying that there are sex differences

NOTE Confidence: 0.521500302

00:30:22.863 --> 00:30:25.019 or there are gender differences.

NOTE Confidence: 0.521500302

00:30:25.020 --> 00:30:27.020 But to understand what some

NOTE Confidence: 0.521500302

00:30:27.020 --> 00:30:29.020 of the overall impact is.

NOTE Confidence: 0.521500302

00:30:29.020 --> 00:30:30.280 So for example,

NOTE Confidence: 0.521500302

00:30:30.280 --> 00:30:32.750 there are four different ways that

NOTE Confidence: 0.521500302

00:30:32.750 --> 00:30:35.340 in terms of of frequency and effect,

NOTE Confidence: 0.521500302

00:30:35.340 --> 00:30:37.796 that there can be sex and gender differences.

NOTE Confidence: 0.521500302

00:30:37.800 --> 00:30:40.352 So one or risk factor could have the

NOTE Confidence: 0.521500302

00:30:40.352 --> 00:30:42.499 same frequency but a different effect.

NOTE Confidence: 0.521500302

00:30:42.500 --> 00:30:44.820 And an example of that is what I've

NOTE Confidence: 0.521500302

00:30:44.820 --> 00:30:47.039 just shown with the Apple E4 allele.

NOTE Confidence: 0.521500302

00:30:47.040 --> 00:30:48.390 The E4 allele.

NOTE Confidence: 0.521500302

00:30:48.390 --> 00:30:50.640 The frequency is exactly the

NOTE Confidence: 0.521500302

00:30:50.640 --> 00:30:53.098 same for men versus women,

NOTE Confidence: 0.521500302

00:30:53.100 --> 00:30:55.417 but it looks like women with the

NOTE Confidence: 0.521500302

00:30:55.417 --> 00:30:58.407 E 4 Leo may be at greater risk.

NOTE Confidence: 0.521500302

00:30:58.410 --> 00:31:00.810 You can also have a factor that has

NOTE Confidence: 0.521500302

00:31:00.810 --> 00:31:03.510 the effect, but a different frequency.

NOTE Confidence: 0.521500302

00:31:03.510 --> 00:31:06.800 So in terms of education.

NOTE Confidence: 0.521500302

00:31:06.800 --> 00:31:09.240 There's low education is similarly

NOTE Confidence: 0.521500302

00:31:09.240 --> 00:31:11.680 associated with risk of dementia

NOTE Confidence: 0.521500302

00:31:11.762 --> 00:31:13.437 for both men and women.

NOTE Confidence: 0.521500302

00:31:13.440 --> 00:31:15.204 However, as I mentioned,

NOTE Confidence: 0.521500302

00:31:15.204 --> 00:31:17.409 historically women have had less

NOTE Confidence: 0.521500302

00:31:17.409 --> 00:31:19.610 access to education and therefore

NOTE Confidence: 0.521500302

00:31:19.610 --> 00:31:21.760 there's more women that are

NOTE Confidence: 0.521500302

00:31:21.760 --> 00:31:24.039 affected by the risk factor.

NOTE Confidence: 0.521500302

00:31:24.040 --> 00:31:26.644 There can also be factors that have

NOTE Confidence: 0.521500302

00:31:26.644 --> 00:31:28.540 both different frequencies and effects,

NOTE Confidence: 0.521500302

00:31:28.540 --> 00:31:30.528 and one interesting example,

NOTE Confidence: 0.521500302

00:31:30.528 --> 00:31:33.864 there is brain trauma and there there's been,

NOTE Confidence: 0.521500302

00:31:33.864 --> 00:31:34.536 you know.

NOTE Confidence: 0.521500302

00:31:34.540 --> 00:31:37.690 Generally we think of TBI as being

NOTE Confidence: 0.521500302

00:31:37.690 --> 00:31:40.060 more prevalent among men than women,

NOTE Confidence: 0.521500302

00:31:40.060 --> 00:31:41.728 particularly at younger ages,

NOTE Confidence: 0.521500302

00:31:41.728 --> 00:31:44.724 although many of these studies do not

NOTE Confidence: 0.521500302

00:31:44.724 --> 00:31:47.274 take into account violence against women.

NOTE Confidence: 0.521500302

00:31:47.280 --> 00:31:48.924 But there is more research coming

NOTE Confidence: 0.521500302

00:31:48.924 --> 00:31:50.928 out of at least college athletics

NOTE Confidence: 0.521500302

00:31:50.928 --> 00:31:53.053 and soccer suggesting that women

NOTE Confidence: 0.521500302

00:31:53.053 --> 00:31:54.699 who sustained concussions actually

NOTE Confidence: 0.521500302

00:31:54.699 --> 00:31:56.577 have more long term effects on

NOTE Confidence: 0.521500302

00:31:56.577 --> 00:31:59.420 their brain than men do.

NOTE Confidence: 0.521500302

00:31:59.420 --> 00:32:00.503 And then lastly,

NOTE Confidence: 0.521500302

00:32:00.503 --> 00:32:02.308 there are those factors that

NOTE Confidence: 0.521500302

00:32:02.308 --> 00:32:03.760 are restricted to one sex.

NOTE Confidence: 0.521500302

00:32:03.760 --> 00:32:06.665 So such as pregnancy for ectomy for

NOTE Confidence: 0.521500302

00:32:06.665 --> 00:32:09.988 women and then such as prostate cancer.

NOTE Confidence: 0.88095397875

00:32:13.170 --> 00:32:15.314 So we were interested in a while back.

NOTE Confidence: 0.88095397875

00:32:15.320 --> 00:32:17.434 I'm trying to understand what some of

NOTE Confidence: 0.88095397875

00:32:17.434 --> 00:32:19.623 the sex differences in risk factors were

NOTE Confidence: 0.88095397875

00:32:19.623 --> 00:32:21.465 for the development of mild cognitive

NOTE Confidence: 0.88095397875

00:32:21.523 --> 00:32:23.747 impairment in the Mayo Clinic study of 18,

NOTE Confidence: 0.88095397875

00:32:23.750 --> 00:32:26.336 and this is among Olmsted County

NOTE Confidence: 0.88095397875

00:32:26.336 --> 00:32:29.129 residents that were aged 70 and older,

NOTE Confidence: 0.88095397875

00:32:29.130 --> 00:32:31.209 and so we looked at factors that

NOTE Confidence: 0.88095397875

00:32:31.209 --> 00:32:32.590 were equally important for both

NOTE Confidence: 0.88095397875

00:32:32.590 --> 00:32:35.397 women and men and then those factors

NOTE Confidence: 0.88095397875

00:32:35.397 --> 00:32:37.660 that were unique for women or.

NOTE Confidence: 0.88095397875

00:32:37.660 --> 00:32:39.312 And as I mentioned,

NOTE Confidence: 0.88095397875

00:32:39.312 --> 00:32:43.039 what we saw solo education was a risk factor.

NOTE Confidence: 0.88095397875

00:32:43.040 --> 00:32:44.768 Memory concerns stroke

NOTE Confidence: 0.88095397875

00:32:44.768 --> 00:32:46.496 and atrial fibrillation.

NOTE Confidence: 0.88095397875

00:32:46.500 --> 00:32:50.250 But really among women we found

NOTE Confidence: 0.88095397875

00:32:50.250 --> 00:32:52.125 that midlife cardiovascular

NOTE Confidence: 0.88095397875

00:32:52.125 --> 00:32:54.809 conditions had a greater risk for

NOTE Confidence: 0.88095397875

00:32:54.810 --> 00:32:57.375 mild cognitive impairment in women

NOTE Confidence: 0.88095397875

00:32:57.375 --> 00:33:00.426 compared to men and among men.

NOTE Confidence: 0.88095397875

00:33:00.426 --> 00:33:03.830 Some Kitty risk factors were obesity,

NOTE Confidence: 0.88095397875

00:33:03.830 --> 00:33:06.174 particularly with BMI greater

NOTE Confidence: 0.88095397875

00:33:06.174 --> 00:33:08.350 than 30 and those.

NOTE Confidence: 0.88095397875

00:33:08.350 --> 00:33:10.168 Of men that were never married

NOTE Confidence: 0.88095397875

00:33:10.168 --> 00:33:11.380 or widowed or divorced.

NOTE Confidence: 0.840992008

00:33:13.910 --> 00:33:16.934 We subsequently start to look at this

NOTE Confidence: 0.840992008

00:33:16.934 --> 00:33:20.238 among earlier ages and I I I I do a lot

NOTE Confidence: 0.840992008

00:33:20.238 --> 00:33:23.350 of work with Women's Health and and.

NOTE Confidence: 0.840992008

00:33:23.350 --> 00:33:26.438 A passion of mine, but in Full disclosure,

NOTE Confidence: 0.840992008

00:33:26.440 --> 00:33:29.135 both my father in law and his

NOTE Confidence: 0.840992008

00:33:29.135 --> 00:33:30.960 father had Alzheimer's disease,

NOTE Confidence: 0.840992008

00:33:30.960 --> 00:33:33.312 and so I've also been very interested in

NOTE Confidence: 0.840992008

00:33:33.312 --> 00:33:35.638 trying to identify risk factors that might

NOTE Confidence: 0.840992008

00:33:35.638 --> 00:33:39.104 be more specific for men and in mid life.

NOTE Confidence: 0.840992008

00:33:39.104 --> 00:33:42.168 Of course, men have more cardiovascular

NOTE Confidence: 0.840992008

00:33:42.168 --> 00:33:44.336 risk factors than women,

NOTE Confidence: 0.840992008

00:33:44.340 --> 00:33:47.436 and so I had a a postdoc fellow man,

NOTE Confidence: 0.840992008

00:33:47.440 --> 00:33:50.871 Hugh, who then went on to examine, well,

NOTE Confidence: 0.840992008

00:33:50.871 --> 00:33:53.679 men have a higher prevalence of all these

NOTE Confidence: 0.840992008

00:33:53.679 --> 00:33:55.450 cardiovascular risk factors in midlife.

NOTE Confidence: 0.840992008

00:33:55.450 --> 00:33:58.330 Does that result in greater cognitive

NOTE Confidence: 0.840992008

00:33:58.330 --> 00:34:01.968 decline for them over that period of time?

NOTE Confidence: 0.840992008

00:34:01.970 --> 00:34:04.441 And as this shows, looking at the

NOTE Confidence: 0.840992008

00:34:04.441 --> 00:34:07.428 ages of 50 to 69 men had critters,

NOTE Confidence: 0.840992008

00:34:07.430 --> 00:34:09.310 factors of cardiovascular risk factors,

NOTE Confidence: 0.840992008

00:34:09.310 --> 00:34:10.434 hypertension, diabetes,

NOTE Confidence: 0.840992008

00:34:10.434 --> 00:34:13.806 dyslipidemia as well as congestive heart

NOTE Confidence: 0.840992008

00:34:13.806 --> 00:34:16.789 failure and coronary artery disease.

NOTE Confidence: 0.840992008

00:34:16.790 --> 00:34:17.852 But interestingly,

NOTE Confidence: 0.840992008

00:34:17.852 --> 00:34:22.571 we did not find a greater effect of these

NOTE Confidence: 0.840992008

00:34:22.571 --> 00:34:25.397 risk factors and conditions on men.

NOTE Confidence: 0.840992008

00:34:25.400 --> 00:34:27.220 We actually found that even though women

NOTE Confidence: 0.840992008

00:34:27.220 --> 00:34:29.188 were less likely to have these conditions,

NOTE Confidence: 0.840992008

00:34:29.190 --> 00:34:32.198 those women that did in midlife had

NOTE Confidence: 0.840992008

00:34:32.198 --> 00:34:34.470 more cognitive decline overtime.

NOTE Confidence: 0.840992008

00:34:34.470 --> 00:34:38.020 And I, I realized that this is is quite busy.

NOTE Confidence: 0.840992008

00:34:38.020 --> 00:34:39.609 Just to Orient you a little bit,

NOTE Confidence: 0.840992008

00:34:39.610 --> 00:34:41.908 the farther to the left indicates

NOTE Confidence: 0.840992008

00:34:41.910 --> 00:34:43.611 greater cognitive decline.

NOTE Confidence: 0.840992008

00:34:43.611 --> 00:34:47.572 Red is women and the blue green is.

NOTE Confidence: 0.840992008

00:34:47.572 --> 00:34:48.418 With men,

NOTE Confidence: 0.840992008

00:34:48.420 --> 00:34:52.018 we especially saw differences in terms of

NOTE Confidence: 0.840992008

00:34:52.018 --> 00:34:55.021 language such that women with hypertension,

NOTE Confidence: 0.840992008

00:34:55.021 --> 00:34:55.532 dyslipidemia,

NOTE Confidence: 0.840992008

00:34:55.532 --> 00:34:58.598 diabetes as well as coronary heart

NOTE Confidence: 0.840992008

00:34:58.598 --> 00:35:00.827 failure all had greater declines

NOTE Confidence: 0.840992008

00:35:00.827 --> 00:35:03.101 on language as well as some

NOTE Confidence: 0.840992008

00:35:03.101 --> 00:35:04.870 global cognition and attention.

NOTE Confidence: 0.9018442

00:35:08.350 --> 00:35:11.446 So in addition to looking at.

NOTE Confidence: 0.9018442

00:35:11.450 --> 00:35:13.508 At sex, differences in in factors.

NOTE Confidence: 0.9018442

00:35:13.510 --> 00:35:15.814 Of course there are also a lot of

NOTE Confidence: 0.9018442

00:35:15.814 --> 00:35:17.710 sex specific factors to consider,

NOTE Confidence: 0.9018442

00:35:17.710 --> 00:35:20.170 and so for females this will

NOTE Confidence: 0.9018442

00:35:20.170 --> 00:35:21.846 include pregnancy, whether it's

NOTE Confidence: 0.9018442

00:35:21.846 --> 00:35:23.130 hypertensive pregnancy disorders,

NOTE Confidence: 0.9018442

00:35:23.130 --> 00:35:25.314 number of pregnancies.

NOTE Confidence: 0.9018442

00:35:25.314 --> 00:35:27.811 Gestational diabetes can include menopause,

NOTE Confidence: 0.9018442

00:35:27.811 --> 00:35:29.546 so this could be early

NOTE Confidence: 0.9018442

00:35:29.546 --> 00:35:31.310 menopause due to pre menopause,

NOTE Confidence: 0.9018442

00:35:31.310 --> 00:35:33.385 bilateral for ectomy or ovarian

NOTE Confidence: 0.9018442

00:35:33.385 --> 00:35:36.178 insufficiency as well as the transition

NOTE Confidence: 0.9018442

00:35:36.178 --> 00:35:39.806 through menopause and also hormone use.

NOTE Confidence: 0.9018442

00:35:39.806 --> 00:35:41.558 So contraceptives which.

NOTE Confidence: 0.9018442

00:35:41.560 --> 00:35:44.410 Have varied in in dose of

NOTE Confidence: 0.9018442

00:35:44.410 --> 00:35:47.740 medications over the last 4050 years,

NOTE Confidence: 0.9018442

00:35:47.740 --> 00:35:49.848 menopausal hormone therapy and

NOTE Confidence: 0.9018442

00:35:49.848 --> 00:35:52.483 also breast cancer treatments and

NOTE Confidence: 0.9018442

00:35:52.483 --> 00:35:54.420 prevention manage medications.

NOTE Confidence: 0.9018442

00:35:54.420 --> 00:35:56.650 I I do want to know we have a paper

NOTE Confidence: 0.9018442

00:35:56.721 --> 00:35:58.835 that is is just going to be submitted

NOTE Confidence: 0.9018442

00:35:58.835 --> 00:36:01.131 now led by a postdoc fellow throughout

NOTE Confidence: 0.9018442

00:36:01.131 --> 00:36:03.885 car from our group looking at the

NOTE Confidence: 0.9018442

00:36:03.885 --> 00:36:05.960 effects of Raloxifene and tamoxifen

NOTE Confidence: 0.9018442

00:36:05.960 --> 00:36:08.940 on both cognition and brain structure

NOTE Confidence: 0.9018442

00:36:08.940 --> 00:36:12.188 and we did not find any differences.

NOTE Confidence: 0.9018442

00:36:12.190 --> 00:36:15.018 Or or really, any effect of those

NOTE Confidence: 0.9018442

00:36:15.018 --> 00:36:17.318 drugs on cognition in our group.

NOTE Confidence: 0.9018442

00:36:17.320 --> 00:36:19.329 For today's purposes I'm I'm not going

NOTE Confidence: 0.9018442

00:36:19.329 --> 00:36:21.200 to talk anymore about hormone use,

NOTE Confidence: 0.9018442

00:36:21.200 --> 00:36:21.774 but again,

NOTE Confidence: 0.9018442

00:36:21.774 --> 00:36:23.496 I'm happy to answer questions and

NOTE Confidence: 0.9018442

00:36:23.496 --> 00:36:25.319 and talk more about that later.

NOTE Confidence: 0.9018442

00:36:25.320 --> 00:36:27.441 I will focus more on work being

NOTE Confidence: 0.9018442

00:36:27.441 --> 00:36:29.270 done with pregnancy as well as

NOTE Confidence: 0.9018442

00:36:29.270 --> 00:36:30.974 some of our work with menopause.

NOTE Confidence: 0.914800355

00:36:33.670 --> 00:36:35.160 So historically, when you look

NOTE Confidence: 0.914800355

00:36:35.160 --> 00:36:37.008 in the literature and there have

NOTE Confidence: 0.914800355

00:36:37.008 --> 00:36:38.508 been more papers out recently,

NOTE Confidence: 0.914800355

00:36:38.510 --> 00:36:40.770 a greater number of pregnancies,

NOTE Confidence: 0.914800355

00:36:40.770 --> 00:36:43.746 with the exception of 1 paper have been

NOTE Confidence: 0.914800355

00:36:43.746 --> 00:36:46.247 associated with reduced risk of dementia.

NOTE Confidence: 0.914800355

00:36:46.250 --> 00:36:48.530 And so a question of course,

NOTE Confidence: 0.914800355

00:36:48.530 --> 00:36:50.570 is is what is the mechanism?

NOTE Confidence: 0.914800355

00:36:50.570 --> 00:36:52.398 And most often when

NOTE Confidence: 0.914800355

00:36:52.398 --> 00:36:53.769 discussing about pregnancies,

NOTE Confidence: 0.914800355

00:36:53.770 --> 00:36:56.074 the first thing that comes up is that

NOTE Confidence: 0.914800355

00:36:56.074 --> 00:36:57.586 during pregnancies women have higher

NOTE Confidence: 0.914800355

00:36:57.586 --> 00:36:59.338 estrogen levels and this must be,

NOTE Confidence: 0.914800355

00:36:59.340 --> 00:37:02.140 you know, one of the reasons for

NOTE Confidence: 0.914800355

00:37:02.140 --> 00:37:04.163 this reduced risk of dementia

NOTE Confidence: 0.914800355

00:37:04.163 --> 00:37:06.104 or other or Alzheimer's disease

NOTE Confidence: 0.914800355

00:37:06.104 --> 00:37:08.189 and other types of dementia.

NOTE Confidence: 0.914800355

00:37:08.190 --> 00:37:10.885 But really we need to move beyond.

NOTE Confidence: 0.914800355

00:37:10.890 --> 00:37:13.110 I mean, certainly hormones are important,

NOTE Confidence: 0.914800355

00:37:13.110 --> 00:37:15.206 but there are a lot of other factors

NOTE Confidence: 0.914800355

00:37:15.206 --> 00:37:16.739 that occur during pregnancy.

NOTE Confidence: 0.914800355

00:37:16.740 --> 00:37:19.180 That allow a woman to carry a baby,

NOTE Confidence: 0.914800355

00:37:19.180 --> 00:37:21.938 and so there are significant changes in

NOTE Confidence: 0.914800355

00:37:21.938 --> 00:37:24.218 inflammation in terms of blood volume.

NOTE Confidence: 0.914800355

00:37:24.220 --> 00:37:25.316 Vascular changes.

NOTE Confidence: 0.914800355

00:37:25.316 --> 00:37:29.152 There are also many stress related changes,

NOTE Confidence: 0.914800355

00:37:29.160 --> 00:37:31.584 and so it's really important going

NOTE Confidence: 0.914800355

00:37:31.584 --> 00:37:34.001 forward to understand some of these

NOTE Confidence: 0.914800355

00:37:34.001 --> 00:37:36.185 effects and how they change over

NOTE Confidence: 0.914800355

00:37:36.185 --> 00:37:38.631 the pregnancy period and how those

NOTE Confidence: 0.914800355

00:37:38.631 --> 00:37:40.686 changes might influence risk of

NOTE Confidence: 0.914800355

00:37:40.686 --> 00:37:42.196 cognitive impairment down the road.

NOTE Confidence: 0.914800355

00:37:42.196 --> 00:37:44.225 And in one case I I've worked

NOTE Confidence: 0.914800355

00:37:44.225 --> 00:37:46.139 quite a bit with Vesna Jarabeck,

NOTE Confidence: 0.914800355

00:37:46.140 --> 00:37:48.205 who is an Afro Logest at Mayo.

NOTE Confidence: 0.914800355

00:37:48.210 --> 00:37:49.970 And I I really like the way she

NOTE Confidence: 0.914800355

00:37:49.970 --> 00:37:51.882 looks at this in terms of pregnancy

NOTE Confidence: 0.914800355

00:37:51.882 --> 00:37:54.290 being a stress test and so there may

NOTE Confidence: 0.914800355

00:37:54.290 --> 00:37:57.040 be women that go in that develop

NOTE Confidence: 0.914800355

00:37:57.040 --> 00:37:59.269 hypertensive pregnancies that,

NOTE Confidence: 0.914800355

00:37:59.270 --> 00:38:02.594 because partly of this stress,

NOTE Confidence: 0.914800355

00:38:02.594 --> 00:38:04.629 that may have been predisposed,

NOTE Confidence: 0.914800355

00:38:04.629 --> 00:38:06.644 but otherwise would not have

NOTE Confidence: 0.914800355

00:38:06.644 --> 00:38:07.450 developed hypertension.

NOTE Confidence: 0.914800355

00:38:07.450 --> 00:38:09.424 This early and so in a way,

NOTE Confidence: 0.914800355

00:38:09.430 --> 00:38:11.302 it's it's a it can be seen as a

NOTE Confidence: 0.914800355

00:38:11.302 --> 00:38:12.775 positive because you can identify

NOTE Confidence: 0.914800355

00:38:12.775 --> 00:38:14.587 those women that are having these

NOTE Confidence: 0.914800355

00:38:14.642 --> 00:38:16.332 conditions under this stress as

NOTE Confidence: 0.914800355

00:38:16.332 --> 00:38:18.460 potentially greater risk down the road.

NOTE Confidence: 0.873776116363636

00:38:20.610 --> 00:38:23.442 We have shown, as well as others that

NOTE Confidence: 0.873776116363636

00:38:23.442 --> 00:38:24.810 hypertensive pregnancy disorders,

NOTE Confidence: 0.873776116363636

00:38:24.810 --> 00:38:26.238 both gestational hypertension.

NOTE Confidence: 0.873776116363636

00:38:26.238 --> 00:38:29.094 The eclampsia is associated with worse

NOTE Confidence: 0.873776116363636

00:38:29.094 --> 00:38:30.963 cognitive performance and low brain

NOTE Confidence: 0.873776116363636

00:38:30.963 --> 00:38:33.260 volume even in women in their 60s.

NOTE Confidence: 0.901764544285714

00:38:35.290 --> 00:38:37.250 One question that has come up though,

NOTE Confidence: 0.901764544285714

00:38:37.250 --> 00:38:40.154 is what the result or what

NOTE Confidence: 0.901764544285714

00:38:40.154 --> 00:38:42.090 the mechanism might be.

NOTE Confidence: 0.901764544285714

00:38:42.090 --> 00:38:45.468 Whether this is through vascular pathology,

NOTE Confidence: 0.901764544285714

00:38:45.470 --> 00:38:47.286 general brain aging or

NOTE Confidence: 0.901764544285714

00:38:47.286 --> 00:38:48.648 even Alzheimer's disease,

NOTE Confidence: 0.901764544285714

00:38:48.650 --> 00:38:50.806 and there have been a couple studies

NOTE Confidence: 0.901764544285714

00:38:50.806 --> 00:38:52.753 that have looked at the placentas

NOTE Confidence: 0.901764544285714

00:38:52.753 --> 00:38:54.673 of women who have had preeclampsia

NOTE Confidence: 0.901764544285714

00:38:54.673 --> 00:38:56.581 and they find amyloid plaques

NOTE Confidence: 0.901764544285714

00:38:56.581 --> 00:38:59.038 within the placentas and so that

NOTE Confidence: 0.901764544285714

00:38:59.038 --> 00:39:01.435 that kind of caused us to look at

NOTE Confidence: 0.901764544285714

00:39:01.435 --> 00:39:02.950 this a little bit further and say,

NOTE Confidence: 0.901764544285714

00:39:02.950 --> 00:39:04.010 well, you know is this?

NOTE Confidence: 0.901764544285714

00:39:04.010 --> 00:39:05.002 Indicative of maybe blacks

NOTE Confidence: 0.901764544285714

00:39:05.002 --> 00:39:06.242 going on in the brain?

NOTE Confidence: 0.901764544285714

00:39:06.250 --> 00:39:08.330 Or is there something there?

NOTE Confidence: 0.901764544285714

00:39:08.330 --> 00:39:08.718 Interestingly,

NOTE Confidence: 0.901764544285714

00:39:08.718 --> 00:39:11.434 we we are just finishing up these

NOTE Confidence: 0.901764544285714

00:39:11.434 --> 00:39:13.868 analysis now and we do not see

NOTE Confidence: 0.901764544285714

00:39:13.868 --> 00:39:15.983 associations between pre clamp C or

NOTE Confidence: 0.901764544285714

00:39:15.983 --> 00:39:17.815 gestational hypertension with amyloid

NOTE Confidence: 0.901764544285714

00:39:17.815 --> 00:39:20.505 pathology either amyloid or Tau pet.

NOTE Confidence: 0.901764544285714

00:39:20.505 --> 00:39:23.270 But we do with white matter hyper

NOTE Confidence: 0.901764544285714

00:39:23.270 --> 00:39:25.770 intensities and we also do looking

NOTE Confidence: 0.901764544285714

00:39:25.770 --> 00:39:27.815 at diffusion tensor imaging and

NOTE Confidence: 0.901764544285714

00:39:27.815 --> 00:39:29.993 white matter integrity and in

NOTE Confidence: 0.901764544285714

00:39:29.993 --> 00:39:32.103 several key regions as well.

NOTE Confidence: 0.901764544285714

00:39:32.110 --> 00:39:36.184 There is also a question about Nulliparity.

NOTE Confidence: 0.901764544285714

00:39:36.190 --> 00:39:38.368 Some studies suggest that women that

NOTE Confidence: 0.901764544285714

00:39:38.368 --> 00:39:40.700 are deliveries are at greater risk.

NOTE Confidence: 0.901764544285714

00:39:40.700 --> 00:39:42.560 Some studies suggest that they

NOTE Confidence: 0.901764544285714

00:39:42.560 --> 00:39:45.232 are at reduced risk in our data.

NOTE Confidence: 0.901764544285714

00:39:45.232 --> 00:39:47.990 We're finding that it it really depends

NOTE Confidence: 0.901764544285714

00:39:48.075 --> 00:39:50.706 on education and of course no parity

NOTE Confidence: 0.901764544285714

00:39:50.706 --> 00:39:53.002 can be due to inability to conceive,

NOTE Confidence: 0.901764544285714

00:39:53.010 --> 00:39:55.635 but then also many women that choose

NOTE Confidence: 0.901764544285714

00:39:55.635 --> 00:39:58.559 not to have children and so in.

NOTE Confidence: 0.901764544285714

00:39:58.559 --> 00:40:01.760 In our study there appeared to be a very.

NOTE Confidence: 0.901764544285714

00:40:01.760 --> 00:40:06.860 Significant education interaction such that.

NOTE Confidence: 0.901764544285714

00:40:06.860 --> 00:40:08.696 Who had a greater than a

NOTE Confidence: 0.901764544285714

00:40:08.696 --> 00:40:09.614 high school education?

NOTE Confidence: 0.901764544285714

00:40:09.620 --> 00:40:11.558 Who were nulliparous were not at

NOTE Confidence: 0.901764544285714

00:40:11.558 --> 00:40:13.468 any greater risk of developing

NOTE Confidence: 0.901764544285714

00:40:13.468 --> 00:40:15.660 cognitive impairment or dementia.

NOTE Confidence: 0.901764544285714

00:40:15.660 --> 00:40:17.375 But women who had less than a

NOTE Confidence: 0.901764544285714

00:40:17.375 --> 00:40:18.549 high school education were no.

NOTE Confidence: 0.901764544285714

00:40:18.550 --> 00:40:21.358 Liberals were at at greater risk,

68

NOTE Confidence: 0.901764544285714

00:40:21.360 --> 00:40:23.173 and so again it's it's much more

NOTE Confidence: 0.901764544285714

00:40:23.173 --> 00:40:24.572 complicated than just staying at

NOTE Confidence: 0.901764544285714

00:40:24.572 --> 00:40:26.294 whether somebody has children or not.

NOTE Confidence: 0.901764544285714

00:40:26.300 --> 00:40:27.960 Trying to understand maybe some

NOTE Confidence: 0.901764544285714

00:40:27.960 --> 00:40:29.982 of the reasons behind that and

NOTE Confidence: 0.901764544285714

00:40:29.982 --> 00:40:31.800 and some of the other societal

NOTE Confidence: 0.901764544285714

00:40:31.800 --> 00:40:33.230 and social factors at play.

NOTE Confidence: 0.895831857058824

00:40:36.080 --> 00:40:38.060 Menopause transition has has gained

NOTE Confidence: 0.895831857058824

00:40:38.060 --> 00:40:41.402 a lot of attention and I I think is

NOTE Confidence: 0.895831857058824

00:40:41.402 --> 00:40:44.659 is really important. There has been.

NOTE Confidence: 0.895831857058824

00:40:44.660 --> 00:40:46.488 Some announcements or or.

NOTE Confidence: 0.890277365

00:40:48.730 --> 00:40:50.548 Things that have come out suggesting

NOTE Confidence: 0.890277365

00:40:50.548 --> 00:40:52.482 that menopause may be a risk

NOTE Confidence: 0.890277365

00:40:52.482 --> 00:40:53.806 factor for Alzheimer's disease,

NOTE Confidence: 0.890277365

00:40:53.810 --> 00:40:55.922 and it's certainly true that there

NOTE Confidence: 0.890277365

69

00:40:55.922 --> 00:40:58.256 are many changes over the menopausal

NOTE Confidence: 0.890277365

00:40:58.256 --> 00:41:00.396 transition in terms of cardiovascular

NOTE Confidence: 0.890277365

00:41:00.396 --> 00:41:02.690 changes and fat redistribution.

NOTE Confidence: 0.890277365

00:41:02.690 --> 00:41:05.210 And it's still a bit unclear how

NOTE Confidence: 0.890277365

00:41:05.210 --> 00:41:06.875 these might affect subsequent

NOTE Confidence: 0.890277365

00:41:06.875 --> 00:41:09.410 cognitive decline down the road.

NOTE Confidence: 0.890277365

00:41:09.410 --> 00:41:12.533 There's of course a lot of reports during the

NOTE Confidence: 0.890277365

00:41:12.533 --> 00:41:14.929 menopausal transition of cognitive changes,

NOTE Confidence: 0.890277365

00:41:14.930 --> 00:41:16.630 but at least in Moscone,

NOTE Confidence: 0.890277365

00:41:16.630 --> 00:41:18.898 as as well as a lot of Pauline Mackey.

NOTE Confidence: 0.890277365

00:41:18.900 --> 00:41:21.700 Works suggest for the majority of women.

NOTE Confidence: 0.890277365

00:41:21.700 --> 00:41:24.766 This does tend to be temporary.

NOTE Confidence: 0.890277365

00:41:24.770 --> 00:41:27.746 What time I think it's important to think

NOTE Confidence: 0.890277365

00:41:27.746 --> 00:41:29.870 about menopause and the transitions,

NOTE Confidence: 0.890277365

00:41:29.870 --> 00:41:32.510 but I I don't like the idea of,

NOTE Confidence: 0.890277365

00:41:32.510 --> 00:41:34.285 say, menopause or risk factor

00:41:34.285 --> 00:41:36.060 for Alzheimer's disease or risk

00:41:36.128 --> 00:41:38.168 factor for other types of diseases,

00:41:38.170 --> 00:41:40.006 because all women go through menopause.

00:41:40.010 --> 00:41:42.010 But not all women develop

00:41:42.010 --> 00:41:42.810 Alzheimer's disease.

00:41:42.810 --> 00:41:43.710 And so again, I,

00:41:43.710 --> 00:41:46.077 I think this is a one of those advantages

00:41:46.077 --> 00:41:48.970 that we have with women similar to pregnancy,

00:41:48.970 --> 00:41:52.484 where you've got this biological and and

00:41:52.490 --> 00:41:54.700 emotional transition kind of distress.

00:41:54.700 --> 00:41:57.101 Past and someone when we'll do better

00:41:57.101 --> 00:41:59.178 over their transition than others will.

00:41:59.180 --> 00:42:00.800 And there might be clues during

00:42:00.800 --> 00:42:01.340 that transition,

00:42:01.340 --> 00:42:03.260 such as more severe hot flashes,

00:42:03.260 --> 00:42:05.024 more severe mood changes,

NOTE Confidence: 0.890277365

00:42:05.024 --> 00:42:07.670 other types of sleep abnormalities that

NOTE Confidence: 0.890277365

00:42:07.741 --> 00:42:10.660 someone might have more severe than others,

NOTE Confidence: 0.890277365

00:42:10.660 --> 00:42:13.840 but this then might indicate who

NOTE Confidence: 0.890277365

00:42:13.840 --> 00:42:16.080 may be at greater risk of certain

NOTE Confidence: 0.890277365

00:42:16.080 --> 00:42:17.770 diseases and those women that do

NOTE Confidence: 0.890277365

00:42:17.770 --> 00:42:19.140 have these more severe symptoms.

NOTE Confidence: 0.890277365

00:42:19.140 --> 00:42:19.404 Hopefully,

NOTE Confidence: 0.890277365

00:42:19.404 --> 00:42:21.780 if we can follow them up and treat them,

NOTE Confidence: 0.890277365

00:42:21.780 --> 00:42:24.076 then we can delay some of these diseases,

NOTE Confidence: 0.890277365

00:42:24.080 --> 00:42:25.205 so it is.

NOTE Confidence: 0.890277365

00:42:25.205 --> 00:42:27.455 It is also an exciting window

NOTE Confidence: 0.890277365

00:42:27.455 --> 00:42:29.708 of opportunity as well.

NOTE Confidence: 0.515560614

00:42:31.780 --> 00:42:34.720 Now Walter Rocca, my colleague,

NOTE Confidence: 0.515560614

00:42:34.720 --> 00:42:36.670 and and I and several others,

NOTE Confidence: 0.515560614

00:42:36.670 --> 00:42:38.426 have suggested that early

00:42:38.426 --> 00:42:40.621 menopause is associated with later

00:42:40.621 --> 00:42:42.638 cognitive impairment and dementia,

00:42:42.640 --> 00:42:43.858 and this is a paper that we

00:42:43.860 --> 00:42:46.244 recently published using data in

00:42:46.244 --> 00:42:48.332 the Mayo Clinic Study of Aging.

00:42:48.340 --> 00:42:51.196 So red is global cognitive decline

00:42:51.196 --> 00:42:53.582 among women who underwent bilateral

00:42:53.582 --> 00:42:56.758 reflect me less than the age of 40.

00:42:56.760 --> 00:43:02.280 Blue is 40 to 45 and orange is 46 to 49.

00:43:02.280 --> 00:43:04.800 And generally what we see is that

00:43:04.800 --> 00:43:07.212 for women who undergo bilateral for

00:43:07.212 --> 00:43:09.570 ectomy prior to natural menopause,

00:43:09.570 --> 00:43:11.178 less than the age of 45,

00:43:11.180 --> 00:43:13.708 they have about a two fold greater risk

00:43:13.708 --> 00:43:16.090 of having mild cognitive impairment.

00:43:16.090 --> 00:43:18.330 When we look at the less than 40 group we,

00:43:18.330 --> 00:43:21.284 it's actually about a threefold greater risk.

00:43:21.290 --> 00:43:25.100 And so you know, historically,

00:43:25.100 --> 00:43:27.290 women who were undergoing or had

00:43:27.290 --> 00:43:29.148 their uterus removed for fibroids

00:43:29.148 --> 00:43:31.128 or or for several other conditions,

00:43:31.128 --> 00:43:33.720 also had their ovaries taken out at the

00:43:33.780 --> 00:43:36.167 time because the general thought was that,

00:43:36.170 --> 00:43:37.458 well, you're not going

00:43:37.458 --> 00:43:38.424 through reproduction anymore.

00:43:38.430 --> 00:43:40.358 You don't need the ovaries and so if

00:43:40.358 --> 00:43:42.262 you take out the ovaries then there's

00:43:42.262 --> 00:43:44.490 no way you can develop ovarian cancer.

00:43:44.490 --> 00:43:46.650 But we're now finding that it's

00:43:46.650 --> 00:43:48.090 it's really critically important

00:43:48.148 --> 00:43:49.716 to keep these ovaries ovaries

00:43:49.716 --> 00:43:51.260 in particularly for women.

00:43:51.260 --> 00:43:53.696 That are not at great family risk,

00:43:53.700 --> 00:43:56.280 for example that have BRCA mutation

00:43:56.280 --> 00:43:59.076 mutations in their family or have

00:43:59.076 --> 00:44:01.578 strong family history and so it's

00:44:01.578 --> 00:44:03.774 it's really important going forward to

00:44:03.774 --> 00:44:06.026 highlight the need to keep ovaries in.

00:44:06.026 --> 00:44:06.408 Now.

00:44:06.408 --> 00:44:07.936 On a side note,

00:44:07.940 --> 00:44:11.390 interestingly to thinking about estrogen,

00:44:11.390 --> 00:44:13.970 we often come back to memory

00:44:13.970 --> 00:44:15.963 performance and in our studies both

00:44:15.963 --> 00:44:18.589 this study as well as a couple of

00:44:18.589 --> 00:44:20.369 other cohorts we're looking at,

00:44:20.370 --> 00:44:21.889 there really seems to be in effect.

00:44:21.890 --> 00:44:24.410 And attention as opposed to memory.

NOTE Confidence: 0.515560614

00:44:24.410 --> 00:44:25.403 And so again,

NOTE Confidence: 0.515560614

00:44:25.403 --> 00:44:27.720 this kind of gets at the question

NOTE Confidence: 0.515560614

00:44:27.799 --> 00:44:29.596 of if bilateral refractory is

NOTE Confidence: 0.515560614

00:44:29.596 --> 00:44:31.666 a risk factor for dementia.

NOTE Confidence: 0.515560614

00:44:31.670 --> 00:44:33.550 Is it through Alzheimer's pathways,

NOTE Confidence: 0.515560614

00:44:33.550 --> 00:44:35.650 vascular pathways or other

NOTE Confidence: 0.515560614

00:44:35.650 --> 00:44:37.225 aging related pathways?

NOTE Confidence: 0.515560614

00:44:37.230 --> 00:44:38.850 And that's something that again,

NOTE Confidence: 0.515560614

00:44:38.850 --> 00:44:40.085 we're trying to look at

NOTE Confidence: 0.515560614

00:44:40.085 --> 00:44:41.073 and understand right now.

NOTE Confidence: 0.799139696

00:44:44.060 --> 00:44:47.760 So I I talked a little bit about this work,

NOTE Confidence: 0.799139696

00:44:47.760 --> 00:44:50.240 but we do have a grant right now with Mayo

NOTE Confidence: 0.799139696

00:44:50.300 --> 00:44:52.756 Clinic study of Aging where we've tried to

NOTE Confidence: 0.799139696

00:44:52.756 --> 00:44:55.375 take more much more of a lifespan approach.

NOTE Confidence: 0.799139696

00:44:55.380 --> 00:44:57.403 So historically in the literature you might

NOTE Confidence: 0.799139696

00:44:57.403 --> 00:44:59.800 see a paper on hypertensive pregnancies.

NOTE Confidence: 0.799139696

00:44:59.800 --> 00:45:02.392 You might see a paper on bilateral fracta me.

NOTE Confidence: 0.799139696

00:45:02.400 --> 00:45:05.165 Maybe just on the number of pregnancies,

NOTE Confidence: 0.799139696

00:45:05.170 --> 00:45:07.564 but if you think about a 56 year

NOTE Confidence: 0.799139696

00:45:07.564 --> 00:45:09.398 old woman coming in and wine or

NOTE Confidence: 0.799139696

00:45:09.398 --> 00:45:11.346 no at risk of future disease,

NOTE Confidence: 0.799139696

00:45:11.350 --> 00:45:13.718 she is the accumulation of all the factors.

NOTE Confidence: 0.799139696

00:45:13.720 --> 00:45:16.393 That she went through and when we look at,

NOTE Confidence: 0.799139696

00:45:16.400 --> 00:45:17.936 for example, the Framingham risk score,

NOTE Confidence: 0.799139696

00:45:17.940 --> 00:45:19.140 we know that it does not.

NOTE Confidence: 0.799139696

00:45:19.140 --> 00:45:22.700 Is not as good in women as compared to men,

NOTE Confidence: 0.799139696

00:45:22.700 --> 00:45:25.651 and so our hope is that if we understand

NOTE Confidence: 0.799139696

00:45:25.651 --> 00:45:28.388 what some of these specific factors are

NOTE Confidence: 0.799139696

00:45:28.388 --> 00:45:30.539 and incorporate them into risk scores,

NOTE Confidence: 0.799139696

00:45:30.540 --> 00:45:32.720 particularly for cognitive impairment,

NOTE Confidence: 0.799139696

00:45:32.720 --> 00:45:35.990 that will be better than the

NOTE Confidence: 0.799139696

00:45:36.073 --> 00:45:37.699 current risk scores.

NOTE Confidence: 0.799139696

00:45:37.700 --> 00:45:40.430 Now it it has been very interesting.

NOTE Confidence: 0.799139696

00:45:40.430 --> 00:45:42.538 We have a a median medical

NOTE Confidence: 0.799139696

00:45:42.538 --> 00:45:44.228 records of about 45 years.

NOTE Confidence: 0.799139696

00:45:44.230 --> 00:45:47.342 It took us over four years to go through

NOTE Confidence: 0.799139696

00:45:47.342 --> 00:45:49.406 and abstract all the information from

NOTE Confidence: 0.799139696

00:45:49.406 --> 00:45:51.688 the medical records for the women.

NOTE Confidence: 0.799139696

00:45:51.690 --> 00:45:53.832 But we also realize the difficulty

NOTE Confidence: 0.799139696

00:45:53.832 --> 00:45:55.850 in terms of societal aspects.

NOTE Confidence: 0.799139696

00:45:55.850 --> 00:45:56.984 So for example,

NOTE Confidence: 0.799139696

00:45:56.984 --> 00:45:59.630 we found that tubal ligation attended to

NOTE Confidence: 0.799139696

00:45:59.702 --> 00:46:02.267 be protective for Alzheimer's disease,

NOTE Confidence: 0.799139696

00:46:02.270 --> 00:46:03.680 and we couldn't figure out what

NOTE Confidence: 0.799139696

00:46:03.680 --> 00:46:04.850 the reason for that was.

NOTE Confidence: 0.799139696

00:46:04.850 --> 00:46:06.730 Our concern was that with two ligation there,

78

NOTE Confidence: 0.799139696

00:46:06.730 --> 00:46:07.211 maybe.

NOTE Confidence: 0.799139696

00:46:07.211 --> 00:46:09.135 Manipulation of ovaries and

NOTE Confidence: 0.799139696

00:46:09.135 --> 00:46:11.059 that could be detrimental,

NOTE Confidence: 0.799139696

00:46:11.060 --> 00:46:12.859 but we found it to be protective.

NOTE Confidence: 0.799139696

00:46:12.860 --> 00:46:15.086 Well when we looked at it

NOTE Confidence: 0.799139696

00:46:15.086 --> 00:46:17.010 more and and what the.

NOTE Confidence: 0.799139696

00:46:17.010 --> 00:46:18.822 Medical practice was at the time

NOTE Confidence: 0.799139696

00:46:18.822 --> 00:46:21.146 at really women who had a lot of

NOTE Confidence: 0.799139696

00:46:21.146 --> 00:46:22.718 children were the only ones that

NOTE Confidence: 0.799139696

00:46:22.777 --> 00:46:24.523 were allowed to have tubal ligations

NOTE Confidence: 0.799139696

00:46:24.523 --> 00:46:26.704 in the 50s or 60s in Rochester,

NOTE Confidence: 0.799139696

00:46:26.704 --> 00:46:29.070 MN, and in fact actually if they

NOTE Confidence: 0.799139696

00:46:29.143 --> 00:46:31.309 had it at Saint Mary's Hospital,

NOTE Confidence: 0.799139696

00:46:31.310 --> 00:46:33.080 which was run by the Sisters

NOTE Confidence: 0.799139696

00:46:33.080 --> 00:46:34.260 of Saint Francis you're,

NOTE Confidence: 0.799139696

00:46:34.260 --> 00:46:37.268 you're never going to find tubal ligation or

NOTE Confidence: 0.799139696

00:46:37.268 --> 00:46:39.594 effective or prescription of contraceptives.

NOTE Confidence: 0.799139696

00:46:39.594 --> 00:46:42.990 If women were seen in that area,

NOTE Confidence: 0.799139696

00:46:42.990 --> 00:46:43.626 so again,

NOTE Confidence: 0.799139696

00:46:43.626 --> 00:46:45.534 there's a lot of societal aspects

NOTE Confidence: 0.799139696

00:46:45.534 --> 00:46:47.560 that have changed overtime that.

NOTE Confidence: 0.799139696

00:46:47.560 --> 00:46:49.678 We need to think about as

NOTE Confidence: 0.799139696

00:46:49.678 --> 00:46:51.760 we're looking at these factors.

NOTE Confidence: 0.799139696

00:46:51.760 --> 00:46:54.938 Before I go into my final slide,

NOTE Confidence: 0.799139696

00:46:54.940 --> 00:46:56.780 I I am often asked ahead of time.

NOTE Confidence: 0.799139696

00:46:56.780 --> 00:46:59.174 What about transgender men and women

NOTE Confidence: 0.799139696

00:46:59.174 --> 00:47:02.227 and and what are the effects of of

NOTE Confidence: 0.799139696

00:47:02.227 --> 00:47:04.446 hormones and and whatnot on on their

NOTE Confidence: 0.799139696

00:47:04.446 --> 00:47:06.700 risk of dementia down the road?

NOTE Confidence: 0.799139696

00:47:06.700 --> 00:47:07.748 And really,

NOTE Confidence: 0.799139696

00:47:07.748 --> 00:47:09.844 there's very little information

NOTE Confidence: 0.799139696

00:47:09.844 --> 00:47:12.726 out at this period at this time.

NOTE Confidence: 0.799139696

00:47:12.726 --> 00:47:14.560 One of the reasons when I I've

NOTE Confidence: 0.799139696

00:47:14.629 --> 00:47:16.717 talked to researchers historically,

NOTE Confidence: 0.799139696

00:47:16.720 --> 00:47:20.650 they've stated that you know hormone.

NOTE Confidence: 0.799139696

00:47:20.650 --> 00:47:23.212 Doses and things like that for

NOTE Confidence: 0.799139696

00:47:23.212 --> 00:47:25.482 transgender men or women have

NOTE Confidence: 0.799139696

00:47:25.482 --> 00:47:27.406 not been uniform overtime,

NOTE Confidence: 0.799139696

00:47:27.410 --> 00:47:30.567 and so trying to separate those doses

NOTE Confidence: 0.799139696

00:47:30.570 --> 00:47:32.724 and differences in hormone levels as

NOTE Confidence: 0.799139696

00:47:32.724 --> 00:47:35.609 well as all the stress that goes in.

NOTE Confidence: 0.799139696

00:47:35.610 --> 00:47:37.590 To get to the stage,

NOTE Confidence: 0.799139696

00:47:37.590 --> 00:47:39.767 maybe to have surgery or decide to

NOTE Confidence: 0.799139696

00:47:39.767 --> 00:47:41.442 become transgender really has a role

NOTE Confidence: 0.799139696

00:47:41.442 --> 00:47:43.038 and and it's not clear what those

NOTE Confidence: 0.878143208181818

00:47:43.095 --> 00:47:45.425 are yet. So there there's an absolute

NOTE Confidence: 0.878143208181818

00:47:45.425 --> 00:47:47.170 need to understand those factors,

NOTE Confidence: 0.878143208181818

00:47:47.170 --> 00:47:49.530 and I've been working with a group the

NOTE Confidence: 0.878143208181818

00:47:49.587 --> 00:47:51.143 diversity and disparities professional

NOTE Confidence: 0.878143208181818

00:47:51.143 --> 00:47:54.210 interest area on sex and gender differences,

NOTE Confidence: 0.878143208181818

00:47:54.210 --> 00:47:56.310 and have also been trying to put

NOTE Confidence: 0.878143208181818

00:47:56.310 --> 00:47:58.427 forward to think about sex and gender

NOTE Confidence: 0.878143208181818

00:47:58.427 --> 00:48:00.830 is not just being a binary construct,

NOTE Confidence: 0.878143208181818

00:48:00.830 --> 00:48:03.508 and so we certainly need to move

NOTE Confidence: 0.878143208181818

00:48:03.508 --> 00:48:05.776 forward there from a continuous aspect.

NOTE Confidence: 0.878143208181818

00:48:05.780 --> 00:48:07.642 And then also not just think about

NOTE Confidence: 0.878143208181818

00:48:07.642 --> 00:48:09.839 it from a US centric standpoint,

NOTE Confidence: 0.878143208181818

00:48:09.840 --> 00:48:12.560 because clearly these many cultures

NOTE Confidence: 0.878143208181818

00:48:12.560 --> 00:48:13.960 around the world are different.

NOTE Confidence: 0.878143208181818

00:48:13.960 --> 00:48:15.801 There are some that are more accepting

NOTE Confidence: 0.878143208181818

00:48:15.801 --> 00:48:17.452 some that are less accepting and

NOTE Confidence: 0.878143208181818

00:48:17.452 --> 00:48:19.328 it's going to be important to look

NOTE Confidence: 0.878143208181818

00:48:19.386 --> 00:48:21.108 at this from a global perspective.

NOTE Confidence: 0.846276524615385

00:48:23.720 --> 00:48:25.953 So in conclusion, as I first talked

NOTE Confidence: 0.846276524615385

00:48:25.953 --> 00:48:28.259 about in terms of the epidemiology,

NOTE Confidence: 0.846276524615385

00:48:28.260 --> 00:48:30.612 more women than men have a

NOTE Confidence: 0.846276524615385

00:48:30.612 --> 00:48:32.180 diagnosis of Alzheimer's disease.

NOTE Confidence: 0.846276524615385

00:48:32.180 --> 00:48:34.045 However, the prevalence and incidence

NOTE Confidence: 0.846276524615385

00:48:34.045 --> 00:48:36.820 is a little bit more equivocal and

NOTE Confidence: 0.846276524615385

00:48:36.820 --> 00:48:39.396 may depend on area of the country

NOTE Confidence: 0.846276524615385

00:48:39.396 --> 00:48:42.088 as well as area of the world.

NOTE Confidence: 0.846276524615385

00:48:42.090 --> 00:48:44.490 As a field I I do get concerned

NOTE Confidence: 0.846276524615385

00:48:44.490 --> 00:48:46.896 in terms of how we present this,

NOTE Confidence: 0.846276524615385

00:48:46.900 --> 00:48:49.056 because as an epidemiologist to and with

NOTE Confidence: 0.846276524615385

00:48:49.056 --> 00:48:51.139 the blood based biomarker work I do,

NOTE Confidence: 0.846276524615385

00:48:51.140 --> 00:48:53.788 I tend to think more from a primary

NOTE Confidence: 0.846276524615385

00:48:53.788 --> 00:48:56.068 care perspective and so if primary care

NOTE Confidence: 0.846276524615385

00:48:56.068 --> 00:48:58.764 providers who are the ones that are are

NOTE Confidence: 0.846276524615385

00:48:58.764 --> 00:49:01.256 going to see these dementia patients first.

NOTE Confidence: 0.846276524615385

00:49:01.260 --> 00:49:02.740 If they automatically think oh,

NOTE Confidence: 0.846276524615385

00:49:02.740 --> 00:49:04.920 a woman memory impairment,

NOTE Confidence: 0.846276524615385

00:49:04.920 --> 00:49:07.645 it's probably Alzheimer's disease may

NOTE Confidence: 0.846276524615385

00:49:07.645 --> 00:49:10.570 be losing out on some other factors

NOTE Confidence: 0.846276524615385

00:49:10.570 --> 00:49:12.620 or treatments that could potentially.

NOTE Confidence: 0.846276524615385

00:49:12.620 --> 00:49:15.758 Help sustain their their cognitive decline.

NOTE Confidence: 0.846276524615385

00:49:15.760 --> 00:49:16.344 Similarly,

NOTE Confidence: 0.846276524615385

00:49:16.344 --> 00:49:21.016 we don't want men to be misdiagnosed either.

NOTE Confidence: 0.846276524615385

00:49:21.020 --> 00:49:21.381 Overall,

NOTE Confidence: 0.846276524615385

00:49:21.381 --> 00:49:23.908 there still are two few studies that

NOTE Confidence: 0.846276524615385

00:49:23.908 --> 00:49:26.158 examine sex and gender differences,

NOTE Confidence: 0.846276524615385

00:49:26.160 --> 00:49:28.272 and the vast majority of studies

NOTE Confidence: 0.846276524615385

00:49:28.272 --> 00:49:30.399 still typically adjust for it instead,

NOTE Confidence: 0.846276524615385

00:49:30.400 --> 00:49:31.720 and so it's it's not.

NOTE Confidence: 0.846276524615385

00:49:31.720 --> 00:49:33.869 It would be difficult to do a

NOTE Confidence: 0.846276524615385

00:49:33.869 --> 00:49:35.740 meta analysis until we would have,

NOTE Confidence: 0.846276524615385

00:49:35.740 --> 00:49:37.008 for example, uniform reporting,

NOTE Confidence: 0.846276524615385

00:49:37.008 --> 00:49:39.219 and so it's possible that some of

NOTE Confidence: 0.846276524615385

00:49:39.219 --> 00:49:40.725 the papers that are being reported

NOTE Confidence: 0.846276524615385

00:49:40.725 --> 00:49:42.364 on with sex differences are that

NOTE Confidence: 0.846276524615385

00:49:42.364 --> 00:49:44.032 they just happen to find it,

NOTE Confidence: 0.846276524615385

00:49:44.040 --> 00:49:46.050 and many other papers they didn't

NOTE Confidence: 0.846276524615385

00:49:46.050 --> 00:49:48.565 look or or they they didn't see

NOTE Confidence: 0.846276524615385

00:49:48.565 --> 00:49:51.148 anything and so they didn't report it.

NOTE Confidence: 0.846276524615385

00:49:51.150 --> 00:49:53.243 So it really in need for whole

NOTE Confidence: 0.846276524615385

00:49:53.243 --> 00:49:54.990 studies to report whether there

NOTE Confidence: 0.846276524615385

00:49:54.990 --> 00:49:56.950 are sex or gender differences.

NOTE Confidence: 0.846276524615385

00:49:56.950 --> 00:49:58.480 And there's also a need for

NOTE Confidence: 0.846276524615385

00:49:58.480 --> 00:49:59.245 more diverse cohorts.

NOTE Confidence: 0.846276524615385

00:49:59.250 --> 00:50:00.165 As I mentioned,

NOTE Confidence: 0.846276524615385

00:50:00.165 --> 00:50:03.266 most of this work has been done on White,

NOTE Confidence: 0.846276524615385

00:50:03.266 --> 00:50:04.032 Caucasian,

NOTE Confidence: 0.846276524615385

00:50:04.032 --> 00:50:06.330 European background cohorts,

NOTE Confidence: 0.846276524615385

00:50:06.330 --> 00:50:08.166 and I've been working with Nila

NOTE Confidence: 0.846276524615385

00:50:08.166 --> 00:50:10.290 major wall at Rush University in

NOTE Confidence: 0.846276524615385

00:50:10.290 --> 00:50:12.385 the Chicago Healthy Aging project.

NOTE Confidence: 0.846276524615385

00:50:12.390 --> 00:50:14.290 Looking at pre menopausal bilateral

NOTE Confidence: 0.846276524615385

00:50:14.290 --> 00:50:16.911 reflect me on both white and black

NOTE Confidence: 0.846276524615385

00:50:16.911 --> 00:50:19.214 women and the average age of bilateral

NOTE Confidence: 0.846276524615385

00:50:19.214 --> 00:50:21.506 for ectomy for white women was 49.

NOTE Confidence: 0.846276524615385

00:50:21.510 --> 00:50:24.624 And the average age for black women was 40,

NOTE Confidence: 0.846276524615385

00:50:24.630 --> 00:50:26.150 and so there are some.

NOTE Confidence: 0.846276524615385

00:50:26.150 --> 00:50:27.310 You know,

NOTE Confidence: 0.846276524615385

00:50:27.310 --> 00:50:30.385 definite key differences that we need

NOTE Confidence: 0.846276524615385

00:50:30.385 --> 00:50:33.500 to consider by race ethnicity as well.

NOTE Confidence: 0.846276524615385

00:50:33.500 --> 00:50:35.135 As I mentioned,

NOTE Confidence: 0.846276524615385

00:50:35.135 --> 00:50:37.738 even if there the prevalence of the

NOTE Confidence: 0.846276524615385

00:50:37.738 --> 00:50:39.739 disease is the same for men and women,

NOTE Confidence: 0.846276524615385

00:50:39.740 --> 00:50:42.556 the mechanisms and factors can differ by sex,

NOTE Confidence: 0.846276524615385

00:50:42.560 --> 00:50:44.324 and so we we shouldn't have to

NOTE Confidence: 0.846276524615385

00:50:44.324 --> 00:50:46.100 say men are at greater risk.

NOTE Confidence: 0.846276524615385

00:50:46.100 --> 00:50:48.436 But women are at greater risk to really

NOTE Confidence: 0.846276524615385

00:50:48.436 --> 00:50:50.674 look at sex differences and hone in

NOTE Confidence: 0.846276524615385

00:50:50.674 --> 00:50:53.200 that we should be doing it regardless.

NOTE Confidence: 0.846276524615385

00:50:53.200 --> 00:50:54.384 As I mentioned there,

NOTE Confidence: 0.846276524615385

00:50:54.384 --> 00:50:56.934 there is a need to examine more of

NOTE Confidence: 0.846276524615385

00:50:56.934 --> 00:50:59.151 these sex and gender differences from

NOTE Confidence: 0.846276524615385

00:50:59.151 --> 00:51:01.406 a diversity and disparities culture

NOTE Confidence: 0.846276524615385

00:51:01.406 --> 00:51:03.750 and social determinants of health.

NOTE Confidence: 0.846276524615385

00:51:03.750 --> 00:51:08.090 And as Doctor Missouri had mentioned earlier,

NOTE Confidence: 0.846276524615385

00:51:08.090 --> 00:51:09.788 really important to look at these

NOTE Confidence: 0.846276524615385

00:51:09.788 --> 00:51:11.478 sex differences from a precision

NOTE Confidence: 0.846276524615385

00:51:11.478 --> 00:51:12.488 medicine standpoint.

NOTE Confidence: 0.846276524615385

00:51:12.490 --> 00:51:14.524 But I I also want to argue that it's

NOTE Confidence: 0.846276524615385

00:51:14.524 --> 00:51:16.977 also important to look at it from a

NOTE Confidence: 0.846276524615385

00:51:16.977 --> 00:51:18.409 socio cultural standpoint as well.

NOTE Confidence: 0.846276524615385

00:51:18.410 --> 00:51:22.146 Because as we look at some of these.

NOTE Confidence: 0.846276524615385

00:51:22.150 --> 00:51:23.560 Look at dementia around the

NOTE Confidence: 0.846276524615385

00:51:23.560 --> 00:51:24.970 world and some of these

NOTE Confidence: 0.890772616521739

00:51:25.030 --> 00:51:26.622 countries where women have

NOTE Confidence: 0.890772616521739

00:51:26.622 --> 00:51:28.214 significantly less education and

NOTE Confidence: 0.890772616521739

00:51:28.214 --> 00:51:30.179 their family roles are different.

NOTE Confidence: 0.890772616521739

00:51:30.180 --> 00:51:32.660 There are opportunities to change

NOTE Confidence: 0.890772616521739

00:51:32.660 --> 00:51:34.694 and lower their risk for more

NOTE Confidence: 0.890772616521739

00:51:34.694 --> 00:51:36.050 of a sociocultural perspective,

NOTE Confidence: 0.890772616521739

00:51:36.050 --> 00:51:38.840 so both precision medicine and

NOTE Confidence: 0.890772616521739

00:51:38.840 --> 00:51:41.820 social medicine is is important.

NOTE Confidence: 0.890772616521739

00:51:41.820 --> 00:51:43.012 So again, I'm I.

NOTE Confidence: 0.890772616521739

00:51:43.012 --> 00:51:44.502 I'm sorry I don't know

NOTE Confidence: 0.890772616521739

00:51:44.502 --> 00:51:46.097 what the time frame is.

NOTE Confidence: 0.890772616521739

00:51:46.100 --> 00:51:48.300 I hope I didn't go over too much,

NOTE Confidence: 0.890772616521739

00:51:48.300 --> 00:51:49.148 but I'm I'm very,

NOTE Confidence: 0.890772616521739

00:51:49.148 --> 00:51:50.921 very happy to be here and and have

NOTE Confidence: 0.890772616521739

00:51:50.921 --> 00:51:52.253 to answer questions I I don't

NOTE Confidence: 0.890772616521739

00:51:52.253 --> 00:51:54.037 have a Wake Forest email address,

NOTE Confidence: 0.890772616521739

00:51:54.040 --> 00:51:55.744 but you can get ahold of

NOTE Confidence: 0.890772616521739

00:51:55.744 --> 00:51:57.540 me by my Gmail account.

NOTE Confidence: 0.890772616521739

00:51:57.540 --> 00:51:58.010 Thank you.