

Confirmation bias, chiropractic, and vaccines: Certitude with an emotional charge

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Introduction

How we make decisions on questions of healthcare delivery and our own care, for years was presumed based on gathering all the valuable data, analyzing that data, and then coordinating an educated opinion. Ideally this opinion is at least determined by a combination of informal statistical analysis and conditional probability. However our decision-making may not be so simple as that.



It seems like, based on our life's experiences and perspective, we lean towards a '*confirmation bias*' (1, 2, 3) manner of making decisions and drawing conclusions. This means that we have a '*gut feeling*' and then seek data that confirms this feeling and filter out data that does not. This process is a delicate one since it is often an unconscious process and initially the person attempting to evaluate the data presumes they are being balanced and fair. One clue into whether this phenomenon is happening can relate to pupil size during decision-making, (4) however I believe it is easier to be on the alert for what I call '*certitude with an emotional charge*.' This is something I believe we all need to be cautioned against when we are trying to figure out a solution to a problem or develop a point of view.

I come from an alternative health background, which led me to attend Chiropractic College in the late 1970s. Chiropractors by way of their spiritual 'DNA' tend(ed) to question pharmaceutical, conventional, and allopathic approaches to health. In the 1960s and 70s this questioning was considered irresponsible and led to chiropractic and quackery sometimes being used synonymously. (5) For instance the California Medical Association's position statement on chiropractic in 1973 stated, '*The scientific community including the medical profession regards chiropractic as an unscientific cult, the largest group of unscientific practitioners in the United States.*' (6)

During that time the chiropractic profession was vilified, particularly by the medical profession and in the medical research publications. The chiropractic profession was not the only alternative health profession affected but I witnessed its effect personally as I have seen medical research saying chiropractic care was dangerous, ineffective and essentially quackery. A popular chiropractic critic, Ernst, who has repeatedly promoted that chiropractic care offers greater risk than benefit has continued his position regardless of the evidence. (7, 8, 9) Ernst has even been caught modifying data to fabricate evidence to support his preferred position. (10, 11, 12)

My perceptions of allopathic and pharmaceutical interventions were affected by my experiences in chiropractic college and in my clinical practice. It would not be unusual to find

patients reporting that the medications for their pain and surgical interventions provided by their medical doctors and supported by the research left them physical cripples. Likely my experiences were skewed, since from a research perspective, those patients helped by allopathic and pharmaceutical interventions might not have sought chiropractic care.

Over the past 40-years I have been actively involved in research and the evidence based healthcare arena. I have seen that some chiropractors, particularly not working in interdisciplinary arenas, have a historical bias (12) against the medical field and pharmaceutical industry and do not trust medical research. So, when developing a healthcare perspective, how can we uncover the 'truth' of 'things'? What interventions are safe and effective and what might offer greater risk than benefit? How can we be aware of the bias of our authors, journals, and organizations and how can we be vigilant of our own unconscious conformational bias?

Ultimately we must navigate the treacherous waters of 'truth' attempting to determine what research is fair and accurate, what research has a biological plausibility, and ultimately what research we can trust. Ironically the answers aren't clear since emerging research is a moving target and with the vast amount of published research daily it is relatively easy to support whatever position someone, with a confirmation bias, might want. Sometimes research in its attempt to isolate and reduce things to find the truth might even overshoot the mark, as illustrated in the study of parachutes through a systematic review of randomised controlled trials. (13)

Within the chiropractic profession, chiropractors recognize that we have a tendency toward creativity, (14) cantankerousness, and conflict. (15, 16) While there are discussions about how to create some harmony (17, 18) we can see these conflicts in terminology such as with the word subluxation, (19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31) interpretation of the evidence on treatment of nonmusculoskeletal conditions, (32, 33, 34) and even varied perspectives on vaccinations. (35, 36, 37)

What about vaccines and Covid-19?

We are in a very challenging time. Due to the Covid-19 pandemic, associated with significantly increased hospitalizations and deaths, there is a societal panic that has led to a path to vaccination with what some might consider 'blinders on.' (38) It may well be that vaccinations are the best answer but at this moment we don't have all the information that time will yield.

Responsibly, our chiropractic academics and political leaders are trying to place themselves in positions of societal concordance so as not to stand out or be ridiculed by those outside of the chiropractic profession. This for some in the chiropractic arena has led to claiming that chiropractors have no business discussing immunity and chiropractic care, nor should any chiropractic council even discuss whether or not vaccination might be optional. (39, 40, 41)

In the current pandemic environment any questioning of vaccination is often perceived to be tantamount to malpractice and casts a shadow over the whole chiropractic profession. Personally I must say that I do not have adequate evidence to support an effort to speak against vaccination and so instead support my patients who are choosing to get vaccinated.

But I ponder whether there are important things worthy of consideration:

1. Is there a target audience for Covid-19? It seems like at this point co-morbidities such as obesity, diabetes, cardiovascular disturbances and/or respiratory compromise can both make someone more susceptible and be challenged to fight this illness. (42, 43, 44, 45)
2. What are the actual incidences of contracting Covid -19 if you mask, social distance, and only congregate in outdoor arenas not packed closely? (46) Is the purpose of the vaccine to save lives and protect the public from Covid-19 or to help economic interests at the possible expense of any public health side effects of vaccination? (38, 47)

3. Where are the non-emotionally charged discussions looking at all sides of the issue? How can we appropriately deal with the '*certitude with an emotional charge*' on the side of those promoting vaccination as well as those on the side of questioning the need for vaccination for all?
4. Why do we not see a real discussion of the life long immunity possibly conveyed by having had a Covid-19 infection and this subset of patient's need for vaccination? (48, 49, 50, 51)
5. Why is there no real discussion about disease prevention with nutrients, (52, 53) life style choices, (54, 55) and in case of Covid-19 illness, medications such as Ivermectin? (56, 57, 58, 59) Why do we not hear about the alternative allopathic treatment perspectives? (60, 61)

Currently it seems as if any question or wish to discuss the vaccination issue is seen as being contrary to what the evidence and research has shown. Anyone who is questioning vaccination is seen as being a public health risk and a danger to society.

Until we have a tincture of time to step back and look at things with open, calm eyes we are left with factions fighting against one another. Sadly, once some decisions are made (such as forced vaccinations) you cannot put the Genie back in the bottle. This may be problematic if we find out there are side effects years down the line. Understandably death, hospitalizations, and co-infections associated with Covid-19 are important considerations.

I have been in my own quandary

If I want to travel to teach in groups I was presuming for my health and those in my presence I should be vaccinated. But I feel like I want to get more information, which has upset some friends, family members, and patients.

To complicate things, both my wife and I believe we contracted Covid-19 in January 2020. I had a terrible upper respiratory tract infection and lost my sense of smell for 6 weeks. My wife had a persistent cough for 3 months around that same time. We jokingly said we had Covid at that time but I later found out that a patient did have contact with a Chinese tour group visiting a California ski lodge. He had spent a full day with 50 people with and without masks who were coughing and sneezing in December 2019, about 10 days before I treated him. I came down with symptoms about 2 weeks after I treated him and he had symptoms a few days after I had seen him, which was around two weeks after being with the Chinese tour group.

Initially I was going to have one of the mRNA vaccines, which I was excited to get, since it didn't have the usual toxic substances found with vaccine attenuating substances and associated preservatives. However, there has been some question about the long-term effects of mRNA vaccines; (60, 61) short term effects in our youth and 20 year olds, (64) and its affect on gene function. (65) This is something that only time will reveal - whether it is worth considering or just a wild extrapolation.

So with the mRNA vaccine put aside, for the time being, I moved to the *Johnson and Johnson* vaccine, but started getting information about it causing blood clots. (66) So as I investigated and hesitated it was taken off the market here in the United States. When it was placed back as a possible vaccine option was when I noticed the research on life long immunity for those who had Covid-19. (48, 49, 50, 51)

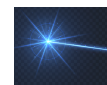
I still considered if I were going to get vaccinated I would go with the *Johnson and Johnson* vaccine since at least its mechanism of immune function was similar to prior vaccines. I felt for the vaccine attenuating and preservative substances and possible rare blood clots I could take heavy metal detoxifiers, omega three oils, and vitamin K2 to protect me from any side effects.

However, last week (early July 2021) research pundits were saying that the *Johnson and Johnson* vaccine may not be effective against the Delta Variant and may therefore be taken off the market in favor of the mRNA vaccines which seem to help more consistently. But just as I write this article (mid-July 2021), the *Johnson and Johnson* vaccine is being touted as now being effective against the Delta Variant and while a relationship was postulated a couple months ago between the *Johnson and Johnson* vaccine and *Guillain-Barre Syndrome*, (67) now since more than 100 cases of Guillain-Barre has been reported to the Vaccine Adverse Event Reporting System, the United States Food and Drug Administration (FDA) has issued a warning regarding the vaccine possible side effects. (68)

So what do we do?

What is responsible behavior? Can we have discussions that don't come from a place of 'certitude with an emotional charge' and instead with a focus less on arguing and more on investigating? Until I feel clear about all the data, which is continually emerging and changing, I will not be traveling or teaching to groups. I am not in the Covid-19 target audience since I am not obese and don't have diabetes, cardiovascular, lung compromise, etc. I will continue to keep using a mask, social distancing, washing hands, and being as cautious as I can be in these uncertain times. I am getting exercise, eating a healthy diet, and taking vitamins that have been shown to help with immune function.

Ultimately at this moment I am '*watching and waiting*'.



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