

http://www.thestar.com/news/world/2014/04/04/finding_a_cure_for_hate.html#



[News / World](#)

Finding a cure for hate

Is hatred, of the magnitude of the Rwandan genocide, a public health issue, like STDs and measles? A group at the U of T wants to find out.

By: [Jennifer Yang](#) Global health reporter

Published on Fri Apr 04 2014



Aaron Harris / For the Toronto Star

Dr. Howard Hu, Dr. Izzeldin Abuelaish and Rani Kotha are members of a University of Toronto initiative studying hatred as a public-health issue.

In January, a California scientist named Hermes Garban found himself inside a wood-panelled room at the University of Toronto, questioning why he came.

As medical conferences go, this one was tiny, with only about 20 attendees. But it was hard to imagine what they all had in common: There was a gynecologist from Gaza; an Indian-born poet and psychoanalyst; a neuroscientist who studies lab mice in Ohio; a Colombian e-health expert described in his bio as a “human Internet.”

“How come I’m a part of this?” wondered Garban, who studies the immune system at UCLA.

But as the discussion unfolded — touching on everything from Hitler to 9/11 to the Rwandan genocide — Garban realized their diverse research interests all converged on the same question.

That question was posed by Dr. Izzeldin Abuelaish, the U of T associate professor who initiated this meeting.

“Is there a cure for the disease of hatred?”

As the world marks the 20th anniversary of the Rwandan genocide, which killed more than 800,000 people in just 100 days, it is a question that should be addressed, as once again the world vows: “Never again.”

But the “never again” mantra — first invoked in the wake of the Holocaust — has become a hope, not a principle, writes Philip Gourevitch, author of *We Wish To Inform You That Tomorrow We Will Be Killed With Our Families*, one of the most influential books on the Rwandan genocide.

“Universalized and applied to every new atrocity, it becomes meaningless kitsch,” he wrote in “Never Againism,” an essay published in *Granta*. “By saying *never again* we fool ourselves into thinking we’ve taken some sort of preventive action.”

Gourevitch wrote these words in 2004, on the 10th anniversary of Rwanda. But 10 years later, the sentiment remains, as we watch the unfolding horrors in Syria, South Sudan and the Central African Republic, which many fear could become the “next Rwanda.”

These conflicts are born of hatred and perpetuated by it. But at the University of Toronto, there is a movement underway to try to understand and prevent hatred in a new way — by treating it as a public health issue.

“Are there ways to mitigate the health effects of hatred?” Abuelaish asked the scientists gathered in January. “I think there are.”

Abuelaish, 59, is an associate professor with the U of T’s Dalla Lana School of Public Health, but most people know him as the “Gaza doctor,” whose family tragedy made international headlines five years ago.

Born in a refugee camp in the Gaza Strip, Abuelaish overcame an impoverished childhood to become a gynecologist and the first Palestinian staff doctor at an Israeli hospital. For years, he

commuted across one of the world's tensest borders, enduring daily checkpoints and criticisms from Palestinians who accused him of helping "deliver a new generation of occupiers."

But in December 2008 — just months after his wife's death from leukemia — Israel launched "Operation Cast Lead," the 22-day military campaign that would send two rockets into Abuelaish's home.

Three daughters and a niece were killed. "There was brain matter on the ceiling, girls' hands and feet on the floor," Abuelaish recalled in his 2010 memoir, *I Shall Not Hate*. Mayar, his 15-year-old daughter, was decapitated.

He phoned his friend at an Israeli news station and his anguish was broadcast live on television. Abuelaish later vowed not to hate his children's killers, a stance that has garnered him global respect and accolades.

In 2009, he and his five surviving children moved to Toronto, where he joined U of T's Dalla Lana School of Public Health.

Three years later, the school hired its inaugural dean: Dr. Howard Hu, who had been Abuelaish's professor at Harvard University, where he obtained a master's degree in health policy.

Abuelaish greeted his old professor with an exuberant bear hug — and an idea. He wanted to put together a workshop of experts who could start studying hatred as a health problem.

"He said (to me), 'Hatred is a disease,' " Hu recalls. "'People get so locked into hatred and it eats away at them and I think it's bad for their health.' "

"I was intrigued by that," he continues. "Is it possible that hatred is something that could lead to physical disease?"

Together with Hu's wife Rani Kotha, senior global health strategist for the U of T's faculty of medicine, they combed through the academic literature to see what science already knew about hatred's impact on health — but "no one has any idea," Hu says.

As a biomedical scientist interested in population health, Hu then further wondered: What if hatred could be tackled as a public health issue?

This is a separate question, he explains, because not everything that is harmful to our health can be considered a public health issue. A public health issue — like measles, alcoholism or heart disease — can be measured, studied and ultimately prevented. "There would have to be some kind of intervention that actually can be proven to work," Hu says.

There are precedents. Since the early 1980s, violence has come to be regarded as a public health issue. Today, the World Health Organization calls it a "leading worldwide public health problem" and public health agencies around the globe devote entire divisions to its prevention.

“Hatred goes side by side with violence,” Abuelaish says. “Why not study hatred as a public health issue too?”

Hu invested roughly \$15,000 toward the workshop and the team reached out to academics from across U of T and beyond, searching for relevant experts who would participate. “We got a lot of pushback,” Kotha acknowledges. “And we still do, of course. And we will.”

But they found 13 academics interested enough to bite. On the last day of January, the “hatred, health and well-being” workshop convened to discuss what they knew about hate — and, more importantly, what they did not.

“What is hatred?” Abuelaish asked in his introductory remarks. “Is it an emotion, is it an attitude? Is it behaviour, is it a disease, is it a syndrome?”

Hatred has been studied for centuries — by philosophers and theologians, more recently by social psychologists, evolutionary scientists and the like. All would have different answers to Abuelaish’s question.

In recent years, however, “hate studies” — an interdisciplinary approach toward studying and understanding hatred — has been taking off. Just last month, the University of Leicester launched its Centre for Hate Studies. The International Network for Hate Studies was founded last year in Europe and will host its first conference next month in the UK.

This momentum is driving a wider debate on defining hatred, says John Shuford, director of the Institute for Hate Studies at Gonzaga University, a Jesuit institution in Spokane, Wash.

“For some contexts, it’s a problem not to have a universal definition,” he says. “In fact, this is going to be one of the conversations at that conference in the UK; the possibility of moving toward international standards of hate.”

Biomedical research is one of those contexts. In studies of the brain, the existence of hate is “barely acknowledged” and most neuroscientists “ignore hate because it is too vague a term to work with,” wrote neurophysiologist Edmund Glaser in a 2009 paper for the Journal of Hate Studies, a Gonzaga publication.

“There is no consensus on a definition of hatred that is scientifically useful to neuroscientists,” he wrote.

“This emotion, or whatever it is, remains outside the realm of medical science,” he continued. “We don’t know how to handle it as a definable entity that can be probed and examined scientifically.”

At the workshop in Toronto, Dr. Salman Akhtar, a psychiatrist, psychoanalyst and poet at Jefferson Medical College in Philadelphia, shared his definition of hatred.

Hatred, he said, is a complex state involving a destructive intent and a disturbed perception, memory and ethics. It is the result of chronic frustration, episodes of rage that go unaddressed.

“There is no place to express that rage,” Akhtar said. “Therefore, the rage, bit by bit, accumulates. Like calcium in the kidney, it is going to form the stone which is hatred.”

For his part, Abuelaish likes to think of hatred as a disease or mental disorder. It certainly works, metaphorically — hatred spreads from person to person, like an infection, he says. It can metastasize, like cancer; it can be chronic, like diabetes. People are not born with hatred, he believes; they acquire it from the environment, just as people are exposed to bacteria or second-hand smoke.

Others at the workshop were hesitant to brand hatred as a disease or disorder. Much controversy has come from the “great tendency of psychiatry to turn issues that are popularly in the human condition into mental disorders,” noted Dr. Alexander Simpson, chief of forensic psychiatry with the Centre for Addiction and Mental Health (CAMH) in Toronto.

“To hear a universal human experience — an expression of negative emotion like hate — being someway turned into a disease is the sort of thing that psychiatry’s been told off for doing for the last 30 years,” Simpson said. “I have some reluctance to consider that.”

He raised the possibility that perhaps hatred can be likened to blood pressure; we all have it but when it reaches a certain level, we get sick.

British neuroscientist Semir Zeki, a professor at University College London, was unable to attend the workshop, but if he had been there he says he would have insisted that hatred is part of our biology — as natural as love.

“I would have been interested to present a biological point of view,” says Zeki. “I think the general view is that hatred is not a good thing and the general view is that we must eradicate hatred. But you can’t eradicate something quite so biological so easily … just as you can’t eradicate love.”

To Zeki, hatred has played a key role in human evolution and is neither moral nor immoral from a biological perspective. One could even argue that hatred has been constructive, he says, playing a role in nation-building or suppressing competition for resources.

“We would not have had this capacity to hate to the degree that we have — and all humans have it — if it had been a negative evolutionary force. It would have petered out.”

After the workshop, Abuelaish said the group will have to settle on a common definition if they are to tackle hatred together. Otherwise, it will become the elephant in the Indian parable, in which a group of blind men feel different parts of the animal — trunk, tusk, tail — only to argue endlessly about what it is.

Throughout history, hatred has been described as a problem of the heart. “Thou shalt not hate thy brother in thine heart,” said the Book of Leviticus; in *Drop the World*, Lil’ Wayne raps about “hate in my heart.”

For researchers such as Lasana Harris, with Duke University’s Center for Cognitive Neuroscience, the source of hatred is the nervous system. Its primary organ is not the heart but farther north.

“My talk will focus on how it’s possible for the human brain to hate,” Harris said at the workshop, which he attended from Amsterdam by Skype.

Harris’s research focus, however, is on dehumanization, which he believes could be a “psychological result of hatred.”

Studies have shown that when people think about other people, it lights up a “social cognition network” in their brains. Emotions that require “person perception” — the recognition that other people have thoughts, emotions, feelings — engage this network, like empathy or even envy. One cannot envy a Lamborghini, Harris explains, only the person behind the wheel.

“Without having the person in mind, you cannot really experience those emotions,” he said.

But disgust, an emotion Harris has been studying closely, “doesn’t really suffer that problem.” In a 2006 study published in *Psychological Science*, Harris and his former PhD supervisor at Princeton University, Susan Fiske, asked volunteers to look at pictures of drug addicts and homeless people. They found it activated a brain region associated with disgust.

More interestingly, their social cognition networks did not light up — in other words, their brains had failed to categorize these people as human. “No one believed it” when they first published this dehumanizing effect but other studies have since shown it in many other contexts, Harris said.

He and Fiske believe “dehumanized perception may be necessary to facilitate extremely inhumane acts.”

“Indeed, propaganda depicting Tutsi in Rwanda as *inyenzi* or cockroaches, and Hitler’s classification of Jews in Nazi Germany as vermin, may have facilitated atrocities like torture and genocide,” they wrote in a followup paper from 2011. “Both examples tag the victims as disgusting less-than-human creatures.”

Harris says he has considered studying hatred more specifically but has yet to design an experiment that could work.

“There’s very little research on hatred that’s not theoretical,” he admits. “It’s very difficult to get these studies done because you don’t want to scar our participants and, moreover, it will never get approved by any university review board.”

At least one study has searched for hatred in the brain, however. In 2008, Zeki — the British neuroscientist who was unable to attend the workshop — and his colleague John Paul Romaya performed brain scans on 17 volunteers while they looked at pictures of people they hated: ex-lovers, colleagues and, in one woman's case, “a very famous political figure.”

They found there seemed to be a pattern of brain activity that occurs when the subjects felt hate.

Intriguingly, this pattern touched on brain regions “almost identical to the ones activated by passionate, romantic love.” The researchers also noticed the pattern was distinct from closely related emotions — like fear and anger — and components involved with generating aggressive behaviour and motor planning.

“We hypothesize that the sight of a hated person mobilizes the motor system for the possibility of attack or defence,” they wrote.

But what can we conclude from these findings? Only that “there is a pattern of brain activity which correlates with the experience of hate,” Zeki says. Anything beyond that would be purely speculative at this point. The study is also small, has not been replicated and focuses on individual hatred.

The problem of a definition for hatred also remains, neuroscientist Glaser wrote in his paper for the Journal of Hate Studies, in which he referenced Zeki’s study.

“Without one, it is useless to conduct brain studies on the presence and location of a ‘hate’ region within the brain,” he wrote. “Such experiments will produce nothing more than controversy in interpreting results.”

But what about our genes? At the Toronto workshop, Dr. James Kennedy introduced his research with a disclaimer.

“I think there’s, uh, a particular, uh — stigma, is one word that comes to mind — or fear of this research,” he said, choosing his words carefully.

“And I might even venture to say, some hatred of this research,” he added, prompting chuckles from his audience.

Just down the street from the workshop is Kennedy’s laboratory at CAMH, where he keeps the world’s largest sample of DNA from highly aggressive children — more than 250 of them, all living in the Toronto area.

As CAMH’s director of neuroscience research, Kennedy is interested in the role of DNA in behavioural disorders — in the case of these children, the genes that make them vulnerable to aggression.

It's a notion some find unpalatable, he acknowledged. "A lot of people feel it's deterministic. That it takes away free will and decision making."

But these people miss the point, he said, because what his research reveals is that DNA is not destiny — environment has an equally important hand in writing life stories. The question is not nature versus nurture but how nature and nurture influence each other — or what scientists call gene-environment interactions.

"Genes are just one factor in determining people's tendency to hate other people and act out in aggression," he said.

To Kennedy, aggression is one of hatred's many facets. His research into the genes for aggression can be traced back to 1978, when a woman in the Netherlands walked into a university hospital with an unusual problem: her family was full of men who were criminals.

All the men — including her brothers and a son — were unusually violent. Two were arsonists and a third tried to drive over his boss; a fourth forced his sisters to strip at knifepoint and a fifth raped his sister. He was sent to a mental institution, where he attacked a warden with a pitchfork.

Fifteen years later, scientists published the startling results. The violent Dutch men all had "borderline mental retardation" and shared a mutation in a gene that prevented them from producing monoamine oxidase A, or MAOA.

MAOA is an enzyme that breaks down important neurotransmitters like serotonin, norepinephrine and dopamine — all of which help regulate aggression. The MAOA gene is also on the X chromosome, which explains why only men were affected; women have two X chromosomes so if one carries an MAOA mutation, they still have a backup copy.

The Dutch findings caused a flurry. It was the first time a specific gene — nicknamed the "warrior gene" — had been clearly linked to human aggression. Behavioural genetics carries the taint of its early association with the eugenics movement and one year before the Dutch study, a public outcry in the U.S. had forced the cancellation of a conference on genetics and criminal behaviour.

There was also criticism that the Dutch researchers failed to consider how these men were raised. They studied the nature but what about the nurture?

To a large extent, this question was addressed a decade later by a landmark study from New Zealand. Researchers followed 442 Caucasian boys from birth until early adulthood and found that those who were "maltreated" — abused or raised in difficult environments — were more likely to become antisocial adults.

They then honed in on 55 of these boys who had low MAOA activity — and when compared to the other maltreated boys, they were three times more likely to be convicted of violent crimes by the age of 26. These boys made up only 12 per cent of the group but were responsible for nearly

half the crimes. “They’re doing four times their share of rape, robbery and assault,” researcher Terrie Moffitt told Science magazine.

The study clearly showed that genes are not deterministic, Kennedy told the workshop. “It very much depends on your environment,” Kennedy said. “DNA technology shows us that this MAOA gene is a factor that we should consider in the big picture of what leads a person to become aggressive, violent and hate easily as an adult.”

But the big picture remains incredibly complex because most human characteristics are shaped by multiple genes, Kennedy said — his own lab is studying other genes that may influence aggression. And that is still just half of the puzzle because there are a multitude of environmental factors to consider too.

Studying aggression is just one step toward understanding the broader question of hatred, Kennedy says. And just as certain genes, psychological and social factors conspire to breed aggression, perhaps the same could be said for hatred.

“We need to study what increases and decreases hatred and to understand better how it works in humans,” he says. “We need to see more quickly when the hatred is getting out of control.”

The stakes have never been higher, Kennedy notes: early man had sticks and stones with which to express their hatred; modern man has nuclear bombs and biological weapons.

“It’s a very important problem. We can’t just throw up our hands and say it’s too complicated and let’s give up.”

In April 1994, after Rwanda’s Hutu president Juvenal Habyarimana’s airplane was shot down, hate began to flood the airwaves.

“You have to kill the Tutsis, they are cockroaches,” hissed the popular private radio station, Radio Television Libre des Mille Collines.

Twenty years later, it is widely accepted that hate radio was instrumental in motivating Hutus to pick up their machetes. One Harvard University study estimates the station’s broadcasts are to blame for roughly 51,000 deaths, or 10 per cent of total participation in Rwanda’s genocide.

It is clear that hate speech hurts. But can it also cause damage unseen — inside our bodies?

This question was what prompted the U of T’s Dalla Lana team to reach out to Hermes Garban, the immunologist from California. In their research, they stumbled upon a [small study](#) Garban had written in 2012, in which he and two colleagues measured stress biomarkers in 13 men after they listened to *The Savage Nation*.

The radio program is hosted by Michael Savage, a conservative shock jock currently on the United Kingdom's list of people banned entry "for fostering extremism or hatred." Study volunteers listened to a 23-minute segment that the researchers had identified as being "particularly dense" in hateful language, targeting gays in Iraq, Barack Obama and a liberal media group that Savage repeatedly referred to as "rats."

They found that not only did volunteers experience a spike in clinical anxiety after listening to *Savage Nation*, they also had increased levels of cortisol, the so-called "stress hormone," in their saliva. Studies have linked elevated cortisol with everything from depression to diabetes, cardiovascular problems and obesity.

Garban then looked at whether the cortisol increases could be linked with changes in cytokines — small molecules that regulate the immune system.

The body's balance of cytokines can determine the difference between health and disease, Garban explained. He found a "moderate correlation" between stress and the regulation of a cytokine that signals an anti-inflammatory response.

"This suggests that exposure to hate speech could potentially influence the onset or development of pathophysiological processes or diseases such as cancer or chronic inflammatory diseases," his paper stated.

Garban and his team were particularly interested to see that among the volunteers the link between anxiety and cortisol was independent of race, nationality and ideology. In other words, hate speech — if it does indeed have an impact on health — could be harmful for all listeners, even the haters.

Garban stresses his study is "very preliminary" — the sample size is tiny and there was no control group, so the results are suggestive, not conclusive. But he marvels that these results were observed after just 23 minutes of *Savage Nation*.

"What would happen if people are exposed chronically to this kind of hate speech?" Garban asks. "Or an environment where anxiety and stress prevails for a long time?"

Two months after that January meeting, Garban, now back at UCLA, is still buzzing.

"It was one of the most productive meetings I've had," he says. "We were talking the same language."

But now they need to build a spark into a fire. Many decisions and difficulties remain, however: What should they publish — a paper, a book, a manifesto? What are the research priorities and how will they be funded? And can their hypotheses — of hatred being a public health issue and a risk factor for disease — be proven?

“It can only be considered a preliminary exchange,” says Akhtar, the poet psychiatrist from Philadelphia. “Different people said their different pieces. Right now, we have some lettuce and some celery and we need a big bowl to make the salad.”

Some will disagree with this approach. Zeki, the British neuroscientist, believes hatred cannot be eradicated, only controlled — and by politicians and legal instruments, not health practitioners. “Hatred is a biological given; you cannot eradicate it,” he said.

But for Rani Kotha at U of T, it is a path worth exploring.

“It’s novel and we’ll be taking a risk — and I’m sure even a bullet — for some of these views,” she says. “But look at the world right now. There’s so much intractable conflict and whatever we’re doing isn’t working.”