COVID Information Commons (CIC) Research Lightning Talk

Transcript of a Presentation by Susan Wesmiller (University of Pittsburgh), October 26, 2021

Title: *Measuring the Effect of Sars-CoV2 on a Longitudinal Study (A supplement to Genomic Underpinnings for Breast Cancer Treatments Induced Nausea and Vomiting)*

NIH Award #: 3R01NR016695-03S1

YouTube Recording with Slides

October 2021 CIC Webinar Information

Transcript Editor: Macy Moujabber

Transcript

Susan Wesmiller:

Slide 1

Okay can you see that okay?

Florence Hudson:

Yes.

Susan:

Okay, thank you so much for inviting me to participate today. I'm really just delighted to be here because this COVID has had such an effect on my longitudinal study - talking about longitudinal studies Dr. Hudson. So I will talk about that. Our research has been focused on collecting data from women with breast cancer over the last three years, and in early spring of 2020, we realized that all of a sudden we were seeing some changes that we didn't usually see in our women after their surgery.

Slide 2

So why is this significant? Well first of all COVID-19 has added a layer of complexity for participants with high symptom burden, and not accounting for the presence of the coronavirus would really lead to

historical bias. So there's no way that we could publish our findings of our longitudinal studies looking at symptoms experienced by women- we're also looking at genotypes, but it's mostly the phenotypes that are affected- and how do we account for that? So we could put an asterisk on it or we could try to figure out how to tease it out. So we believe it's important to understand social and behavioral changes that have occurred due to the emergence of the pandemic. And because of that, we wrote and were funded for a COVID supplement from the National Institute of Nursing Research.

Slide 3

Our parent study, as I said, is a longitudinal study phenotyping women for one year following surgery, and we use those women, 144 women, for whom we have data prior to and following the emergence of the COVID-19. We were actually fortunate to have this opportunity, even though at first when COVID hit and we had to stop our recruitment and we had to- had a difficult time with data collection, we thought 'oh geez' now we realize that we- that there's really something here. So we were already collecting variables using the patient-reported outcome measures, which most of you are probably familiar with that are- have been developed by the NIH. And we looked at nausea and vomiting, sleep disturbance, pain, depressive symptoms, fatigue, ability to participate in social activities, anxiety, and physical function. So we have these data pre-COVID and post-COVID.

Slide 4

But when we wrote our supplement, we wanted the purpose to be to determine the effect of COVID-19 on the symptom trajectory experienced by women with breast cancer in their first two years of survivorship and to identify those women that are the highest risk for symptom burden.

Slide 5

As part of the supplement we added- we first we had invited study participants to be part of a second year so that we could lengthen our longitudinal data collection, and the majority of them did. We also added some variables like the Coronavirus Anxiety Scale (CAS). We added resilience. We had not measured resilience prior to this supplement. So we added the Connor-Davidson resilience scale. We also started asking questions about living arrangements. Do you live at home? Do you live with your family? Are you- do you have a spouse at home? Like, how did it make a difference how individuals coped with COVID depending on their living arrangements? We also looked at household job or income loss due to coronavirus, and then we added the Area Deprivation Index, which is completed by address.

Slide 6

If you're not familiar with the Area Deprivation Index, it is a way to measure deprivation using addresses. It's a little bit more refined than zip codes and it includes factors for the domains of income, education, employment, and housing quality. We have found that we have a very well, or a very broad distribution, of ADI scores within our 144 ladies. So you can see that we have 30 women that are least deprived and

then we have 24 that are considered in the highest and then actually certainly more than 60 percent that are above the moderate deprivation.

Slide 7

So our preliminary results, and this is definitely a study in progress, and we have so much data that we have to figure out what we're going to do with it. For those of you in big data, I may need your help. We have 144 study participants. By October 2020, we realized that 49 participants have reported household job or income loss due to COVID, which is significant. So 35 percent of this population of women, or this sample of women from western Pennsylvania, had lost jobs. 60 percent of study participants as you saw on my slide before fell above 5 on the Area Deprivation Index. And interestingly, the majority of these individuals are vaccinated. We only have nine study participants that have chosen not to be vaccinated and tell us that they do not want to be- that they have no intent to be vaccinated. Most of them who are vaccinated have been receiving the boosters when available.

Slide 8

So some of the changes that we first saw and this is some data that we gathered in January 2020 or it's from January 2020 of women that were three months postoperative- so three months into their trajectory which we're following. And we looked at women that were three months post-Op in April 20 and compared them. And then we looked again at the same group in April of ‘21. So our- these are pre-COVID, the gold bars. And at that point, very seldom, like one percent of women, might have said they felt helpless or that they never felt helpless, I'm sorry. But by March and looking at our post-operative women, the same time span for the- in different groups, three months, three months. We see that they have almost 80 percent, and then when we looked at that same group a year later we realized it hasn't changed much. They're still feeling some hopelessness. We- the same is true. We saw a decrease in refreshing sleep as measured by the PROMIS-29 and that has actually gone down a little bit even from the three months right during the COVID pandemic, when we were all sequestered at home. Fatigue has gone up and social activities have stayed low. So here's our social activity- our participation in social activities prior to COVID and then what it looks like afterwards.

Slide 9

So we have lots of work yet to do, but we're still looking at those data. Some qualitative studies that we are looking at as well are women that talked about having to cancel their chemotherapy appointments and get out of track due to COVID or working through- and these are, you know, people that are just a couple months after their breast cancer surgery. They're doing radiation therapy or chemo, and they're trying to hold on to their job during chemotherapy treatments because, as this one woman indicates, her son and her husband had lost their job. They tell us that COVID has added an extreme amount of anxiety and worry, and it's been exaggerated, you know, and so it's extremely difficult to worry about dealing with breast cancer plus with COVID. And interesting- this woman was just last December, which I guess has been almost a year, but it's, it set off some bells for us that we have to take a look at: "I have been the most frightened yet this week as COVID cases spike in Westmoreland County." Westmoreland County

is a county right next to Allegheny County, where the University of Pittsburgh is. And it made us realize that now in addition to the our trajectory, we're going to need to take a look at how significant or how high were the COVID cases geographically, because in the spring of 2020, there was very little COVID in Westmoreland County, and then it has spiked as the year had gone on. So in a- just another piece we have to look at.

Slide 10

So finally, you know, our data collection continues. We will be analyzing the moderating effects of resilience, living arrangements, and area deprivation on self-reported symptoms. As I just said, we're going to need to recognize the geographical area and we want to then complete a trajectory analysis to determine the impact of COVID-19 on study participants. It's really imperative for us to do this to be able to tease out what are the symptoms from COVID and what are the symptoms from cancer diagnosis and treatment.

Slide 11

So I thank you for your time. Thanks to my team members and my co-investigators and to those- to the funding agencies. And just a little quick laugh I guess - My team wanted to have their picture taken to share with you all but we have- because of the University of Pittsburgh, we don't do anything without masks unless we're by ourselves in our office. This is the best we could do. So thank you.