

Reversing Cancer Newsletter

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“If I had a choice between a walk on the moon and saving one life from cancer, I would never look at the moon again.”

Azra Raza’s Fireside Chat Part 1

I interviewed Azra Raza four years ago, and we hit it off instantly. My number one question was, **“I read your book; it’s a scathing indictment of the cancer industry. *How is it that your head isn’t on a stick somewhere?*”**

She replied, “It’s because they all know it’s true and they know if they try to challenge me, I’ll punch right back.”

There are *very* few people in the cancer business who can get away with being so outspoken, and that fascinated me. Her book is a visceral experience of patient stories.



So when Kevin Ham and I organized a fundraising bike ride in Vancouver last September, we thought “Let’s have Azra share her unfiltered thoughts in a way she can’t on a podcast or social media.” I told everyone it would be like meeting Nelson Mandela or Mother Teresa 40 years ago.

A fortunate group of people joined us. Over the next few newsletters, I want to share Azra’s “Fireside Chat” from that fundraising event.

Perry: A good place to start is your childhood. You were nine or ten years old, living in Pakistan, and you became interested in evolution and scientists like Barbara McClintock and Lynn Margulis. That’s not a typical story. Tell us, what was that like?

Azra: It goes back to before I was nine years old—I was four, and my obsession was with ants. I was so captivated that I would follow them around, dirtying my knees, much to my mother’s dismay. I would imagine shrinking down and living in their world, understanding their lives.

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This fascination led me to read about them, sparking my early interest in evolution. By the time I was 14 and took my pre-med exam—quite young—I ranked first out of 26,000 students, largely thanks to my understanding of evolution. I even received a gold medal, and my medical school tuition was fully covered.

As I grew, curiosity evolved into wonder, which is quite different. Curiosity seeks explanations, but wonder takes explanations and flips them, leaving you in awe.

That's what Darwin did for me. My curiosity about ants turned into a wonder about how this single DNA code could be shared from unicellular organisms to Cindy Crawford—everyone has it. It's truly astonishing.

Entering medical school, I thought I'd quickly switch to ants or molecular biology in the US after getting my degree. But as I dug deeper into my medical studies, I became fascinated by the cell, particularly its abnormalities in diseases like cancer.

This abnormal behavior is most dramatically evident in cancer cells, which led me to a profound realization quoted in a book I read as a teenager: **the human body is a state; cells its citizens; and in cancer alone, cells defy the laws of their organs and migrate.**

This idea of cellular mobility and the concept of cancer as a new, immortal species within our body captivated me. I saw it as a chance to explore the secrets of aging and immortality. These were the big questions I formulated as a teenager: ***How do cancer cells gain their mobility? How do they achieve immortality?***

Then, during my third year of medical school, I encountered my first cancer patient. The experience in Pakistan is starkly different from the West. Here, even late-stage cancers might not show symptoms, but in Pakistan, patients would travel hundreds of miles, bearing tumors so large and foul-smelling you could detect them from blocks away. The intense reality of cancer there left a lasting impression on me.

It's truly horrifying to see the fungating, putrid-smelling masses that mothers help their babies carry into the wards. From that moment, I knew I had to dedicate my life to easing the suffering of these poor souls. This emotional investment became as crucial as the intellectual curiosity I already had—you really need that passion to pour your blood, sweat, tears, and soul into a cause.

Luckily, I found my calling as a third-year medical student, knowing exactly what I wanted to do and where to do it. The U.S. was the only place with the resources necessary for the kind of research I wanted to conduct.

That's my journey from ants to cancer—not by choice, but by circumstance. Yet, once you see cancer patients, there's no turning back. **Now, I see 30 to 40 patients weekly in my clinic.**

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I run a full-time cancer research lab and clinic, dedicating two whole days to my patients, who are predominantly leukemia cases. They are exceptionally ill, constantly in need of advice and care. Plus, being a cancer widow adds another layer of personal connection and insight into cancer that I don't think many others have.

I was a third-year med student who realized there's only one place where I could pursue my dreams. So, at 24, I landed in this country.

Oh, and speaking of landing, I arrived in the middle of the blizzard of 1977 in Buffalo, New York—definitely not a walk in the park!

Perry: So, I know you somehow decided to collect 60,000 tissue samples. You must have drawn some early conclusions about your situation as you started to get your bearings.

Azra: Honestly, when I landed in Buffalo, I felt this urgent need to jump into action immediately—worried someone else might cure cancer before I even got started. Within two weeks, I found myself volunteering at Roswell Park Cancer Institute, unable to just sit idle waiting for my residency to begin.



In those six months, the first thing that struck me as I walked into the lobby of Roswell Park was an inscription: **"If I had a choice between a walk on the moon and saving one life from cancer, I would never look at the moon again."** This moved me profoundly—not only did it echo my own mission, but it also underscored that I was exactly where I needed to be. This place had a visionary spirit that was absolutely captivating.

I started working there immediately, met Harvey Preisler (who would later become my husband) and eventually moved to the Washington area to complete my residency before returning to Roswell Park for my fellowship. I stayed there for 10 years, diving into research as a 24-year-old.

Among all the cancer types available, I chose to focus on acute myeloid leukemia because it involved studying myeloid cells—red cells, white cells, and platelets—the real blood cells, as opposed to lymphoid cells of the immune system. I didn't want to be an immunologist. I wanted to focus purely on cancer.

Unlike solid tumors, where a mass might be removed once and then it's gone, leukemia involves circulating cells. I could simply draw blood and have all the cells I needed for study, before, during, and after treatment.

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With solid tumors, once they're gone, any recurrence is completely different from the primary tumor you initially studied, making them difficult to track and understand.

Sadly, within a few years of treating patients, it became clear we wouldn't cure this disease in my lifetime. Back in 1977, we were using two drugs known as 'seven and three'—seven days of one, three days of the other. **Fast forward to today, in 2023, and we're still using those same drugs. It's embarrassing, almost obscene, how little progress we've made.**

At that point, I realized that the best news we can give cancer patients is that their condition has been caught early enough to be treatable. But how do you detect leukemia early when the diseased cells are dispersed throughout the body? The only way is to identify people at high risk of developing the disease and monitor them until they actually develop leukemia.

That's what myelodysplastic syndromes are—a collection of conditions where blood counts decline and, eventually, about 30% of these cases progress to acute leukemia. I figured this was the logical path for my work to take.

So, I decided I wasn't going to study mice, I was going to study humans. This meant I needed samples, so I started saving everything: blood, bone marrow, saliva.

I've trucked freezers full of these samples from Buffalo to Cincinnati, to Chicago, to UMass, to New York. I was a nervous wreck driving behind these trucks, worrying about even one freezer failing—I felt like I'd lose it if that happened.

Back then, around 1984, nobody was thinking about sample repositories like this. Now, institutions have started collecting samples, but back then? It was just me. I have serial samples taken over time from patients as they progressed from pre-leukemia to acute leukemia or died from MDS.

These samples—serum, plasma, aspirate, biopsies, saliva—are priceless. With modern technology, we can trace back to the very earliest origins of these cells and their environments.

Now we have over 60,000 samples, and I've personally collected each one. I still do the bone marrows and draw the blood myself. I invite people to come see the painful procedures we perform to get these samples.

It's disheartening, because despite all this, I've struggled to convey the importance of this work. Every freezer has a story that touches me deeply because I remember each patient.

But when it comes to getting people to invest in this research, I feel like I've failed as an ambassador for my patients.

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When I apply for grants, the NIH often asks for a mouse model, which misses the whole point of our human-focused research. It costs a million dollars a year to maintain. Without the donations from my patients and some generous benefactors, we couldn't manage.

I often joke that there are two Nobel Prizes sitting in those freezers waiting to be discovered. But honestly, once you start seeing patients regularly, awards and accolades fade into the background. It's all about the patients.

Imagine having the same conversation every day, telling them about the "seven and three" treatment—the side effects, the potential benefits—and knowing what this will do to a perfectly healthy-looking 35-year-old in a few weeks. It's heart-wrenching.

Most doctors, at some point, have to detach themselves emotionally because it just hurts too much. They start living in their heads, absorbed by the science, maybe even dreaming about Nobel Prizes.

But for me, there had to be a moment when I chose to keep my heart open to my patients, to feel their pain alongside them rather than just following a treatment recipe.

That decision point—choosing empathy over detachment—has defined my approach to medicine. I look at every grief with analytic eyes, but my heart feels it just as deeply.

When I started my career, right at the beginning, I met Elizabeth Kübler-Ross at Roswell Park. I was only 24, bold enough to approach her after her talk. I asked her how to handle conversations with terminally ill patients about their prognosis.

She advised never to volunteer grim forecasts. People will ask if they want to know. And even if they do ask, can we ever say with certainty when someone will die? It's about conveying what we know without being prescriptive, remembering that we're dealing with human beings.

These experiences deepened my empathy not just for my patients, but also for their families and everyone affected by the illness.

Young oncologists struggle with this, especially when they reach the point where they can no longer offer medical solutions. They might feel like they've failed and opt to distance themselves by sending patients to hospice. But I argue: This is when our true duty begins.

It's not just about providing hope for the future. When future prospects dim, the present moment becomes precious.

That's when an oncologist's presence can truly make a difference—helping patients cherish the time they have left.

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Yogi Berra famously said, "80% of success is showing up," and he was right. Just being there, letting patients share their fears and stories, can mean the world.

For instance, I had a patient whose end was near. I visited him daily, and as he reflected on his life through family albums and goodbyes, he expressed readiness and curiosity for whatever might come next, even if it was nothing at all. His acceptance and desire to face the unknown were profound.

It reminds me of a saying, "Whenever someone dies, a library burns." Each person carries a unique collection of stories and wisdom. Our role isn't just to prolong life mechanically but to enrich the lives of those we care for, ensuring their final chapters are meaningful.

Perry: Are you training oncologists to document those burnt libraries?



Azra: Good question. You know, talking about young oncologists, have you seen the series "The Crown"? In the show, they depict Queen Elizabeth II as a young princess, being groomed for her future role. She was taught that she was almost divine, untouchable by the common masses, unable to forge close emotional connections. This was her training to become queen.

There's an episode where an avalanche in Wales, the Aberfan disaster, kills 63 children. The whole country mourns, but initially, the queen doesn't visit the site because she fears she'll be overwhelmed by emotion. The public criticizes her heavily for appearing cold and

detached, although she does eventually go.

Watching this made me think of how we train oncologists—to remain detached, because getting too emotional might cloud their judgment. **But isn't empathy what patients most need?** Isn't that what they expect from their doctors? It creates such a disconnect in training, and then we wonder why young oncologists struggle.

My husband, who was my mentor in oncology from when I was 24, always warned me not to get too close to patients. But when he was diagnosed with cancer himself, he insisted I take care of him because he trusted my judgment despite his previous advice.

I did end up treating him, although I'd never really followed his advice on detachment—I always got close to my patients, which is probably why he kept reminding me.

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I encourage the young oncologists I train—the ones we jokingly call the 'Raza Army'—to fully engage emotionally with their patients. It's crucial to listen and to share in their emotional experiences.

There's no need to separate your scientific mind from your emotional mind as if they can't coexist.

Dov Baron: It seems you're driven by grief that's not necessarily just about your husband, but about these lives...these 60,000 lives. So what I'm trying to understand is when dealing with these young oncologists who are pharmacologically trained to be objective and step back and not feel...how do you get them over that hump?

“You are gonna hurt. You are gonna walk around in the same kind of grief that Azra walks around in. You might not be the funnest person to be around because you're carrying the grief of thousands of people!”

So how do you help them get over that hump?

Azra: First of all, **if someone feels they can't engage emotionally like I do, then they probably shouldn't be a doctor.** Maybe they'd be better off as plumbers or something else entirely. This profession demands something special.

(Laughing) I think you'll appreciate this perspective, coming from the East as I do. In the West, there's a stark division between reason and passion—kept separate at all costs. For us, it's different; they intertwine seamlessly, without the rigid distinctions found in Western thought.

At the most basic level of life, decisions are governed by the autonomic nervous system, operating below the threshold of consciousness. This primitive, reactive system is what guides unicellular organisms. Over millennia, the limbic system evolves, bringing emotions into play, which we now recognize even in multicellular animals.

Above all that, humans have developed the cerebral cortex, enabling abstract reasoning, but this makes up only a small fraction of our brain function. The bulk is still emotion and autonomic response. This is why I argue that **without emotional investment, reasoning alone is insufficient in medicine.**

I've been on many med school admissions committees, like at Columbia where tuition is free, attracting a massive pool of applicants. I remember one essay where the applicant reflected on feeling intimidated by the idea of nearly 8 billion strangers in the world, but then reimagining those as 8 billion opportunities to connect and learn. That's the kind of outlook we need in medicine.

The saying goes, "If you have positive eyes, you will love the world. If you have a positive tongue, the world will love you." We need both in medicine.

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Yet we often fail to select the right candidates. They know how to present themselves well on paper and in interviews, but then you see their true colors. I had this experience recently. **I was discussing a terminal case, a deeply serious conversation, and a fellow just pulled out his phone and started scrolling. That kind of attitude has no place in medicine, where every interaction could be significant for someone's life.**

But that's exactly what I'm getting at. We're caught in a system that's uncomfortable with being present with one's own emotions. **Neuroscience tells us you can't make decisions without emotion, yet we have this prevalent discomfort with emotional self-awareness, especially in the West where the emphasis is heavily on being 'scientific first'—a bias in its own right.**

I'm really glad you asked how I help my Raza Army overcome this because it's something I deal with constantly.

One approach I use is encouraging them not just to read the body language of patients but to actually read the books on their shelves—yes, a bit of "shelf help," if you will. When you read fiction, you find yourself naturally liking or disliking characters, like Darcy in "Pride and Prejudice." This gives you insight into your own emotional responses. It helps you understand why you feel a certain way, which in turn develops empathy.

By reading about the lives of these characters, which evolve over the course of a book, you get to experience their journeys, stand in their shoes, and feel their pain. You start to think about the consequences of their choices—like, what if she hadn't married this person but that one instead?

What would their lives look like then?

(To be continued)

Seize the day,

Perry

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