MIGRAINE WORLD SUMMIT

INTERVIEWS WITH WORLD-LEADING EXPERTS

TRANSCRIPT

MANAGING MIGRAINE IN THE EAST

K. RAVISHANKAR, MD
SPECIALIST IN HEADACHE MEDICINE
THE HEADACHE AND MIGRAINE CLINIC, JASLOK AND LILAVATI HOSPITALS
MUMBAI, INDIA

Introduction (00:05): The headache scenario is definitely changing for the better. And I'm sure that a lot of young neurologists, once they get interested in headache, then we will see the direction changing, and it'll be satisfying. I give it another 10, 15 years from now. I think we should be somewhere there. A little more publication, a little more research from this region will make ... we will be making our presence felt on the global scene. But that is what is required.

Carl Cincinnato (00:39): When we're just barely keeping our head above water, it's easy to focus on our own immediate and urgent situation. But every now and then it can be helpful to take a step back and take in a broader perspective. Our expert in this session has been trained in both the U.S.A. and England, but runs a headache clinic in Mumbai, India. India is home to 1.4 billion people and represents almost 18% of the world's population. It presents a whole new array of challenges and barriers for people with migraine. To discuss migraine management in the East is Dr. Ravishankar. Dr. Ravishankar, welcome to the Migraine World Summit.

Dr. Ravishankar (01:15): Thank you, Carl. Thank you so much for having me on this show. It's a pleasure to be with you.

Carl Cincinnato (01:22): You've trained in headache medicine in two continents, but your headache practice is in Mumbai, a very different environment from where you trained. There's 20 million people alone, just there. How many headache specialists would you say there are in Mumbai to serve the population who have headache and/or migraine disorders?

Dr. Ravishankar (01:37): For a population of 20 million, as you rightly said — and we have about a little more than 100 neurologists. But neurologists with a focus on headache would be just one, but those with an interest in headache may be between five and 10. So it's still not a big number.

Carl Cincinnato (01:58): How is treatment in the East different from that in the West?

Dr. Ravishankar (02:01): The availability of treatment options at your hand, given the fact that a lot of the newer treatments that are available in the West for chronic migraine, for refractory migraine, and for cluster headache are not all available to us in Mumbai. And we still do not have many of the parenteral options to treat an acute status migrainosus. If you need to use neuromodulation for migraine, we still don't have the devices beyond just Cefaly, which is available now. And we don't have too many experts. We do have, in our hospital, somebody who can surgically deal with refractory headache situations. But I think the main dilemma is the fact that patients have to pay from their pocket; insurance and the healthcare system does not support headache medicine. Medicines are costly. All the medicines are not available to us, and you have to — in this background — you have to make sure that the patient follows up with you and you are able to establish the continuity of care: Which is most important for primary headaches.

Carl Cincinnato (03:19): Sounds like there's a lot of differences to the West, and we'll touch on some of those challenges that you've called out just then. What is the prevalence of migraine in India? Is it similar to that, that you find in Europe and North America?

Dr. Ravishankar (03:33): We don't have the perfect epidemiological population-based survey as yet from India because India is a very diverse country. We do have a study from Bangalore which has looked at the population-based prevalence of migraine, and it's pretty much similar to what

figures have come from well-established surveys in the West. So, we are looking at about 20 to 25% prevalence of migraine in the general population. But we have a couple of clinic-based studies which have looked at the type of patients we see in the clinic, the differences between what we see in the clinic here in India, and those we see in the West.

Dr. Ravishankar (04:17): So, there are certain differences which we can talk about, but definitely the popular prevalence is more or less the same except for certain types of headaches. For example, the trigeminal autonomic cephalalgias, we see much less of them in our part of the world. We do not see much of chronic cluster headache, and we see less of migraine with aura. So, there are some intricate variations in the subtypes of migraine that we see. But by and large, the prevalence I would say is more or less similar to what you see in the West.

Carl Cincinnato (04:57): What about for chronic migraine?

Dr. Ravishankar (05:00): Chronic migraine: The clinic-based figures would also be similar to about 3 to 4% of patients who come with chronic migraine. And because of — as I mentioned to you — nonavailability of the best treatment options, our percentages of chronic refractory migraine may be higher than what you see in the West.

Carl Cincinnato (05:22): And because of the lack of specific migraine treatments, do you see any differences in medication overuse, or rebound headaches, that might be arising?

Dr. Ravishankar (05:30): Yes, in fact that might be advantageous for us, because the incidence of — we've got two good studies on medication overuse headache, both clinic-based, and we found that the incidence of medication overuse headache (or MOH as I will call it), is much less than what you see in the West. The culprits in our region mainly are ergotamines. And triptan drugs are too costly for many of our patients so you don't see much of triptan overuse. And luckily for us, we do not have too many combination analgesics and even the short-acting barbiturates as in the United States. So therefore, even over-the-counter prescriptions, or self-medication over the counter, does not get into the areas which would lead to a high incidence of medication overuse headache.

Carl Cincinnato (06:32): You've published findings about unusual Indian migraine trigger factors. Can you share some of these?

Dr. Ravishankar (06:39): We did a study and we found that almost 25% of the triggers were different from what were being described in the West. Now, what do these different triggers include? You start with the habit of skipping breakfast. Now breakfast in the West is a regular, taken-for-granted meal, but in the East you would find a lot of Indian homes do not have breakfast as a regular habit of all the people in the family. So, when you skip breakfast, you tend to trigger off more headaches. Then you have fasting for religious reasons — be it the Ramadan fasting of the Muslims, or the habit of fasting for religious reasons amongst the Hindus. So, you have a lot of ladies in whom migraine is definitely higher percentage — prevalence percentage — you will find them fasting on as many as two days of the week, three days of the week. And that definitely sets off the — makes the ground ready for a headache.

Dr. Ravishankar (07:44): And then the type of foodstuffs that we have in India: So, there are a lot of fermented food items, spicy food items. And then when you come to the population, a lot of people live in urban areas; there's a huge amount of overcrowding, given the total population load. And then you have pollution. And for almost eight months of the year — if you see most

parts of India have high temperatures which could range between 30 to 40 degrees centigrade [that's 86 to 104 degrees Fahrenheit]. And you find that along with the high heat levels, you also have high light levels. And when there is overcrowding, when there are too many festivals, there are huge processions with drumbeats. So, when you have these types of festivals happening practically once in two months, then you find the noise levels are something which migraineurs cannot tolerate.

Dr. Ravishankar (08:38): And when you travel within India, by and large, things are changing now. We are having a lot of travel in air-conditioned trains and buses, but by and large, a large number of the population may not be able to afford air-conditioned travel conditions. And so, the overcrowding in trains, the overcrowding in buses, particularly in the interior parts of India — what we call as the rural areas, where 75% of our population live — it's only 25% who live in the urban towns but 75% of population are in the rural areas. You find that travel conditions, particularly in the hot, humid summers — humidity is a big factor, which is now being well described as an important trigger factor for headaches. So, heat and humidity levels, high light levels, all these can contribute to more triggering of migraines. And then of course, I'm sure you're going to ask me about something that we have written about in *Cephalalgia*: the hair-wash headache. So, I will talk about that separately. That's another interesting, peculiar Indian triggering factor.

Carl Cincinnato (09:50): I do want to ask you about this hair-wash-related trigger. Can you explain that a little bit further?

Dr. Ravishankar (09:54): In the first few years when I started practice in Mumbai, I started noticing that a number of ladies with migraine headache — migraine which fulfilled the criteria of the International Headache Classification — they came and reported [migraine] only on the days that they washed their hair. So, when I started seeing many of these patients having similar complaints, then I thought that it might be worthwhile doing a study of these patients to find out why these headaches are triggered off by hair-wash. But then when I read up on the literature, there is a bath-related headache, which has been described from Japan and Taiwan and Korea and other parts, but those were bath-related thunderclap acute headaches. What I was seeing was their routine: the same type of migraine headache. And some of these patients had only hair-wash as a trigger. Some of these patients also had their migraine triggered off by other factors, like going out in the sun, or not eating on time, or eating the wrong kind of food. So, then I said there's another group which has triggering of hair-wash being one of the triggers.

Dr. Ravishankar (11:16): And we decided to analyze these patients, and we found that we had a collection of 93 patients who reported with this type of — what I have termed as "hair-wash headache" — and over a group of 6,000 patients who were seen [as] outpatients, and we wrote them up in *Cephalalgia*. And at the end of it we put them through a questionnaire to study: What was the temperature of the water? What was the frequency of their bath? And interestingly, the ladies would postpone having a hair-wash for the simple reason that they didn't want to go through the agony of an unbearable headache. And then we found that we could treat them with the same acute drugs. And when we started them on prophylaxis, we were able to reduce the incidence of these headaches — meaning thereby, that we were able to de-link the triggering factor for this type of headache.

Dr. Ravishankar (12:21): And the bottom line is that we still don't have a clear idea of what could be the reason why this happens in the East. We've not had these reports from the West, although after my article I've had stray emails coming in from people from Spain; a lady from

Houston who also said that, "My history matches up with what you have described from India." So, we've had stray reports, but we don't have a consolidated study to describe. The closest is Turkey where they've talked about this type of routine migraine-type of headache linked to hair-wash. And we still don't know whether it's a genetic difference, some ethnic difference, some thermosensitive receptors. But then again, if you want to draw an analogy, you have to remember that hot-water epilepsy has also been described from India. So, it has been described and well-studied in Bangalore, there's been a lot of animal models created for hot-water epilepsy.

Dr. Ravishankar (13:26): And if we go back into the overlap between migraine and epilepsy, we don't know which way to carry forward this type of research to understand why these differences do exist between ... and it's the wet hair, which definitely provokes, because the habit of using hair dryers is not very common in India. So now it is amongst the modern women, it's becoming more common to use a hair dryer. But otherwise, ladies in the interior parts of India, the rural parts, do allow their hair to be wet for much longer periods. Whether that makes the hair strands much heavier and puts a stretch on some sort of thermosensitive receptors — we don't have an understanding, as yet, of why this happens, but this is a clear observation which we have made, and it has been reported with video recordings.

Carl Cincinnato (14:22): I'm glad that you've done the research here. I think it's a fascinating topic. And it is something that I've heard quite a bit of, actually, from our community, which is mostly in the West … in the Western side. But it seems to be — or at least what a lot of people hypothesize is — it's due to the weight. But it could potentially be — you know, I wouldn't rule out — like if you've got a strong scent in a shampoo or a conditioner. I think the temperature that you mentioned was a really interesting one, as well. Speaking about Asia in general, is India much different to the rest of Asia regarding the prevalence and patterns of migraine and headache?

Dr. Ravishankar (15:00): There are countries, Asia — you can divide it into two levels. One is the developed countries where you get pretty much most of the optimal treatment, and you do have more headache centers, also; there are more headache-interested individuals in these countries. And in the other countries, headache medicine is still not recognized as a subspecialty, and most of the neurologists, also, are not interested in headache. The number of neurologists is pretty good in many of these countries. It is not that they do not have neurologists, but when you compare it with other subspecialties — like epilepsy, movement disorders, stroke — you find that the interest in headache is much less; probably those disorders are more visible, and those disorders are more specifically treatable. But in headaches, also, you have areas like the trigeminal autonomic cephalalgias, which are specifically treatable and where treatment can make all the difference to the patient's future career. So therefore, my lament is for more neurologists to get interested in headache medicine and reduce the burden of headache across the Asian region.

Carl Cincinnato (16:20): Do you think that stigma is playing a role even within the medical professions when early-career doctors are deciding where to specialize?

Dr. Ravishankar (16:28): So, we have a number of Western headache specialists who visit India periodically at our invitation, accept our invitation, and they're kind enough to visit. And when they do the lectures, it raises the level of education, the level of awareness, and the attitude towards headache patients is gradually changing. So, definitely, I feel the scenario is changing. And it might take another 10 to 15 years, but you will see more headache specialists in these

parts. And probably, the treatability of primary headache disorders is still not — has not sunk in — to perfection. And that is why you don't find many young neurologists taking up headaches. Whereas the treatability of a movement disorder, or stroke where you intervene aggressively to change the scenario, that has definitely got more of an impact. So it is understandable, but we will definitely get more people interested in headache. So, it's not too far away.

Carl Cincinnato (17:33): Looking at patient-related barriers to care in India specifically, what are some that you see apart from this circular journey to these other headache specialists? I know that you've written about this topic, as well.

Dr. Ravishankar (17:49): Yeah. The barriers to care: One is patients not seeing the right specialist; patients having a tendency to self-medicate; patients not being able to afford seeing a consultant physician, or a consultant neurologist; and when they do see them, patients not willing to, or not being able to, afford continuity of care to follow [through]. And if you take medicines like triptans — and gepants, of course, are not available — then affordability again comes in as a factor where people are unable to buy these costly medicines. And the fact that the public healthcare system of the nation does not support headache medicine either in the hospitals or the insurance. They do not recognize migraine as a biological problem worth supporting. So patients have to cough up all the money from their pocket when they have other priorities, maybe other health priorities, education of their children — so many other priorities to attend to. Then paying heavily for a consultation does not come [into] the picture.

Dr. Ravishankar (19:04): And so therefore they are suboptimally treated. And the availability — and too many alternative options are more easily available. For example, there is a fear of allopathic medicines. There is a notion that allopathic medicines might have — the "English medicines" as the patients call it — have more side effects if taken for a long time, which is what prophylaxis is all about. So they opt for what they perceive as less harmful: the Ayurvedic system, which is prevalent in India; or homeopathy, which is again prevalent. And if they are in the interior villages then there are cruder methods of branding, and massage, and other ways in which people get treated. So these are the many reasons why you don't find — you find only a small percentage of the population getting what would be termed "optimal treatment" in the hands of the right specialist.

Carl Cincinnato (20:09): It sounds like an incredibly challenging environment. And you could imagine a country like India with the population it has … the health priorities — particularly around COVID, and malaria, tuberculosis, HIV — migraine is probably, you know, not saying it's not important, but in terms of these, in the context of these other conditions, it's hard from a government perspective. I can see why talking to government and lobbying for change could be very, very challenging.

Dr. Ravishankar (20:41): Yes, it is difficult because when you see a migraine patient who has just recovered even from status migrainosus, there is nothing on examination, there is nothing on imaging. So, where is the proof that he has been through that type of disability, and misery, and suffering? It's all so abstract; it's all so invisible: It's not measurable in any way. And so, therefore, the proof is not forthcoming. Therefore, it is difficult to influence, or make support agencies aware of, the disability of a disorder like migraine. So, it is only through doctors who are going to get interested in portraying the misery and disability of migraine sufferers that you will be able to impact government agencies.

Carl Cincinnato (21:33): One of the challenges that you identified was that patients may often drop out of treatment for financial reasons. And they may be reluctant to pay for repeat visits and medicines that they might think of as trivial, or which the doctor, being uneducated in that … in the subject, might say is incurable— it's a chronic disease. How do you respond to that?

Dr. Ravishankar (21:55): In our clinic, we — both for the patient education, and also on some of the teaching slides which we use — we have cartoons which we have drawn. And some of these cartoons are helpful in conveying to the patient the misery of migraine and the treatability of migraine. The second way is to have programs across the country which are conducted in medical colleges. Because all over the world — people have talked about it — there is less than one or two hours of good teaching on headache medicine in the undergraduate curriculum. And in the postgraduate curriculum you will find that there is not so much of teaching about it, even after the last 10 years when the migraine scenario has changed so considerably for the good. People are still not taking an interest in headache medicine. So therefore, that is the second way of impacting on how this scenario can be changed.

Dr. Ravishankar (22:58): The third is to have more headache centers across the country. And we are not talking of academic headache centers comparable to some of the best centers in the West— that is not required in all the places. We are talking of good service centers where the physician-in-charge is knowledgeable, and well trained with an interest in headache medicine, and has the right attitude to treat patients. So, if you have more headache centers across the country. And lastly, it is for the government and the pharma companies — the industry — to make available certain drugs, which would make an impact and change. Because given the fact that 10 to 20 to 30% of migraineurs can be chronic and refractory at times — even if you have a gepant tablet which is available at a reasonable cost, which some patients can buy — then you can definitely give hope to that patient. So, all these things.

Dr. Ravishankar (23:59): And of course, nonpharmacological therapy is practically something which is not encouraged at most of the centers in the country. And so more emphasis on nonpharmacological treatment. We have yoga centers which are doing so well, and if we promote yoga as a nonpharmacological supportive treatment — in addition to the drugs which the patient is taking — then you will find that a lot of patients can get good relief. So, emphasis on nonpharmacological treatment, good treatment options— all these would go towards changing the situation which currently prevails.

Carl Cincinnato (24:44): You mentioned a couple of treatments there. The gepants, they're not currently available in India, are they?

Dr. Ravishankar (24:50): No, we don't have the gepants in India as [of] yet. And we have, for the last one year, we [have] the CGRP antagonist, erenumab, which is available — so, that's the only one which is available now. And we are finding a lot of patients are improving with the use of erenumab; and the other monoclonal antibodies are not available as yet. And we are waiting for the day when the gepants will be available, both acutely and for preventive treatment, which would cut costs significantly and help a lot of patients.

Carl Cincinnato (25:34): Yeah, that'll be a game changer. A lot of people are looking forward to that. The U.S. has access at the moment, but the rest of the world is waiting very eagerly. How do you, as a clinician, put together a treatment plan for a patient when such medications are not available, or they may be too costly, or if there's no insurance support?

Dr. Ravishankar (25:58): The migraineur when he walks in with episodic migraine, it's not very difficult: We do have an advantage in that area, too. We could start off with propranolol. And additionally, we have flunarizine, which is not available to the Western world, and the U.S. — it's available in Europe — but it's not available. Now flunarizine, starting in small doses, is a drug which is very helpful in treating episodic-migraine patients. We do have the anticonvulsants, all of them being available. So the next line, in addition to the first-line, which we use, as available to us: Amitriptyline is available to us. So, these drugs would take care of a huge chunk of the migraine patients whom we see. The dilemma starts when patients do not respond to adequately increased doses of the combination of these drugs. And acutely, we have most of the triptans available as tablets and as orally dissolving strips.

Dr. Ravishankar (27:14): What we do not have is the nasal spray of sumatriptan; we do not have the injection of sumatriptan. We do not have naratriptan or frovatriptan for menstrual migraine. This is what we lack, or what we are missing. But the other triptans are available, and eletriptan was available until recently — it has now gone out of the Indian market. So, with the other triptans which are available, we can manage — for those who can afford — we can manage the acute treatment. And naproxen is of course available. Ergotamine is still in use for the cost reasons — the triptans are not something which every patient can afford — so ergotamine is still in use, and that's why we see a lot of medication overuse headache.

Carl Cincinnato (28:01): You made a public plea in one of your papers to colleagues saying that: "Headache in India is as important as any other neurological problem, yet it's neglected. ... To deliver better care and promote research, headache must be given greater importance in the medical curriculum." You have echoed that in the interview here today. Has anyone in India answered your plea?

Dr. Ravishankar (28:21): I'm very happy to say that we've had a number of neurologists who are now interested in headache medicine. We have a very active headache subsection of the Indian Academy of Neurology, which is moving forward at a satisfying pace. We have many members — or many neurologists — becoming members of the International Headache Society. And the International Headache Society has been kind enough to make the membership free for people from our part of the world. And we also have a Headache Society of India. And when I came into the field, there were very few meetings where headache was given a — where a headache topic was included in the agenda. So, now you find that there are at least two to three hours devoted to headache in most of the national meetings. So, the headache scenario is definitely changing for the better. And I'm sure that a lot of young neurologists, once they get interested in headache, then we will see the direction changing, and it will be satisfying. I give it another 10, 15 years from now. I think we should be somewhere there. A little more publication, a little more research from this region will make ... we'll be making our presence felt on the global scene. But that is what is required.

Carl Cincinnato (29:59): Dr. Ravishankar, it's been an absolute pleasure to have you on the Migraine World Summit. Are there any final thoughts that you'd like to leave with the audience?

Dr. Ravishankar (30:06): I'd like to say this much to the audience: That migraine today is a treatable disorder; there are many things in the pipeline which can definitely help reduce your misery. You have to first get recognized that it is migraine. You have to have the hope that it is treatable. You have to take the first step forward and control the triggers. See the right doctor who is interested in your welfare. And, as they say, where there is a will, there is a way. I will just modify that and say that, where there is a headache, there is a way today.

Carl Cincinnato (30:48): Thank you very much for your time.

Dr. Ravishankar (30:50): Thank you, Carl. It has been a pleasure talking to you. Thank you so much.