Dr. Vijay Ramchandani
Behind the Mask
November 27, 2020

Barr: Good morning. Today is November 27, 2020 and I [Gabrielle Barr] have the pleasure of speaking with Dr. Vijay Ramchandani. Dr. Ramchandani is a senior investigator with the Human Psychopharmacology Laboratory at the National Institute on Alcohol Abuse and Alcoholism. Thank you very much for being with us the day after Thanksgiving to talk to us about some of your COVID-19 research.

Ramchandani: Thank you.

Barr: Dr Ramchandani, before we delve into your particular study, which is looking at COVID-19's impact on alcohol consumption and all of its related outcomes, can you describe the environmental factors during this pandemic that are causing people to turn to alcohol as a means of dealing with their stress, anxiety, and grief?

Ramchandani: Thank you, Gabrielle, and thank you for giving me this opportunity to talk about our study and our work.

You know the COVID-19 pandemic has just been an unprecedented threat at all levels: to individuals, to communities, to health systems, and just around the world across a range of dimensions, health, relationships, social structures, financial, environmental—it's just like a 360 [degree] impact. One of the things that happens when we are exposed to these levels of stress and these sorts of multimodal types of stresses, there is a need or a desire to try to reduce that anxiety and that effect. A lot of people do turn to alcohol. Alcohol is pharmacologically an anxiolytic. It does reduce tension and anxiety and so people have been turning to alcohol. Because this pandemic has been sustained, although with some waves and surges, I unfortunately think the effect of that on drinking also seems to be sustained.

Barr: How does a pandemic, or this particular pandemic, relate to other kind of stressful events like drinking after natural disasters or the economic downturn in 2008?

Ramchandani: Yes, that's a good point. I think over the years, studies have shown that after any major event, whether it is 9/11 or Katrina, the big hurricane (but of course any other hurricane or major natural disaster and certainly after the recession), there were reports, both in the media as well as in the scientific literature of an uptick in stress and anxiety. People were seeking help for a range of mental health conditions as well as an increase in alcohol and

substance use – so in that way, it's consistent. I think the time course of this still remains to be seen because the impact of this pandemic is still unfolding. You know even after we get some control over the virus with vaccinations and other practices, I think some of the economic and life-altering events and the impact of those are going to last a while. It will be important and interesting to see how the time course of the increased use of alcohol and substances might follow that.

Barr: Have you looked at this? You know every pandemic is different and every time is different, but have you looked to the past at other pandemics and looked at alcohol usage during those pandemics. Has that informed you at all with your study or what to look for?

Ramchandani: Yes, actually that was one of the first things we did when this pandemic was first declared. You know we were all put into these mandatory restrictions and maximal work from home situation. One of our first thoughts was how this might be affecting alcohol use. We started kind of initially thinking about our patient population. I'll describe more about our study sample, but as we were looking, we were trying to assess what are the dimensions, because it seems so broad and big across so many different levels that we wanted to make sure we are capturing the appropriate data. We did go back to the literature, and there were publications following the H1N1 pandemic, which did not affect the U.S. much, but certainly Central America, South America, and the Eastern part of this world. Those studies also showed very similar effects. The studies seem to show that those effects lasted a long time as well, so we used a lot of that information to gauge what are the measures and assessments that we should be considering. We took that into account into our study.

Barr: Very interesting. Has alcohol consumption risen at any particular point of this pandemic or have there been peaks and valleys?

Ramchandani: I think a bit of both. I think the early media reports seem to suggest there was an uptick in alcohol sales, and it wasn't clear whether that was just people sort of stocking up or stockpiling because just like people who were stockpiling toilet paper and sanitizer and just preparing for the uncertainty of things. But now there have been some peer-reviewed publications suggesting that at least in the initial months of the pandemic there was an uptick in and alcohol use. Some studies have reported as much as a 30% increase in either. If you think about actual drinking per day or whether you think about exceeding what would be considered modern low-risk drinking thresholds, the longer-term effects still remain to be seen. I think several groups are conducting longitudinal studies following up. Our study is also designed as a longitudinal study because I think the time course is going to be critical to continue to track. If you look longitudinally across the many cross-sectional studies the effect has been more or less sustained in terms of increased alcohol use.

Barr: Have certain populations been affected more than others in terms of alcohol abuse? At this time what do the demographics look like?

Ramchandani: Again, I think though there's been an overall uptick across all social demographic groups, if you will, but there was a recent publication that surveyed people in April-May and it seemed to suggest that Black African American and Hispanic groups seem to be disproportionately affected. The more vulnerable women seem to show a greater increase in alcohol use compared to men and so again looking at changes we seem to see an uptick on that. Another potential area of concern are people who are already vulnerable because they are already battling alcohol problems or substance use or mental illness and in those that the stress and the uncertainty of the pandemic could seriously escalate. There are some general reports about mental health escalating mental health conditions, escalating, and somewhere embedded in there is the alcohol data. But people are still trying to parse the variability in terms of what groups might be more vulnerable than others.

Barr: What role has being at home increased alcohol usage, things like now you don't have to drive to get to work, social drinking like Zoom happy hours were very much the rage in the spring—what role have those sorts of things played in increased alcohol consumption?

Ramchandani: Yes, I would definitely think that all of those have contributed somewhat. Social isolation, the lack of social connectedness, the need to find platforms, virtual platforms, the desire to socialize and replacing what people would do when they met up which would be in happy hours. Things like that have been sort of replaced by these virtual situations. Then of course you're doing it from home where there's very little boundary between work and non-work or play if you will. And not needing to drive, not needing to have those restrictions, seems to be escalating. I think there's still work being done to try to parse that out. There is some suggestion in the literature or at least in the media that women who are taking care of kids in particular. This so-called mom culture trying to balance all of that, has resulted in them feeling increased levels of stress leading them to drinking. I think some of these effects are out there. They are being reported in the media and I think some of the scientific studies will probably reflect that.

Barr: Do you think, and this is just a question that I have from listening to your last response, the way the community will respond, like the scientific community will respond, will be different because it seems like everybody is increasing their alcohol consumption?

Ramchandani: Yes.

Barr: Have you all thought differently about how to handle the problem?

Ramchandani: Yes, I think raising the awareness has been key. Having people recognize that this may be happening and if it is happening, then how to look for signs that you know the drinking may be getting out of control or escalating or becoming in some way maladaptive. There are several editorials and commentaries that sort of span the range of what people are thinking. Some think that this is going to be a blip, just like that, the pandemic is going to be a blip in the long term.

We hope that in this country and globally that, you know, things will get better. Any upticks or changes like that in drinking or other behaviors will ultimately come back down and flatten out. I think that would probably happen for the large proportion of people, but I think for those who are vulnerable, this might be a trigger that pushes them into a pattern of drinking or problems that will require intervention. I don't think those will resolve spontaneously for some people. Those are the ones we would be most concerned about and is one of the reasons we also did our study because we wanted to identify those individuals who might be particularly at risk.

Barr: Well now we're going to talk more about your particular study, and you said that you had some slides to share.

Ramchandani: Yes, I have a short flash talk at the recent NIH FDA COVID-19 workshop and I thought I could just very quickly run through those with you just to give you a very quick snapshot if you will of our study and what it entails. Okay, so I just put this in slideshow mode. Hopefully, you can see it. Our study's titled "The Impact of the COVID-19 Pandemic on Alcohol Use and Related Outcomes" and together with my co-principal investigator, Nancy Diazgranados, who is also the Deputy Clinical Director for our Institute, we launched this study back in June. We enrolled our first participant in June and as you can see on the side there's a number of people involved in this study.

This is a pretty big enterprise and we really needed everyone together to kind of get this going relatively quickly. From the first draft of the protocol to IRB approval was about four to five weeks, I would say. And then two weeks after that we were able to start the study, which is pretty remarkable given the fact that we were all working from home, and we had all of these other restrictions going on, but I think that everyone's real effort and dedication and great support from our IT team as well, who helped put together the survey platform for our study and our collaborators as well. We did receive funding from the ITAC program, the Intramural Targeting Anti-COVID-19 Program through NIAID. I'm not sure I said the acronym correctly but it's the intramural program that supported some of the study.

Our main goal was to examine the effect of the COVID-19 pandemic on alcohol use and related outcomes. We were interested in studying individuals across the alcohol use and disorder spectrum; so more specifically to evaluate the time course of the changes in alcohol use and consequences during the pandemic relative to the pre-pandemic levels, again across the spectrum of consumption, and looking at long-term, and I'm sorry, short-term and long-term

effects of negative life events, social isolation and stress again, during and following the pandemic and we were interested in factors such as: anxiety, depression, craving, binge drinking, sensitivity to alcohol, and impaired control on these relationships.

Our study is a longitudinal, natural history survey study. It's a combination of telephone and online surveys. We are enrolling essentially participants who have previously been either screened or undergone treatment under our natural history protocol. We have a natural history protocol where all participants who are engaged in clinical research at NIAAA will participate in and undergo screening. We have two groups; we call them the non-treatment seeking group. These are individuals who range in drinking from complete abstainers to people who are drinking pretty heavily, but not in treatment for alcohol. Then we have a treatment seeking group who actually undergo inpatient treatment in the Clinical Center as part of our inpatient program. So broadly with those two groups together our target sample has been about 700 participants.

Barr: How do the questions differ between the telephone and the online surveys?

Ramchandani: The telephone is actually the initial intake for the study because that was our most reliable way of reaching our participants. We enroll them via telephone from the prior contact list of everyone whose been in our protocol and then via telephone we obtain consent. We do the initial part of the survey, which is collecting essentially some baseline information. Once they're enrolled, then they (95%) of them switch over to an online platform which is done under Qualtrics, a web-based survey platform. They complete the survey and it's a serial survey. After they complete additional baseline questions, they're surveyed initially weekly for the first month, then every other week for the next two months and then monthly for the first year. We had initially put in that we would survey them at 18 and 24 months which would be in year two, but we may increase the frequency of that based on how this pandemic pans out.

Barr: Does a question change over time? Are there different questions in year two than there would be in year one?

Ramchandani: No, our questionnaire is more or less the same. We do some assessments at different frequencies because some of the measurements are pretty frequent. We don't expect to see big changes in, for example, sleep patterns and things like that. Some of our measures are done less frequently than others, but the questionnaires and assessments themselves don't change. We do have a scale that measures specifically the COVID-19 impact, and we may consider modifying that or adding questions as we see something new, like once there's a vaccine in place we may want to ask some questions about vaccination and other things because some of the trajectories of outcomes may vary based on that.

Barr: For the five percent that you said don't switch over to doing online and continue to do only a phone survey, is that because of access to reliable internet or is it because of comfort or some other reason?

Ramchandani: In most cases I would say of those five percent, I think the vast majority is mainly because they don't have reliable internet or data plans, so they are uncomfortable committing to that. I think some of them do like the human connection. My interviewers, who are assessing these participants tell me, how they seem a lot more engaged and seem more committed. They admit that they look forward to the next survey because for some it might be an opportunity to connect with someone who is interested in them. For lack of a better way of saying it, some of it is that, but I would say that the vast majority is people who are uncertain about their ability to get access to online services.

Barr: Do you worry about what people—I mean obviously with any kind of survey there's a degree of relying on people being truthful or open or feeling secure—but do you worry about that people not assessing themselves accurately online?

Ramchandani: Yeah. I would worry about that and actually that's a concern with all survey studies. I think for us because these are not a random kind of community samples, these are participants who've been through our studies and have participated before, so there is some connection already with them. And they appreciate the value of the research. The other thing we do is we do compensate them for their participation, so we feel, I mean, it's not a huge amount. It's five dollars or ten dollars per survey, but I think it creates sort of a relationship and a degree of trust. We explain to them none of the information is actionable. There's nothing we're going to [do], everything is confidential like with other all research, and privacy is being maintained even though it's an online platform.

We are being really good about maintaining privacy and confidentiality, and the Qualtrics platform is really particularly good for that; however, to your point we are tracking how quickly people finish surveys, and we have sort of an average range in which people should be finishing the survey, if they finish way too quickly or take way too long or leave too many questions incomplete, then we would probably have to figure out ways to address that as maybe as missing data or something like that when we analyze it.

Barr: Have you seen a difference in the kind of information that you get from people via the phone or on the survey? Do you feel like people divulge more on the phone or the survey? I don't know how are you working with that?

Ramchandani: Our questionnaires are all pretty standardized, and they all have pretty much multiple-choice answers. There's not a lot of variability in how people respond, either they're

doing it online or they're doing it on phone. They'll be giving essentially the same responses, I think. Again, the interviewers tell me that the phone surveys take longer. Maybe it's because it takes more time to read the question and go through every option and sometimes, they want to clarify. So again, because there's so few people going through the phone version of the survey, I'm not sure we're going to be able to systematically assess that. But we'll keep that in mind as we go through the data analysis and if we see a particular pattern of differences, then we'll have to probably address that statistically in our analysis.

Okay. So, I have one other slide where I'm just going to show you the list of all the measures. It's a pretty comprehensive survey we're assessing. Alcohol consumption and effects are using a number of standardized scales that span the range of identifying drinking patterns and problems. We also measure craving, drinking motives. We have a scale that measures loss of control, so these are people who are trying to control their drinking or maybe not controlling their drinking and to what degree do they lose control over their drinking. We have two scales that measure the effects or sensitivity of alcohol.

We're also collecting information on other substances and smoking, because as we know, there's a lot of comorbidity or overlap in use. We have a number of stress measures again with the idea that stress is going to be one of the major drivers for some of these effects, life events questionnaire, a perceived stress scale, a symptom screener for mood and anxiety symptoms positive and negative affect. And then, you know, resilience may actually be a protective factor. We are using a standardized scale to measure resilience as well as two measures of social networking and isolation. Then we have a couple of other measures such as a COVID-19 impact scale that we developed based on the CDC and WHO questionnaires that again assesses mostly behavioral impact, high-risk situations, and other life changes. It's a pretty broad scale. And then we're also interested in other outcomes such as sleep and quality of life.

Barr: So, you either develop your questionnaires or choose other metrics to include in your study? That must have been very difficult because there's probably a lot of metrics out there that you could use.

Ramchandani: Yes. Actually, a large number of these measures are actually part of our screening and assessment protocol, and we selected them because we knew them well, and we are familiar with them, but importantly all of these participants have been in our studies in the past five years. We have data on them now; some of them may be four or five years ago when we assessed them last. But we have some measure in terms of their lifetime of all of these measures. We also have a range of other measures, trait measures and other behaviors, patterns of consumption and use, and historical data on them that will also again give us the leverage to be able to see some of the COVID-19 impact on these measures; the ones that we spent some time looking at what the social isolation and network measures because those were not something that we are typically assessing in our sample. All of the alcohol measures, all of the stress measures are actually part of our ongoing research, and they were relatively easy to

put together. The COVID-19 impact scale was one that we, because at the time we started our study, there was no standardized assessment of COVID-19 impact. We combined things from the CDC, the WHO, and NIMH, which is the National Institute of Mental Health, also has a survey called the crisis survey and we used it. We looked at that as well to see if there were elements of that could be useful. Together this becomes a 60-to-90-minute assessment essentially if you do all of these assessments, which participants will do at some frequency. Then at other time points they'll do a subset of these.

Barr: The number of questions vary based on each time? There are about the same number of questions that a participant would answer every single time they're doing a part of the study?

Ramchandani: We have basically two versions. We have the so-called long survey, which is essentially everything that you're looking at now on the screen. Okay and that's the full survey that can take 60 to 90 minutes. Then we do a short survey where we have a couple of measures in each of these domains that we've combined together and that's a shorter 15 to 20 minutes survey and those will be done at the weekly measures while the full the larger survey is done at the monthly or bi-monthly frequency.

Barr: Okay, that's very interesting. Do you worry that in two years, your study you're envisioning right now will take about two years, do you worry that it may not be long enough to assess the traumatic outcome of this pandemic, especially that we're dealing with so much homelessness and job loss and things like that?

Barr: Yes, I think some of the longer-term impacts will take longer than two years for us to get a full map of the entire trajectory and so we had built in some language in the protocol so that we may continue the study in the longer term. We would like to. For now, we are kind of focused on the first year and by the spring we would be at the one-year time point for our initial cohort in June. Sometime by the end of March we will probably amend the protocol, maybe even before that, to add some additional assessments that may help us capture some of the more longer-term effects. We could see them also but importantly we may continue this for a longer period of time. That's sort of where we're closely watching how things are changing and preparing for that, but we're not quite ready to make a call.

Barr: Yes, definitely. Can you envision today subsequent research projects that you would be engaged in based on what you've been doing right now with this study?

Ramchandani: Yes. We've already been thinking about it. Once we have the ability to bring patients or participants to the Clinical Center and we already do, I mean the Clinical Center is allowing us to bring patients back, and our treatment program is already enrolling participants for patients who are looking for treatment for their alcohol into our treatment program. One of

the hopes we have is to bring back people to the lab once we are able to and do some longer-term follow-ups including measuring antibody exposure—COVID-19 exposure via antibodies—and some of the newer technologies that might tell us more biological signatures, if you will, of exposure and consequences. One of the questions that I have, I'm a pharmacologist by training, and so one of my questions has always been is how does something, a stressor like the pandemic, which has both biological and psychological effects, how does that change the way people respond to alcohol?

So, one of my hopes in the future is to bring in again a subset of individuals who continue to escalate their drinking versus groups of individuals who were able to bring their drinking back down to pre-pandemic levels and study them in the lab to see what might be some markers of those differences, what might be predictors of those differences. Because we will have their longitudinal data throughout the pandemic and if we bring them to the lab and did some more contemporaneous measures of alcohol sensitivity or response or brain or behavioral function as well as biological function, we might learn some of those things as well. So again, a lot of these things we haven't moved them forward into any plans yet given so much uncertainty still going on.

Barr: You talked a little bit about some of the metrics that you use, and you use Qualtrics as your program. Can you talk about any other kind of technology, any other kind of programs modeling programs that you use for your research?

Ramchandani: Yes, we are actually just starting to put our data analysis plan, the nuts and bolts of it [together] and so we're using a combination of statistical software that includes SAS Plus that allows us to do modeling. One of my staff scientists, Bethany Stangl, is exploring the methods that are typically used for analyzing this type of longitudinal data, but also modeling the time course. I suspect it's going to be a combination of things. We might have to seek some collaborations with some experts who might help us to at least make sure we're doing it right in terms of technology. Again, the Qualtrics platform has been key at our end. Eventually if we are able to start bringing people back to the lab, we might try to use some field assessments using sensors. There are these alcohol sensors now that are wearable that people can use so we can track drinking patterns, smartphone technology and apps that allow us to track what is, what is called ecological momentary assessment or EMA, which is sort of in the moment assessment of, actually all of these assessments that we do in our study can be done using those EMA platforms. We may think to explore some of those in the future.

Barr: Okay, are they very costly? What are some of the downsides about them that you haven't used them so much now?

Ramchandani: Cost is a factor although you know most people these days carry a smartphone. We may be a bit limited in that or we have to make smartphones available for people who

don't have one or can't afford one, but the development of the apps themselves are not super expensive. The sensors are expensive. The wrist sensors can cost, they are sort of right now in a leasing model, up to a hundred dollars a month, $200 a month so that may end up being a bit more limiting, in which case we would probably select individuals to put through those sub-studies where we are specifically interested in particular patterns of drinking or behavior and we want to get a deeper look at those individuals.

Barr: That's really interesting. To date have you encountered any challenges in putting your study together, and has anything surprised you so far?

Ramchandani: I think for us it has been actually an incredible effort at every end. I've been actually very happy and very impressed and very proud of our team for all of the work and effort that they've put in to making this project, not just happen, but to keep it sustained. We are aiming for 700 participants so we're continuing to enroll every week. We enroll anywhere from 10 to 20 participants depending on how efficient we are at getting a hold of them. Because the initial intake is done by phone that can be a little bit limiting. Once they're in the study, we are able to maintain a close to 90% retention rates so far. Our initial cohorts who were enrolled in June, up to 90% of them are still in the study.

Barr: Do you all send reminders to them to go out there?

Ramchandani: We have a team of research assistants who've been doing an incredible job. For some we have to do telephone follow-up, for some we have to send reminder emails. The combination of those things has maintained the retention.

One of the things that surprised me was that because it's a Qualtrics survey and it looks like spam, we had a big proportion initially and a proportion of individuals whose surveys were not getting to their emails, and we didn't appreciate that we need to tell them to save our email address as a safe sender so they could see those emails. All of a sudden, we saw that for a week or two we were getting almost no responses. We realized that some filter on some email systems had changed and they were not getting the surveys. There was a bit of troubleshooting at the beginning.

One of the other factors was processing payments for participants. Because of the amount of work we're not able to pay them after every survey so we kind of combined the amount and then paid them at some frequency, just developing some other systems in real time because we also wanted to get the study going. In June we wanted to start enrollment so some of that troubleshooting in real time, it was a little challenging at first. But I would say that it's been overall a great effort. I'm really happy with everyone's work and effort and how well it's going so far.

Barr: That's really great. Can you talk a little bit about your role in this study and then what it has been like to lead a team during the pandemic? It's a very different time.

Ramchandani: Yes definitely. I'm one of the principal investigators so again together with Dr. Diazgranados, we are sort of co-leading the project. I'm trained as a pharmacologist, and I study the neuroscience of addiction from the clinical end. I've been mostly focused on the assessments and the management of the project and organizing it. Dr. Diazgranados is a psychiatrist by training but also trained in pharmacology. She's been mostly more focused at the clinical end of things in terms of making sure we are assessing the correct set of questions and making sure that we have the checks in place so that if we are on the phone with someone, for example, and they express a concern about their drinking or distress about their mood or things like that we have all the safety in place. Then her staff and my staff have been working together. This has really been a wonderful collaboration. We have a weekly huddle every Monday morning at 9 a.m. In fact, last week I was just telling them that I was going to talk to you about this, and they all seemed really excited and honored that NIH is interested in our little project, if you will. And I should get a picture at our next huddle and send it to you.

Barr: Oh yes. Please do!

Ramchandani: Yes, 14 people all come together on a team's call, and we quickly do updates; these are the number of people enrolled, this is the people that happened. Then the interviewers give their updates. The telephone crew gives their updates. The Qualtrics people give their updates. It works pretty well. It's truly a quick huddle, 20 minutes, and then we meet again throughout the week as needed in smaller groups to troubleshoot issues, to address things, anticipate things that are upcoming with the holidays now in terms of making sure that payments will get processed and if someone's on leave who will follow-up. There's a lot of process that goes into it, and it's been a lot of fun leading the group and I've been very happy by how well it's going.

Barr: That's wonderful. We are talking, and you're at home. It seems like you've been mostly at home during the pandemic. Have you been to campus or a combination of being at home and on campus, and what has it been like?

Ramchandani: I've been more or less at home. I've actually been to campus, I think, a total of maybe four times since the pandemic started and mostly those were very specific reasons. I had to get a new computer, and I had to pick up some stuff. I went in to get my flu shot and a couple of times for code testing, only for specific requirements. All of this study is entirely being

done virtually. Because we have our treatment program and there are some research protocols and assessments attached to it, we do have some members of our team going in. So, we've been doing virtual meetings and virtual training with the staff that's on site and me or someone else from my team monitoring them via Teams, or we have WebEx or on a call, coaching them through things. Again, we can maintain the physical distances and still maintain the monitoring. Many of our staff…

Barr: Has that gone seamlessly being able to coach them from afar?

Ramchandani: For the most part. There are some technological issues. We realize, for example, that Teams on an iPad doesn't work as well as Teams on a phone because the Teams on the iPad is a shared account, and Teams wants to know who you are when you log in. Also, some access issues but nothing too insurmountable. The Clinical Center, the NIH Clinical Center, has done a nice job of setting up telehealth visits so even our patient interviews and some of our assessments that our clinical staff does can be done remotely via Teams, telehealth calls and appointments. I will say I think everyone at NIH has really risen to the occasion. For you to say it in that way. You know there were some hiccups along the way of course. But I would say more successful than not in most things.

Barr: That's really good. You said you're collaborating with others at NIH like the Clinical Center, but are you collaborating at all with any outside of NIH or looking to any people from outside of NIH for inspiration?

Ramchandani: We have been talking with other groups who are also studying the COVID-19 impact in different ways. We did reach out to colleagues at NIMH who are also doing survey studies. Our other collaborators are mostly intramural within the Clinical Center and the nursing institute recently. There was a call for symposium presentations for conferences in the summer, some to do with alcohol. I've been reaching out to some others in the field who are doing similar work and sort of learning from what they're doing. We've shared our surveys and questionnaires with some others who have looked into using them for their studies, but it's very loose at this time, no formal collaborations.

Barr: Okay, well this is more personal, but what has been some personal highlights and lowlights for you during the pandemic?

Ramchandani: Overall, it has been a good experience. I think finding the balance between work and non-work life and some setting some clear boundaries was a little challenging at first. Previously there was this sort of requirement to come home at some point during the day.

There was a commute, and that was sort of a forced break from work and then come home. Even though I would invariably be back on my laptop every evening doing something work-related, there was a hard break. I found that challenging at first when I was working from home because I was at home, so I was working there.

Barr: Right.

Ramchandani: I would step away from my computer for maybe 20 minutes and then I would be back, in sort of a blur. I had forced myself to do that, to take that break, to separate the space where I do work related things from the rest of my home and making sure I got outdoors. So, setting those practices and patterns was a little challenging at first. That uncertainty initially was pretty stressful. And then we kind of got into more of okay, we're flattening the curve in June. Things are starting to look a little better. The weather was nicer so there were more opportunities to think a little bit more optimistically. I will say this, the holidays recently have been a little bit more challenging again because numbers are starting to go up on the outside and seeing the weather getting colder and the numbers going higher has been a bit depressing. But then again, there's been good news about vaccines, so it sort of phases a little bit. We try to kind of push through it, and trying to maintain some sense of equanimity or evenness through it has been sort of where I've been spending a lot of my energy and focus and that has been helping and working with our staff and trainees. They've all been really great about staying, working together, and engaging with each other on these virtual platforms. Finding time to talk about things has been useful and helpful as well.

Barr: That's great. Have you developed any hobbies or things like that during the pandemic?

Ramchandani: I'm definitely reading and listening to music more. I love to cook, and I see I do get more opportunities to cook. I haven't really been experimenting too much, but just getting more opportunities to do some of those things has been nice.

Barr: That's really nice. This is a fun question. What are you most looking forward to doing when the pandemic is over?

Ramchandani: Traveling.

Barr: Anywhere in particular?

Ramchandani: I would probably start planning a trip to India, where I have a lot of family, and then a trip to the beach because both my wife and I love the beach and the ocean. We would want to do that. Those are close enough. And I know with some safe practices we could probably have done it even a month or two ago when things were not looking so terrible, but just out of caution we didn't do that. We are looking forward to doing that in a more unrestricted way in the spring if everything goes well.

Barr: Yes, God willing. Is there anything else you would like to share as either an NIH scientist or as a person who's undergoing the pandemic like everyone else in 2020?

Ramchandani: I think no. I think it's been a very difficult situation, and it still doesn't look like where we can start to see glimmers of light at the end of the tunnel. But it seems—still seems—far away. I think the key is to stay patient and stay even throughout it. The scientific community, I think, and NIH in particular, that's what I know, because that's where I work, has really risen to it. I think everyone has been working really well together, and I'm very thankful for all of the support and the collegiality. It has been quite the challenge, but I'm trying to look on the bright side. I tend to be more optimistic. Some days it's a little harder but, yes, overall I still continue to have some degree of optimism about it.

Barr: That's wonderful. Thank you very much for your time, and I wish you the best on your research. I hope that you and your team stay safe.

Ramchandani: Thank you Gabrielle. I really appreciate the opportunity to share our project and our work with you and the NIH community.