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COVID-19 Infant Feeding Research Interest Group Meeting

Webinar Transcript

Dan

I'm ready

Ververs

Okay, Go for it.

Dan

Okay.

Hello everybody. Welcome to the COVID Infant Feeding Research Interest Group meeting. We were just discussing when the first meeting was. It looks like we're approaching a year, formally, for this group. I think the first formal meeting of the RIG was in June of 2020. Not much has happened over the year but we keep plugging anyway. We are very grateful for your continued enthusiasm. We have an interesting session today. I am not going to spend a lot of time with the fluff. Let's just get into the nuts and bolts of it. We would like to have a report of the individual subgroups of the working group; the CIF working group, that's the group that is working under the auspices of the WHO Maternal Newborn Child and Adolescent Health Research Network. But we will start with Shelly. [...] Do you have anything to say Shelly?

Shelly

No nothing to report for me.

Dan

Okay. Mija!

Ververs

Yes. I am asked to present something on the working group repository and I thought of quickly going through, in five minutes or so, on some slides of the repository and the survey. I will try to do it quickly because I think there are so many other more interesting pieces today to discuss. I work for Johns Hopkins University but also for CDC and as you know, maybe, we have these two scientific repositories.

Next please.

So, we have the publications well over a year now included in this repository. As you know, we have an MCH general one and we have a subset on breastfeeding, infant feeding and breast milk, and they all cover from the 1st of February to date.

Next please.

So, we are now about a thousand hits per week or around that. People visit the repository and the breastfeeding here in orange is getting more and more attractions as well.

Next please.

So, we have to date about 40,000 page views and over. We are reaching 150 countries.

Next please.

So, we did a survey and I am sure quite a few of you responded as well but almost 200 people responded from 56 countries. I think 31% or so from the US. So these are all the countries that responded. This is what I am going to present quickly about the use of the repository. It is not representative. It is a convenience sample. It is you that took time to respond.

Next please.

So, the majority of the users or in this case the respondents work in research: 68% and direct patient care almost 50%. I am going to be a bit quick because the results will be shared on the website so this is just to give you an impression of what the users found.

Next please.

So, the organizations/the respondents work for mostly universities and there is ... I just have to make myself appear smaller... of almost 50 percent and health facilities as well. And we have quite some of the government and also non-government organizations that use the repository.

Next please.

The repository is used to mostly stay up to date on current findings, but also to disseminate research findings and guide current research. I am sure that sounds familiar to you.

Next please.

There are two repositories as you know. There is one on the MCH and Nutrition and there is one more specific subset of breast feeding, infant feeding, and most of the respondents said that (44%) they use both repositories.

Next.

So, how frequently respondents visit the repository websites? It is about once a week who would score for a third. So quite a few times per month at least.

Next.

So people do share the repository with their peers. I think the last ... yeah ... and they forward updated emails as well and they download. So I think the users are a bit more than we see in google analytics.

Next.

So for the preferred frequency, we ask what people would like to have on the MCH one and most people in this subset said once a week would be great (almost 40 percent). So once a week, once a month.

Next please.

For the breastfeeding, it was a little bit less frequent. That would be once in two weeks or once a month, would be fine.

Next.

So, if the repository is continued beyond ... or this month, for how much longer would you like to receive the updates and over 80 percent said until the end of 2021.

Next please.

So, if it's discontinued, which actually is probably the case, because I have not heard from anyone who is going to follow up after me or after us. People will use mostly PubMed, Scopus, Embase, etc. and guidelines from UN agencies or CDC or other national public health bodies or professional bodies. So that will be the default option to be up to date.

Next please.

So what part of the repository, in case it stopped, will be mostly missed?

People mostly responded to the summaries that we made of those scientific publications.

Next.

So, overall, the satisfaction with the repository was very high. That was both for navigation through the system, the depth, the details and the format; how it was delivered. And that was it.

Next slide.

So thank you. For you in this forum today that have responded and we will put the results later on there on the website. That is it from my side. Thank you.

Dan

So, this is obviously been a tremendously valuable resource and you know we are grateful for Mija and the efforts of her team to develop it and keep it up and running. NICHD was happy to provide support for it, but we are very much anxious to see if there is any interest anywhere in continuing this repository and to support this repository. If there is any interest in this group in assuming their responsibility or supporting this in any way, please let us know. And if you have any suggestions of possible supporters please let us know. It would be a shame to have this go away. So please keep this in mind. We have got a few more weeks to go before this goes offline or disappears and so please give it some input. Is Fatmata or Janice on the call?

Fatmata

Fatmata is here.

Dan

Would you like to give a brief report on the [...] to me?

Fatmata

No Dan, no update from us today.

Dan

Okay, yeah!

The fact that we don't have any updates doesn't mean that we are not doing anything. There is lots about ongoing conversations; you know it's a moving target. One of the things that we really like your input for and we know we have done the survey, by you guys is where we should be going in the future. There are lots of questions that remain to be addressed. So, if you have any interest in making suggestions about areas of focus and what we might be thinking about doing, we can tell you that one of the things that we're thinking about doing as a future activity is sort of pulling together our collective thinking about how to develop a framework to respond to, not just COVID but the future and future sorts of situations. [...]

These are recurring issues. We have gone through this a number of times and we start from scratch every time. And it is, you know, we stumble and bumble in the beginning and I think we can do a better job. So we would like to think about how we can develop a framework for response. There are specific issues with regard to COVID, you know like what's the impact of the vaccine. We have had some conversations in this group about the implications of the vaccine on breastfeeding behavior, but there's a lot of biology that we still need to understand. So the impact of the vaccine on breast milk composition, the impact of treatment on breast milk composition, and whether or not breastfeeding parents are continuing to breastfeed in the context of these situations. And there is a whole array of questions. So please keep this in mind, provide any thoughts that you might have for moving forward.

Another issue that we have had some conversations about is that, are there misinformation out there with regard to traditional therapies, dietary supplements, etc., that are being touted in the context of COVID and is that having an impact on infant feeding practices. I think that is a black box. We don't know anything about but I suspect there is stuff going on. If you know anything or interested in pursuing let us know.

Okay, so let us just jump into the presentations. We have three really exciting presentations. I am going to turn it over to the speakers. I want to ... before I go ... I will be remissive if we don't thank our partners at Advancing Nutrition for all of their support and doing this they're going to manage this call from here on. We would start with Laura Burnham's talk and go on from there. We have three exciting presentations, so let's get started. Thank you. Laura!

Laura

Thanks Dan.

So, I am just going to share my screen. I am going to start the presentation, all right.

Thanks for having me today, my name is Laura Burnham. I am a project director at the Center for Health Equity Education Research at Boston Medical Center and Boston University School of Medicine. So today I am just going to be sharing with you all our research on the effects of COVID-19 on maternity practices and breastfeeding rates in a cohort of Mississippi birthing hospitals. I have no actual or potential conflict of interest to disclose and this project was funded by grants from the WK Kellogg Foundation and the Bower Foundation.

So, a little background for you all. I think most of you are well aware the guidance on caring for postpartum mothers and newborns during COVID-19 has been evolving and has sometimes been conflicting. For example, the initial CDC and AAP guidance did not recommend skin to skin and rooming-in for COVID positive mothers whereas the WHO guidance did. And it is important to note that these recommendations can really influence breastfeeding, which is why we care about them, and then breastfeeding is a very important preventive strategy during epidemics.

So, a little background just about our work in particular. CHEER runs a program called CHAMPS which is Communities and Hospitals Advancing Maternity Practices and we work with hospitals to improve breastfeeding through adopting evidence-based maternity care practices and achieving the WHO's baby friendly designation. So CHAMPS started in 2012 and began its work in Mississippi in 2014. Currently, there are 41 birthing hospitals in Mississippi and 37 of those are enrolled in CHAMPS. And the first COVID case in Mississippi was identified on March 11, 2020.

So, this graph from the Mississippi state department of health just shows COVID cases over time for the state of Mississippi. What I wanted to just illustrate is that COVID has come in waves for the state as you can see, and for the data we are looking at today, it is just through the time period through October 2020. That is what we are going to be looking at.

And then this visual is just to give you guys a sense of the timeline of the COVID-19 guidelines for breastfeeding and postpartum care. So, it is just kind of a very general overview so you can see the boxes above the timeline itself. I just noted that COVID cases began in Wuhan-China back in December 2019, which I am sure we all remember. And then by March 11, the WHO had declared COVID-19 a pandemic and that was also the date that the first case was identified in Mississippi. Then below the timeline, I just noted when the CDC, the WHO and the AAP released and revised their guidelines on breastfeeding around COVID. So, what this is really just illustrating is that these guidelines were being revised over time. It is also important to note [...], I previously noted that many of these times these guidelines were in conflict with one another. And then also this visual is important just to kind of get into your mind that if you are a hospital and you're trying to look at these guidelines to develop your own policies, you know you would be constantly updating your own hospital policies in reaction to these revisions of these national and international guidelines.

So, the aims of our study were to assess the changes in maternity care policies and guidelines in this Mississippi CHAMPS cohort of hospitals. And so we compared breastfeeding initiation and exclusivity rates, skin to skin and rooming-in practices before and then during the COVID pandemic. And so one of the things we did was we surveyed our Mississippi CHAMPS hospitals in the spring and in the fall of 2020 about the effects of COVID-19 on their maternity care policies and practices.

So, our survey questions were grouped into three categories: the number of suspected and or confirmed COVID-19 cases, screening and testing questions, and then questions on practices. The practices we were interested in were skin to skin, rooming-in and breastfeeding. Then, we also looked at monthly hospital data from the hospitals. So as part of the CHAMPS project, hospitals were already submitting monthly data to us. And so this data was submitted - it was aggregate data, and it was

submitted by race and ethnicity to CHAMPS. So, the measures that we had were breastfeeding initiation. So an infant receiving any breast milk during their hospital stay, exclusive breastfeeding, and infants receiving only breast milk during the hospital stay, skin-to-skin contact - so an infant being placed on the mother's chest immediately after birth or as soon as the mother was responsive and alert after a cesarean birth, and then remaining there through the first breastfeed or for at least an hour of formula feeding, and then rooming-in; so an infant remaining with the mother in the same room from birth until discharge unless separation was medically necessary. And the analysis we performed on these data were to compare the rates before COVID-19. So the data spanned from January 2015 back to kind of the start of the CHAMPS program in Mississippi, say January 2020, which is when we cut it off, and comparing those data to data during the pandemic. So, that was from April 2020 to October 2020. And we used a fuzzy interrupted time series design with generalized linear models, and our data were pooled and then stratified by race.

So, in terms of the results from the survey that we gave to the hospitals on their policies. Of the 37 hospitals we surveyed, 31 responded to the spring survey and 30 responded to the fall survey. And of those respondents, 70 responded to both surveys.

So we asked hospitals if they had had a patient who had given birth who had been a PUI (person under investigation) or COVID positive. In the spring, 45% of hospitals had had such a patient but by the fall you can see that greatly increased to 87% of the hospitals in Mississippi who responded to the survey having a patient who had given birth who was PUI or COVID positive.

We also asked hospitals specifically whether they had had a COVID positive patient who had given birth at their hospital. In the spring, 65% of hospitals had had zero such patients but by the fall, 53% of the hospitals had had between one and four cases of COVID positive patients giving birth at their hospital.

We also asked hospitals about testing and screening. So we asked hospitals whether they were screening women who gave birth at their hospital for COVID-19. Both in the spring and fall, hospitals were just screening all maternity care patients.

When we asked hospitals whether they were actually testing maternity care patients for COVID-19, in the spring, 45% of hospitals were testing all maternity care patients and by the fall, that number increased to 53%, which is pretty kind of comparable to the spring. However, I think the big change happened in terms of the number of hospitals who are not testing any maternity care patients. So, in the spring, 23% of hospitals were not testing any maternity care patients but by the fall, it was only 3% of hospitals who were not doing any testing.

We also asked hospitals about their skin to skin policies. And so we asked hospitals how they were managing skin to skin for healthy mothers and babies. In the spring, 71% of hospitals were adhering to normal skin to skin practices for healthy moms and babies and in the fall, it was 83% of hospitals. So pretty comparable.

When we asked hospitals about how they were managing skin to skin for COVID positive or PUI mothers, in the spring, only 23% of hospitals were still encouraging skin to skin, with new practices to prevent infection for COVID positive or PUI mothers. Whereas, in the fall, that number had increased to 57% of hospitals.

We also asked hospitals about their rooming-in policy. So again we asked hospitals what they were doing in terms of rooming-in for healthy mothers and babies. In the spring, 71% of hospitals were adhering to their normal living practices and in the fall that number was 53%. And so in terms of the change that had happened, more hospitals in the fall were strengthening their rooming-in

recommendations. So, 29 % of hospitals in the spring, had strengthened their rooming-in recommendations for healthy mothers and babies, but by the fall 47% of hospitals had done so. We also asked hospitals how they were managing or planned to manage rooming-in for a PUI mother. In the spring, 32% of hospitals were encouraging rooming-in with new practices to prevent infection, but by the fall, that number had increased to 67%.

We also asked hospitals specifically how they were managing rooming-in for a COVID positive mother. So, in the spring, only 16% were encouraging rooming-in with new practices to prevent infection for COVID positive mothers. Whereas, by the fall, that number had increased to 60% of hospitals encouraging them again with practices to prevent infection.

So, we also asked hospitals about what breastfeeding guidance they were giving to mothers who were COVID positive or PUI. And so we kind of gave them this list of breastfeeding guidance questions and asked them which recommendations they were using for COVID positive and PUI mothers. And of all these recommendations, the only one that wasn't ever part of national or international guidelines was the bottom guidance of my hospital advisors formula feeding. So none of the national or international guidelines ever advised formula feeding over breastfeeding, but these other guidance were part of national or international guidelines at some time or another. And so in the spring, the most kind of popular guidance that hospitals were giving mothers who were COVID positive or PUI was to feed express milk to the baby instead of direct breastfeeding. By the fall, that had shifted to the most popular guidance just being direct exclusive breastfeeding and advising mothers to wash their hands and wear a mask while breastfeeding. And I think it's also important to know that you can see that there were some hospitals that did advise moms who were COVID positive or PUI to formula feed.

We also asked hospitals what guidance they used to create their practice guidelines for COVID positive and PUI patients. It didn't really vary between spring and fall, but the most popular guidance practice guidelines they used were from the CDC, the AAP and the WHO. In the fall, we added a question to ask if hospitals had changed their COVID-19 practice guidelines over the course of the epidemic and 80% of hospitals responded that they had been changing their guidelines.

Okay ... so now on to the monthly hospital data. We had 38 hospitals who contributed monthly data and if you remember from the beginning of my talk, you might be wondering why it's 38 and not 37 hospitals. There were some hospitals that had enrolled that then stopped doing birth, that is why there's more than the number of birthing hospitals currently in the state. So, 38 hospitals contributed monthly data and we found that compliance with skin-to-skin and rooming-in dropped in response to the COVID pandemic. So, you can see in the table, all of the statistically significant results appear in bold text. So it's really just skin to skin for vaginal births and cesarean births, and rooming-in that changed. There was no statistically significant changes in the rates of any or exclusive breastfeeding. At least that's what we found with our analysis. We also found no differential impacts by race.

We also performed time trend analysis which showed a statistically significant monthly decline of one to three percentage points per month for skin to skin and rooming-in practices.

What does that mean?

The hospitals varied significantly in their approach and practices in the early stages of the pandemic when guidance from national and international authorities was inconsistent. By the fall, we found that more hospitals had cared for mothers with COVID-19, and in the fall survey for PUI and COVID positive mothers, we found that hospitals were more likely to recommend practices like skin to skin, rooming-in and direct breastfeeding, and oftentimes those practices were coupled with extra safety precautions to prevent infection.

We found that rates of breastfeeding initiation and exclusivity remained consistent in this cohort of hospitals. So they didn't really drop in response to COVID. However, for skin to skin and rooming-in practices, we did find that those dropped in response to the pandemic and this kind of change in skin to skin and rooming-in practice could be due to the initially more restrictive natural COVID guidelines. For example, like I stated earlier, initially the AAP and the CDC didn't recommend direct skin to skin and rooming-in for COVID positive patients. We felt like that probably could have translated into just less than the skin and rooming-in overall.

Maintenance of breastfeeding rates we feel could be due, in part, to this cohort's commitment to baby friendly and just improving their breastfeeding rates, but we're not really sure why breastfeeding rates also did not drop in response to the pandemic. So we feel like it will be important to continue to follow changes in breastfeeding and maternity practice rates as time goes on to see if new trends emerge.

So, in conclusion, interpreting and adapting COVID-19 guidelines happened at a local level by individual hospitals for our Mississippi hospitals. And we found that our hospitals adopted kind of a range of COVID-19 policies. It wasn't one size fits all for these hospitals. And we also found that the rates of breastfeeding, an important protective factor in emergencies, had not changed significantly for this cohort of hospitals during the pandemic. This is just my contact information so you can see our website and our general email and then my personal email. And I think you all were accepting questions in the chat box. People are ... are we going to do questions after everyone presents?

Dan

Yeah, I think we will wait until the end. We will collect those questions and just to make sure everybody has time. So thanks. That was a great presentation. We will move on to Daniel. Hi Daniel! You're on.

Daniel

Hello! Let me share my screen. Here we go. Okay! You can all see the slide here just to make sure?

Laura

... Yes we do

Daniel

Okay. Well, thank you very much and Laura thank you. I feel like this was a really nice lead-in to what I am going to talk about. I'll be representing our research team and sharing our findings regarding experiences of the health care workers as they've provided in-hospital lactation support at the start of the pandemic, on this research we recently submitted for peer review.

This slide on disclosures allows me to highlight that this work is largely moved forward by Rachel Hoying. She is a second year medical student here at Northwestern in Chicago and Rachel is currently studying for, perhaps, one of the most important board examinations of medical school. That exam is next week. Otherwise she would have prepared and presented. But she is not in attendance today and deserves a ton of credit for the work. She did receive some internal funding for this project.

So, as we have been already talking about, mother's milk eventually was acknowledged and confirmed to be the recommended form of nourishment for newborns and infants during the COVID-19 pandemic. And through work of others on these calls, we have insight into women's experiences surrounding lactation during COVID-19. They've reported difficulties staying up to date on information, concerns of missed time with families, experiencing guilt and stress. Now we also know that novel infectious outbreaks, whether it be COVID-19 and even SARS before that, these outbreaks create disruptions to workflows for healthcare providers for instance, the donning and doffing of personal protective equipment became much more common or frequent, and even wearing surgical masks became a norm when it was not a routine part of the day. Now tying some of this together, if mother's milk is still a prior priority in the pandemic, then we're also saying that women should be provided access to lactation support. But we identified an important knowledge gap surrounding postpartum lactation support in that we did not know what the healthcare workers were experiencing while supporting postpartum lactating women during COVID-19, when they were the frontline providers of that support.

So our objective was to identify modifiable components of workflow surrounding lactation support and better support healthcare workers. In order to do that, our aim was to characterize the experiences of providing lactation support during the early period of the pandemic. Now, before I get into the study details, I think it will help to provide context of the healthcare environment that we studied here in Chicago. So Prentice Women's Hospital of Northwestern Memorial is right downtown in Chicago. It is the fifth largest maternity hospital in the United States, and we have an annual delivery volume of about 11 000 deliveries. Approximately 40% of the women who are provided care are publicly insured, and all women have access to lactation support postpartum. That could be a staff nurse, a breastfeeding counselor or an IBCLC providing that support.

For years, as part of ongoing quality improvement monitoring, we track certain metrics surrounding breastfeeding: that includes breastfeeding initiation by moms, and then for the infant's exclusive mother's milk feedings prior to discharge. So, this table shows two time periods: September 2019 to February 2020, so the six months prior to the designation of the pandemic, and then the first four months after the designation, which marked the beginning of a huge overhaul in workflows at Prentice and at many hospitals for sure, and this also overlaps with our study period of interest. And we can see that over 80% of women initiate breastfeeding or milk expression and by the time the infant is discharged we see considerably lower rates of exclusive mother's milk feedings.

Now, prior to the pandemic, the postpartum medical care for women was managed by an obstetrical provider. That could be an obstetrician, maternal fetal medicine specialist. We do have midwives advanced practice nurses managing that. And for the newborns, it was either a staff or a private practice pediatrician. Rooming-in was encouraged and the postpartum nursing staff would provide care for that dyad. Now, for maternal support, a primary support person was allowed 24 hours a day and on top of that four visitors. Up to four visitors could come during visiting hours.

I mentioned lactation support was provided and the goal was milk expression within one hour postpartum. At the early recognition of the pandemic in March 2020, a COVID-19 unit was established and that unit admitted pregnant laboring or postpartum women who tested positive for SARS-Cov-2 or women whose test was pending at the time of delivery, or women with a negative test with symptoms consistent with COVID-19. And it was a select group of providers who were recruited to work on the unit to narrow down the number of workers in the unit, in and out, and also allowing for focused care.

So, at the start of the pandemic at Prentice, we did separate newborns from mothers. We no longer do that and we recognize that some sites never did that, but this separation at that time did end if the mother's pending test was negative and she had no symptoms. Another major change was that no

visitors were allowed and lactation support was still available but it was different. For instance, an IBCLC could support a mom but that would be by phone. They would not be entering the mom's room directly.

So, how did we come to understand what it was like to provide lactation support for women during COVID-19. We designed a prospective cross-sectional survey. The 108 healthcare providers who worked in the COVID-19 were eligible. If there is time and interest I can share the details of the survey development and dissemination. I will state that the respondents were offered a five dollar Starbucks gift card for their responses. Now, in the survey we specified very clearly so everyone was on the same page what we meant when we referred to women affected by COVID-19 and newborns affected by COVID-19. And it really centered around that testing status that I mentioned in the prior slide.

The survey design included quantitative and qualitative measures of what it was like to provide lactation support. Questions asked about communication such as forms of communication the workers received regarding policies and workflows, questions asked about experiences of stress and difficulty in completing tasks, and questions also got into the weeds of the lactation support policy. For example, each procedure that was delineated in the policy that would have a question about the individual's adherence to that procedure.

And finally, the respondents at the end of the survey provided three free text answers about things that most affected them as they provided lactation support. Of the 108 staff working in the unit, we had responses from 70. Seven staff ultimately were never assigned to directly work with a mother or infant affected by COVID-19 but they still provided responses that could be analyzed on matters such as communication and other experiences. In the table here, we see that most respondents were registered nurses and most were from the obstetric unit.

Now, looking at the experiences of difficulty or stress providing lactation support in comparison to working with women or newborns not affected by COVID-19. In the columns, we see whether the respondents answered based on the role of providing direct breastfeeding support or support for milk expression, or providing expressed milk to the newborn. And a provider could have been in different roles and entered answers for each of those. In the rows, we see the reported level of difficulty more unchanged or less in providing the care, and across the board we see that helping mothers felt more difficult and even providing expressed milk to the newborn was felt to be more difficult by 50 percent of those caring for the newborns.

Now, looking at experiences of stress, we see that providing lactation support to women felt more stressful. Whether that was support for direct breastfeeding or expression of milk. And while most felt no change in stress when providing expressed milk to the affected newborns, still one-third did find it to be more stressful. So we did have questions using a Likert scale that quantified those feelings of difficulty and stress. And while I am not showing those details for the sake of time, I can tell you that in comparing mean stress scores. If respondents recalled receiving guidance of information through shift meetings or email, that was associated with lower stress scores.

Now, looking at adherence to specific instructions within the policy.

This table's rows shows example show examples of specific tasks and the columns show the respondent's reported percentage of time, from 0 to 100, that they completed each task. And looking at just a few examples of hygiene related procedures such as ensuring the patients were in a gown and wore a mask during pumping, or ensuring that patients wash their hands prior to pumping, we see rates of adherence in the 50 to 60% range.

Now, in contrast, looking at tasks related to equipment needed for pumping, the rates of adherence were much higher. So ensuring that all the equipment for pumping was readily available, proper handling of the milk container after pumping, these were accomplished the majority of the time. Yet, even with those high rates of completing the equipment related tasks, we found a significant inverse correlation between stress scores and the adherence to those tasks. So, we had connected the dots between experiencing stress and an impact on getting the work done.

Through our qualitative analysis, there were three overarching themes and five sub themes that emerged. The three themes were: reduced distractions, logistic challenges and physical separation, and the sub themes under logistic challenges were: access to supplies, policy changes and data limitations, and under physical separation: disruption of bonding and maternal separation rose up, lack of support persons and limited time at the bedside.

I will take a minute to emphasize responses that were not anticipated and these were comments which relayed positive outcomes stemming from visitor restrictions. One respondent stated that less visitors give clinicians more time for direct education and support, parents were able to focus on resting, recovering, learning and hearing the education, and there were more comments about the fewer interruptions. And I really emphasize how much this has our attention.

It is also worth noting that in U.S. hospitals, the presence of visitors has been identified by hospital staff as a key factor. Specifically a negative factor to implementing the 10 steps to successful breastfeeding. There are other comments that stood out amongst these sub themes at the bottom here. I highlight just even the routine wearing of surgical masks made it difficult to provide education. That was the experience.

So, results from a self-report survey, caring limitations, these include recall bias.

Also we had no objective measure of the experiences such as physiologic markers of stress and other studies have actually accomplished that. However, just the experience of feeling stressed contributes to burnout amongst healthcare providers. And it is very clear from healthcare workers in other hospital settings during COVID-19, whether that's ICU teams, palliative care, hospice workers, stress is definitely higher.

So what have we learned through this?

Well, we all agree that lactation support must continue during COVID-19. But the healthcare workers providing this crucial care feel more stress. They feel that accomplishing the tasks is more difficult and we do speculate that what we found will have relevance for future novel infectious outbreaks. We found lower compliance or rates of adherence to procedures that were hygiene related. This is of great concern given the highly infectious nature of a virus. And in advance of doing a study, we really had assumptions that changes to workflows would universally be considered negative, when in fact some changes like restricting visitors brought positive experiences for some providers. And as our center no longer separates dyads, which was a concern in the qualitative responses, we believe that a prime opportunity for mitigating negative effects of the pandemic on the health care provider is in regards to communication and focusing efforts to make sure that staff receive clear updates.

And so finally our key takeaway is that those providing lactation support during COVID-19 need support. I really thank you for the chance to share this and again Laura ... it was a ... I feel like a nice lead in and I will look forward to comments and questions.

Dan

Thanks man! That was great. Hopefully when we get into the discussion, we will see if there is any sort of ... we were hoping to get a little bit of a focus on disparity and equity in this context of these issues. I think these two presentations offer some potential for that conversation. So we will move on to Cecilia and her team. Cecilia!

Cecilia

Hello everyone! Navigate the usual screen sharing ... Let us hope this is working. Just a second, I am having some technical problems. Surprise ... Surprise ... hold on. I am sorry, I am having a hard time with sharing my screen right now.

Jennifer

Could I just share your slides Cecilia?

Cecilia

If you would that would be wonderful. I have been screen sharing all morning but currently cannot.

Jennifer

Okay. Just a moment.

Cecilia

My apologies ... I am also working on it just in case it miraculously fixes itself. Which is possible but unlikely.

EA Quinn

I also have them pulled up if you want me to share?

Cecilia

Oh! Thank you ... okay ... wonderful.

Jennifer

Oh thanks. Do you want to do that EA. Mine is taking a moment to open.

Cecilia

That would be wonderful. Thanks EA. I don't know why it's not sharing. It just isn't.

Thank you so much.

Excellent! Thank you and then if you would just switch it over to presenter that would be fantastic.

Thank you so much and actually EA is the PI of the study so I am representing our collaborative effort today. Dr. Palmquist cannot be here today. I am here, I don't think Carolyn is here but Stephanie I think is here and Dr. EA Quinn is here. We do not have any conflicts of interest to report and we will get right into the work.

So, we already discussed this in the previous presentations but as you all know there was considerable uncertainty around perinatal transmission of SARS-CoV-2 early on in the pandemic and this resulted in a series of very confusing and challenging landscape for the guidelines both internationally and nationally, particularly on the national level. And we have written about that in some of the articles that you've cited in the previous work, as well as about the challenges of these policies, while the WHO stayed consistent national guidelines did not.

In the United States early on, we have already talked about this, the guidance really was not consistent and was not aligned with the WHO recommendations initially and that rollercoaster series of guidelines really made it difficult obviously both for institutions and for families to navigate the pandemic. Now, we also know from previous work around the world that early cessation of breastfeeding is very common during public health emergencies and crisis situations. And so these disruptions, while they may seem that they are really due to the emergency, a lot of times they have to do with this fragmentation of guidance and the lack of preparation and the lack of prioritization of maternal child health during these emergencies. This is why it is so important to look at the global context and actually look at the resources from the WHO to help us with preparing for these situations. Go ahead.

So, the U.S. has a broader context that we want to situate this work and we are anthropologists so we're going to give you a little bit of the social-scientific context here. One of the biggest pieces is that the U.S. really is an exception among its wealthy nation peers and failing to provide basic parental family support for family leave, lactation protections, among many other things. There is no universal access to health care and that really frames the landscape of the pandemic as we enter into it. And the foundation of the United States really rests on the built-in nature of structural racism, the social policies institutions, criminal legal systems that protect the health wealth and interest of white supremacy at the expense of other racialized groups. And this work really has been ongoing for decades in the social sciences but the COVID-19 pandemic has really brought out how important it is to situate our work within the context of the larger landscape of the United States. Zinzi Bailey and Lester Potter works would be the works that we cited in here that you might want to refer to, to take a look at the effects of racial capitalism for instance. Within structural racism, the exploitation of labor that leads to accumulation of wealth and all of these factors the underlying systems influence the way in which the COVID-19 pandemic has played out. So, rather than the initial media narratives that's situated at the pandemic as some sort of great equalizer really what we are seeing is a heightened inequity and that is built on these unequal foundations that were already very much part of the United States.

So, what we already know is that Black, Native American, Hawaiian, Pacific Islander, Latino, Philipino and Asian American people were already at heightened risk when they entered into this pandemic because of the work exposures and living conditions that they faced. So low paying jobs that were considered essential worker that really provided minimal protection to exposure to the pandemic. These exposures

led to an over-representation of BIPOC in COVID-19 cases and deaths, and continue to do so unfortunately.

And all of this of course showed up in the perinatal morbidities and severe maternal mortality during COVID-19, and these were the populations that were particularly exposed due to the effects of structural racism. So what was unknown at the time when we started this survey is how the knowledge attitudes and the mitigation strategies and policies, and practices actually affect people's infant feeding decisions early on in the pandemic in the United States. And for this presentation, we wanted to explore how and if does racial capitalism during COVID-19 influence infant feeding practices.

So early on in the pandemic, we launched a survey through Washington University at St Louis, which is an online survey that was open from March through May early on in 2020. So during that very much the roller coaster of guidelines in the United States. The eligibility included being an adult and having an infant under one year, being a U.S resident. And then we looked at a series of variables, demographics, the age of the infant, feeding intentions, practices, partner support, knowledge attitudes and perceptions of COVID-19 and breastfeeding, and weaning decision making. For this presentation, we are looking particularly at descriptive analyses linking our findings to the broader literature.

So, as you can see, this is very common in online surveys, we are seeing an enormous over-representation of the white race in the survey. So the majority of our participants were white and the majority of our participants were partnered. Mostly married or living with a partner. And you can see that the household income is significantly higher than the average. So an over-representation of wealthier white coupled people and linked to this we have a very large number of our participants, a large portion of them staying at home during pandemic measures. So this is the time when we are starting to see a very strong movement towards working at home. Some people were already staying at home. Other people are now working at home during this early period of the transition time of the pandemic. There are other people in the sample as well including others who could not stay at home; so healthcare workers and others who were not able to stay at home, you can see that the majority of people were able to stay at home.

We have, accordingly with the demographic characteristics that I described, very high percentage of people who had strong intentions to exclusively breastfeed and/or express breast milk. So very much an over representation of those intentions within the United States demographics. And we also asked participants about their plans in case they become infected with SARS-CoV-2 and get COVID-19 and we have, because of these very strong intentions, not surprisingly, very strong intentions to continue breastfeeding. And at that time there was still a lot of debate around you know uses of masks but you can also see that people are starting to pay attention to the use of masks during breastfeeding but we don't yet have that really good clear guidance about the use of masks during breastfeeding in the United States at the time. This is a very important finding and really the crux of what we are seeing here is that, in our sample, while most people had no change to their weaning plans, we have a significant shift towards thinking about delaying weaning and that delayed weaning is really an important part of our finding that we will talk about in a minute.

So, as you can see, our sample like many other online surveys provide an over representation of particular demographic groups. We are seeing mostly wealthy parents, mostly white parents, who are able to follow the COVID-19 stay-at-home policies and breastfeeding recommendations. And we have a group of people who already had very high intentions to breastfeed and continue to breastfeed and they're able to do this.

One of the important findings here is that because the United States really doesn't support parents at all, for those parents who are able to stay home now, this actually represents a disruption of the previous norms where they might have been separated at a disproportionate rate compared to other countries that have parental leave policies. And so, those people who are these wealthy-whiter parents are able to stay at home and have more contact with their infants and they are able to consider a decision such as delaying weaning, partly because of potential protection from the illness and partly because of the contact that they have. That one-third of respondents who are planning to delay weaning is a very large percentage of this group.

Limitations, of course, include the fact that this is a cross-sectional study. Although we are planning on doing a repeat survey, most of the respondents gave birth to their infants before the pandemic really started and they established lactation before it started or during the stay-at-home period. And of course the biased nature of the sample prevents comparative analyses within our own data set. But I think contextualizing the work within that larger framework of racial capitalism we really see that racial capitalism perpetuates and heightens COVID-19 disparities including in infant feeding. So we're seeing this so bifurcated experience where some people are able to follow through with their intentions partly because the stay-at-home policies are facilitating that whereas other people are basically being provided very little support and are having to leave their babies and are exposed to the virus at disproportionate rates.

The other important piece of this is that the COVID-19 stay-at-home policies are a de facto case study of how more time at home with infants can actually improve breastfeeding. This is obviously in no way surprising if you're looking at comparative data among wealthier nations that support parental leave, which is where we are really an outlier in the United States, but this is a really good opportunity to argue the case in the importance of why parental leave really matters. And what we can really see is that, if we make structural changes to national policies for paid parental leave and coupled with the robust investment that we need in programs to reduce inequities and housing, employment, health care, and income security, would likely also reduce the racialized disparities that we see in breastfeeding. Those are our references. Thank you very much.

Ververs

Okay. Thank you Cecilia. That is wonderful and we have come now to the end of three presentations and there is a question just coming in now in the chat. Cecilia, do you feel this tells us a lot about the survey methodology and particularly during the pandemic, but also for breastfeeding research as well, and also in terms of the pandemic. Meaning that many people are using this method rather than more direct methods such as more open-ended interviewing online? This is a question from Tanya Cassidy.

Cecilia

Yeah, we actually, Dr. Quinn, Palmquist and I, were in a presentation yesterday at the American Association of Physical Anthropology where we were discussing some of the same issues around methods and we already knew from the literature what the limitations of these survey methods were, and understood what the likely result would be. We also did not have any funding for this particular project and all three of us are involved in other activities, including caregiving activities, that limited our capacity to do work at the time which I think we haven't talked about yet; the impact on researchers as well as caregivers. So, we knew what the limitations would be and really I think situating it in the

broader context is what makes our work meaningful and not just thinking about it both as the limitation but looking at who are the people that we're talking about. And also who are the people who are leading some of these conversations in media and narratives? What you're really seeing is that some of the sample that we for example tapped into in our work and others in online surveys, are often the kind of conversations that are happening in the media. They are over representing white middle/upper middle class concerns and other concerns often just get lost. They are not really listened to. So I think that is a really, really, really important thing to be cautious about and that we really need a different framework for research altogether. I mean we need more funding support, we need more community-based work, which is also meaning compensating participants for example that we did not have the resources to do.

So those are just some of the issues that we need to be thinking about and also the research teams didn't at that particular moment have the kind of embedded relationships that we could have pulled on to be able to make this appropriate. I think we did not want to do any work that we felt would be exploitive of those who were already being marginalized by the pandemic and previously to the pandemic. So I mean this is a very difficult time for people so I think we have to be very careful about how we do work.

EA Quinn

I will speak to some of the methodology in terms of the survey. We followed a lot of the online best practice survey methods guides that are available including Ball's guidelines in the Journal of Human Lactation for using online surveys to study breastfeeding behaviors, and we were very diligent about checking and monitoring for bot generated data which is a common concern with online surveys. So we actually had 2400 responses that once they went through bot checks we threw out over a thousand samples or over a thousand responses that failed the bot check. And I think that is kind of getting at Tonya's question. That is part of doing due diligence with these online surveys: it is not taking the responses at face value but understanding that even the free surveys or the non-paid surveys are being used to train the bots, and so being very diligent about that. And as Cecilia said, just knowing the ways in which the survey was disseminated, it was disseminated online but it tied into our existing social networks which tended to be more heavily skewed towards women who were breastfeeding. And being disseminated through lactation communities rather than open-ended mother groups.

While we do have major underrepresentation of bipod communities in the sample, we actually had a really high response rate in Missouri among black participants because of pre-existing relationships with community organizations that were willing to provide some feedback on the survey and also disseminate it. So I think that speaks to Cecilia's point that part of this research is also including community voices in the formation of the research and the questions.

Ververs

Thank you, thank you. We are opening now this question for everybody in a Q&A session and we have about 20-25 minutes. So anyone who is on the call please feel free to raise your hand, and I have here Daniel already, to ask each other questions or from the audience. Please go ahead Daniel.

Daniel

Hey there, thanks. I wanted to get back to Dan's acknowledgement and I am a little more mortified. I admittedly missed this and, if I may, I realized when the invite came my newborn was about two weeks old, so I was in a fog enough to receive the invitation and miss the ...

Dan

You're not blaming it on your baby, come on!

Daniel

I ... believe it or not, I am still in a fog, yet less though. I would like to share that I do want to contribute to that and admittedly our survey did not measure that. But back to the quality metrics that I did share about our site and just to share other work that is going on simultaneously since last summer after a number of issues including George Floyd, a lot of stimuli to focus on health care disparities, we do have a working group within Prentice Women's that has broken up a lot of obstetric and newborn care parts including breastfeeding lactation. And so we are addressing that and what I can tell you as of now, not surprising, there are very big disparities in breastfeeding metrics. By self-reported race ethnicity, we have those measured and that same quality work that I alluded to. We are now going to the next level where we are trying to go through medical records and documentation to first see; is everyone truly getting equal access to lactation support and moving from there trying to understand why the metric that the disparity shines through is that exclusive mother's milk feeding from birth to discharge with infants born to mothers identifying as white with the highest rates, and a number of other self-identified races lower. So we are trying to understand what, and they are probably a number of things, that are contributing to those disparities. Those are real time; those are during COVID, the data on the metrics that we have.

Dan

Yeah. Are you doing anything with your providers, the group that you discussed today, with regard to potential differences?

Daniel

On the disparities piece?

Dan

Yes

Daniel

We are still ... we don't have the information that has defined where the disparities in in care and support are yet, so we are on pause. The initial work was we identified the disparities, then we defined

exactly what we need to measure to understand again; are people actually getting the equal access to this lactation support and a number of different maternal perinatal health care issues pre all of these things that we think may interfere with milk expression lactation. And we are waiting for that data abstraction and then for sure we will move on from just the measurement to implementation of changes. But we need to wait for the data to help guide us.

Dan

Is there anything your group could add to this conversation?

Laura

Yeah. I think it is really interesting. So probably just to reiterate our findings, we do find that there are disparities in breastfeeding rates for our hospitals. And we have found that. Prior to COVID, ... I didn't present this data today, but prior to COVID we found that implementing baby friendly over time, so these hospitals who enrolled in CHAMPS were implementing baby friendly practices becoming designated, breastfeeding rates, particularly for breastfeeding initiation, disparities did decrease over time but they still existed. What we found during COVID is that the disparities did not change. So it is not that there weren't disparities, it was that the disparities weren't widening which is what we were afraid might happen, and they were continuing to decrease. So that is really what we found.

I think just in terms of recommendations for other people who are either looking at breastfeeding rates at their own facilities or like in a cohort of hospitals, it is really important to ... we found it so important to collect your data by race. And that's something that CHAMPS did from the outset because one of our main goals was decreasing breastfeeding racial inequities. None of the hospitals when they first submitted data to us were currently collecting their data by race. Most of the hospitals were like collecting exclusive breastfeeding rates over time for JAYCO and things like that but none of them were looking at their data by race. So, I don't think ... Daniel ... like your hospital is not any ... you are not an outlier and that you weren't collecting your data by race before looking at that. I think that is kind of generally what hospitals are doing. So I think the more hospitals and healthcare systems can look at their data by race, it is going to be more helpful at identifying where there are disparities. And we can guess that there would be racial disparities in the United States. That is something that is common, more or less. And you are taking the next step Daniel, really trying to decrease the disparities. And that is also what CHAMPS is working on. I see Dr. Laurie [...] too on. She is part of our CHAMPS team. So, I don't know, Hey Laurie. Just saying hey. You know what, you could jump in too if you have anything to ask.

Ververs

Laurie you have a question, I think as well maybe you want to raise that.

Laurie

Yes. Thank you all so much for all this amazing work first of all. So, I had a question for Daniel. You spoke about lactation support in the postpartum period but I didn't hear, specifically, discussion about skin to skin care and this is an area, certainly a focus, we know that the evidence supports skin to skin

care with the establishment of breastfeeding in and of itself but also supporting exclusive breastfeeding at the time of discharge. We know, from the work in CHAMPS and Laura can speak about this: that skin to skin care was one of the things that we were able to show, probably the widest gap, in terms of racial disparities at the outset and one of the areas in which we were actually able to improve, if not eliminate, some of the disparities in the hospitals that we worked with.

But the Academy AAP is very concerned about skin to skin care as it relates to SUPC or Sudden Unexpected Postnatal Collapse and so has made the recommendation for continuous monitoring during that period. And with COVID, that only begets even more concern in that there has to be a staff member present continuously to at least observationally monitor that dyad. And I just wonder if COVID has undermined the ability to actually provide at least one hour of skin to skin care uninterrupted. And as we presented earlier, that was one of the things that contributed to continued exclusive breastfeeding for three months in the mother-COVID study.

Daniel

Thank you. The skin-to-skin care, thinking back to the start of all of this, it raises a lot of ... I remember a lot of strife among staff. The data I showed was during the period where we separated mothers and newborns and we did not do skin the skin. And again, there was a grayed out comment. It was very challenging across the board, physicians, nurses, to be separating the mothers and newborns. That ended in June. We no longer practice the separation. Unless a mom is so sick with COVID that she just cannot herself care for the newborn. But otherwise, we are back to our pre-COVID practice which does include one hour skin-to-skin and with every effort, including, for delivery by cesarean, that a mom would get the chance to do skin to skin. I don't have the data. I suspect that after cesarean delivery, those rates probably don't match after vaginal delivery, but it is a priority that skin-to-skin is attempted even after cesarean. And I do not have the sense that there is any interference at this point from COVID in achieving that. It is remarkable at how again how ... I was talking about workflows and so much has just become a norm now. It was just a huge shift in every aspect of providing care. It was a big change and now there's just ... it is wild to think that this is just a norm.

Ververs

I have ... Dan, you want to ask a question? Go ahead.

Dan

Yeah Daniel, I hate to sit on your head about all this stuff but since you are here, I am just ... given the already stressful situation with regard to caring for pre-commitments is there any or do you have any additional thoughts about the impact of this on care in the NICU.

Daniel

Absolutely. My thoughts are ...so ... I did not ... I wasn't clear. I am a neonatologist.

We have a very busy unit at that hospital and just yesterday or the day before, we ...

I am just going to take an anecdote of a parent who is vaccinated both doses and whose spouse is COVID positive. Which then raises visitation issues not even thinking of what can we do within the NICU but even getting in the door of the women's hospital to get to the NICU. It is based on those rules that are established by the entirety of the medical system not just our Women's hospital, that parent cannot visit. It continues to create a lot of strain. At our site, we do allow two parents or a parent and a designated other person at the bedside 24/7 in the NICU. But that is all and it's a stressor for parents and it's a stressor for staff. I am not sure how it could change, you know. On one hand you think, "oh well vaccination is coming", but here again ... it is an anecdote I understand, but you have a risky situation and the default certainly in the NICU because you've got a sea of high-risk pre-term infants. It is likely going to be air on restricting.

Ververs

Thank you. Tanya, I have a question first for you again but to do justice to her question, I have to read it. She is Janiece from USAID and she is talking about various studies here from all of you. She said that she found Laura's point interesting that perhaps the practices did not fall as much because these facilities were already on their way to baby friendly designated. So ... and she said "I found Daniel's study interesting on all the stressors that were on those that were providing the support and then thinking about the findings from Prentice and from CHAMPS, was there any different way the institutions were training or supporting the providers over this time, that has aimed to address and relieve those stressors with regard to Prentice or that you feel helped the providers overcome these types of stressors in the CHAMPS facilities.

Daniel

I'll go ahead and comment. I do think that the method of communication is much more clear and concise. And, separate from our data, people were frequently bringing up confusion and getting back to communication. And I mean communication ... there is ... we have the well nursery, the healthy postpartum mom and healthy infant and then even the NICU population. Everyone together. It felt like chaos on how to triage and allow this baby to go there and this parent to go here or not. And what has probably been one of our biggest advances is the clarity of communication, algorithms, repetition of communication, certainly when there are updates.

Ververs

Okay. Thank you. Is there anyone else in the audience here still having some questions for Cecilia or for Laura or for Daniel.

Dan

Has there been any changes in the use of donor milk or infant formula. Just sort of practical hardcore changes in terms of being in this context?

Daniel

Fortunately no. We use the for-donor milk specifically. We use the Illinois Hambana bank. I remember, at the start of the pandemic, communicating with Summer Kelly who uses that bank because I think many of us were worried about a shortage. We temporarily narrowed our eligibility for donor-milk. We really wanted to preserve it for the pre-term infants. We felt like we had the most data surrounding that population and they were the highest risk and would likely gain the most benefit.

But in reality we never experienced shortages and we released those restrictions. I can't remember when but it was early in summer. And from there, we never ended up ... it wasn't like we were giving formula in situations where we medically thought that human milk, mother's milk or donor milk was the right thing to do. We never substituted formula out of concern or fear or a shortage.

Ververs

Okay. I have, if I may, a very brief question to you Daniel.

If public health's wisdom says something restricting visitors and that to help lactation support, did you have any idea what the mothers felt of that kind of ... and they would be completely contradictory perhaps.

Daniel

I think they may. We did not survey that. I believe, I don't know if she's ... , I believe Dr. Spatz has reported that. I am not sure if she is on the call but in our questions we did not ask about that.

Ververs

And your impressions?

Daniel

It has gone both ways. My direct experience is more with NICU parents. So, initially again, a major strain because in fact initially we only allowed one parent at the bedside. It was very rough. Now, parents actually ... my clinical observation being on the unit is parents are okay. As okay as they can be because there still is the benefit to just having a friend come by or a grandma come by to sit and chat with you. So I think there is still a strain but it is better than it was early in the pandemic.

Ververs

Okay, thank you.

Laura

Anecdotally, I could just share from our CHAMPS hospitals. Again, we didn't survey the moms about this but I know, from talking to our hospitals, that a lot of the time the nurses really liked reduced visiting. I don't know if it is ... I think it is this Mississippi kind of culture around birth, where they say they ... they bring in the whole extended family and maybe everyone from church when they visit. So it is stressful for healthcare providers and it is stressful for the new parents too to constantly be entertaining. So it was a big change for many of our hospitals to only to limit it to really like the mother and her partner, and so many of the nurses said how nice that was. You didn't have to kind of negotiate all the different family members meeting, kind of coming in. It didn't stress moms out as much as they were less tired.

Sometimes this is all anecdotal too and sometimes moms liked it too because they didn't have like their mom or mother-in-law there saying like "why are you doing that". Yeah, you know like "let me show you how you should do it". And so, a lot of our hospitals are actually hoping to kind of limit some visiting in the future. They are like "we don't really want to go back to having the whole extended family come in and having kind of a revolving door to visit the baby. But that's all anecdotal.

Cecilia

I was just going to say ... I am just going to say something about this because this has been on my mind throughout. It is such a triangulation across the three presentations of the different perspectives that are happening here and I think that was such an important question. Thank you for raising it because I think, for many people like that, while we didn't talk about this today but obviously we know that this is a huge source of anxiety and concern for people, and it plays into the role, the kind of decisions that people are making about whether they are even going to have a birthing experience in a hospital setting. I think that is a really important issue and I actually was a little bit troubled by how the healthcare provider at Prentice. By the way I gave birth at Prentice many years ago and worked there as well. But I was really troubled by the fact that people perceived that support to be so difficult. There are some structural reasons that are clearly happening between different settings in terms of providers and how they are approaching lactation, and what kind of support they are going to provide for these families. And while I understand; I am at a school of nursing, I understand the burden of providers. At the same time, I was really worried about the way in which it was perceived; as sort of an extra. As the difficulty to support lactation. And if we look at that, that really to me echoes the structural kind of historical issues in the United States with the medicalization of breastfeeding and birth, and the way in which we really approach these topics. It is not the sort of infant feeding norm in how we support normal physiological birth and lactation, but rather as a medical event and whenever something else comes up; and here we are with a pandemic. Then all of a sudden we don't know what to do and the default becomes separation. The default becomes lack of support and I think that that's a major cultural theme that I just wanted to briefly mention.

Cecilia

Thank you Cecilia. With that we come to an end and I will ask Dan to say some wise words to all of us.

Dan

I don't know how wise it will be. There was some reference to the need for increased funding. Let me just say for those of you that are actively engaged in the research enterprise, we need to see the applications. There isn't a lot of money to put set asides for the traditional RFA. So don't expect to see that. But the enterprise keeps going and so whether it's NIH or other funding agencies, the only way we can fund something is if we get an application. I as a program official, I am happy to talk to anybody that wants to do that. I am wondering if perhaps Laura and Cecilia's team might think about collaborating and addressing some of these issues in what clearly are different environments than you study. I think you guys have a tremendous opportunity for collaboration and I would be happy to talk to you about that.

There are lots of issues that we talked about today that need to be addressed.

There are lots of issues with regard to the biology here that needs to be addressed. So while the social, demographic and cultural context is critically important, we need to have some fundamental biology around this question as well. And it's more than just the behavior of misfeeding. It is understanding that biology, the intersection of you know the lactating parent, the baby, their environment, all of that is important and so please reach out to us. We want to see these kinds of applications. I am sure I'm not alone and anybody that's involved in funny research feels the same way. I want to just quickly throw out one issue that has not received any attention and we're very interested in hearing the thoughts of the community. One of the cardinal symptoms of COVID is loss of taste and smell. Now whether that's a perception or a reality as an impact on breastfeeding, that is a really important issue. And if anybody has any interest in doing that or want to talk about it please contact us because I think it's an important issue. There is plenty more. We have got some responses from the survey that Victoria Anders had sent out to everybody. If you haven't filled that out please fill it out. Send us any messages and any thoughts that you have about future directions for this group, future topics that you'd like to see covered by this group. We talked about the repository. If you have any suggestions about the repository please let us know. Otherwise, I want to thank the presenters. I want to thank the Advancing Nutrition team and Mija for the support of today's meeting. It was a great meeting and we've got lots still to do. So, thanks everybody and have a great weekend.

Ververs

Thanks Dan!

Daniel

Thank you so much!

Shelly

Thanks everyone great presentations!

Erin

Thank you!



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Implemented by:
JSI Research & Training Institute, Inc.
2733 Crystal Drive
4th Floor
Arlington, VA 22202

Phone: 703-528-7474
Email: info@advancingnutrition.org
Web: advancingnutrition.org

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