
“I FEEL YOUR PAIN..NOT”



Last year, I was battling my fourth week of coughing without end. I became determined to treat my symptoms through a standard protocol. I took zinc tablets for one week for my presumed viral infection. After no relief, I started antibiotics for a 10-day schedule. The upper respiratory infection left me with laryngitis with a continuous cough. Frustrated with my prolonged coughing, I started using a steam vaporizer to loosen my congestion and even used a muscle thumper to areas of my chest to help clear my lungs. However, for some reason, my deep cough continued without significant resolution. I decided to pay the local medical clinic a visit to have my primary physician provide other strategies for treatment.

He agreed with my diagnostic impression of post-infection bronchitis and he prescribed an expectorant, cortisone along with two kinds of antitussives (cough suppressant medicines), Benzonatate and Dextromethorphan. I had used Dextromethorphan in past years without any problems. The other antitussive, Benzonatate was a medicine that I had never tried before. I started the treatment right away, hoping for a speedy recovery.



After nearly a week of treatment, I began to have resolution of my coughing symptoms. I also became increasingly aware that my normal level of energy and emotional posture had shifted. On one level, I was a quiet observer of the change I was experiencing. But on a different level I was feeling numb and apathetic, and oddly, depressed. Clearly, I was experiencing what Mental Health professionals call “anhedonia” (no pleasure in activities) and psychomotor retardation (sluggish) with a decreased appetite and increased need for sleep. What I found noteworthy was that I seemed to have lost interest even in my personal feelings about everything that was important to me; even my appreciation of others, especially with those closest to me. I recognized that even during that time, if I had the energy to gaze at what I was actually experiencing, it would have shocked me that I could not have cared less for anything or anyone. Since this was an experience I had never felt before, and knowing this was a clear departure from my character, I reasoned that this dysphoria had to be medication related. I decided to stop the Benzonatate and I reduced my routine dose of Dextromethorphan.

After I recovered, and was finally on the other side of my illness, I was compelled to revisit this dysphoria in order to unravel the mystery behind my mood experience. For me to have such a profound emotional shift from a routine prescription treatment, I began to question how often I may have missed treating a depressed patient effectively for a refractory depression without considering possible iatrogenic (treatment induced) influence of their medicines? Since I tolerated Dextromethorphan, I knew the culprit had to be the Benzonatate.

So what is unique to Benzonatate that it could actually diminish my sense of connection with others? What would interfere with my level of empathy and even the influence the deepest sense to even care about anything?

What I found was that Benzonatate..

“ is an ester local anesthetic derived from tetracaine. After absorption and circulation to the respiratory tract, it distributes into the mucosa, anesthetizing vagal afferent fibers that contribute to both cough and hiccups.”

Benzonatate behaves like a painkiller of sorts for vagal afferent fibers. These nerve fibers actually monitor the upper respiratory tract and have motor fibers that stimulate the diaphragm. On further reading I found an article that surprised me and seemed to explain what I had experienced. Apparently, the blunting of empathy such as what I had experienced, had been a side effect recently attributed to some common pain killers. In this article, blunting was also associated with a very common pain medicine, Tylenol.

"..acetaminophen has a general blunting effect on individuals' evaluative and emotional processing, irrespective of negative or positive valence.."

"..It is thus conceivable that acetaminophen may also reduce willingness to help others in physical or emotional distress"

This description adequately portrays what I felt. I did not seem to value anything or anyone and I did not even care that I felt this way. The only incongruence I experienced about this emotional state is that I knew that under 'normal' situations, I would be bothered about not caring for anything or anyone. It was as if I had no Will to change my state.

Understanding that pain-reducing mechanisms can be cause apathy and diminish empathy, it brought me to a different level of questioning. When we speak of the blunting effect on empathy, what is it that we are describing? The first step was to define what is meant by the term, "empathy".

WHAT IS EMPATHY

According to Webster "Empathy" is:

"the action of understanding, being aware of, being sensitive to, and vicariously experiencing the feelings, thoughts, and experience of another of either the past or present without having the feelings, thoughts, and experience fully communicated in an objectively explicit manner; also : the capacity for this " ("empathy").

Empathy plays an important part in our lives as social beings. It is that part of our internal monitor, which appeals to fairness and justice in the world. It helps us to “walk in someone else's shoes” and stirs us to ponder the question, “What if that person were me?”. Empathy is important for modifying our behavior, aligned to the survival and safety of each other. When empathy is returned, we can depend on this emotion to assure our wellbeing as well. This is not just about our physical safety from harm, but it includes the preservation and the welfare of others in our social circle for security, which we all require in our relationships. As one author shared, “Empathy regulates prosocial and antisocial behavior”.

COMPONENTS OF EMPATHY

In order to empathize with others, there has to exist something within us to register “what if that person was me?” This would require both the Will **[W]** to take a template of another person (like us) **[T]** and recreate a similar scenario **[S]** of ourselves in such a situation. Then we would need employ some sort of a “personalized assessment” **[A]** where our resulting emotions **[E(r)]** are compared to our baseline emotional function **[E(b)]**. If the disturbance of comfort exceeds our baseline comfort, we are motivated **[M]** toward action to restore the balance.

$$[W] * [M] = [E(b)] - [E(r)], \text{ where } A(S * ([T])) = [E(r)]$$

If we present this process as an equation, we can see that if a **baseline Emotional state E(b)** is not significantly altered by the **imagined self** in the **represented scenario E(r)**, there will be no **motivation (M)** to alter the situation. An example of this could occur, when one who is actively suffering a loss, observes another experiencing a loss. However, if the number of losses of the other person **(E(r))** is exceeded by personal loss (E(b)), one might be motivated to give comfort.

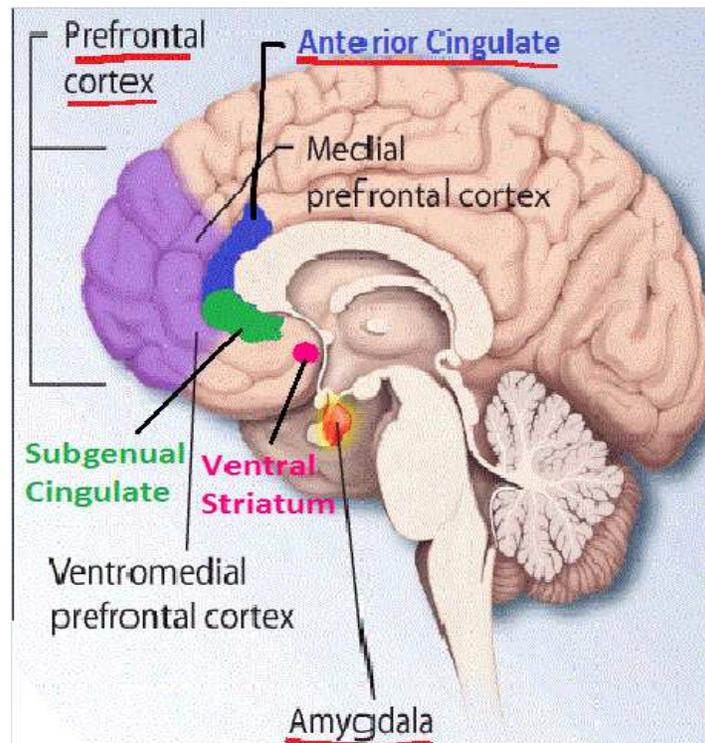
What condition, based on this equation, would increase the likelihood of empathy? First, there would have to be a willingness **(W)** to look beyond ourselves. Then there would have to be a high degree of similarity of the observed

person **(T)** to ourselves (e.g. age, gender, traits, etc) and the assessment **(A)** of imagined distress **(E(r))** would have to be significantly different from our baseline emotional comfort **(E(b))**.

THE BIOLOGY OF EMPATHY

"Simulation theories of empathy hypothesize that empathizing with others' pain shares some common psychological computations with the processing of one's own pain. Support for this perspective has largely relied on functional neuroimaging evidence of an overlap between activations during the experience of physical pain and empathy for other people's pain"

A substantial body of functional magnetic resonance imaging (fMRI) research suggests that observing others experiencing pain (e.g. observing a person receiving a hot probe placed on the hand), activates brain regions that are also activated during one's own experience of pain—the anterior cingulate cortex (ACC) and the anterior insular (AI) cortex



It is not the purpose of my present writing to discuss the neurological detail of empathy. However, it is suffice at this point to say we have the brain structure which is designed to fill a particular role for Empathy. Our design supports

the importance of “being wired” for this function in our lives and it also stresses the importance of our relating to each other as social creatures.

I believe this shared pain phenomenon, has something to offer us when we discuss empathy. When we observe others suffering from specific injuries, our brains mirror a similar pattern of pain activity related to the one we observe being injured. In fact, if you consider the brain pattern activity, it is much like we experience the very same injury, just by observing the one in pain. .

Pain is a subjective experience of discomfort but from a physiological perspective, there are some common characteristics behind the “pain” experience.

“...pain can result from increased activity in excitatory pathways involving, for example substance P, glutamate, etc. decreased activity in inhibitory pathways involving, for example noradrenaline or serotonin (5-HT) or both mechanisms..”(3)

Given that we seem to experience a similar injury pattern from observation, questions were raised on how this ‘perceived pain ‘ would be impacted after an observer is administered a painkiller. Even though it is unclear exactly how acetaminophen works, it does have analgesic and fever reducing properties. Tylenol (acetaminophen) is believed to regulate serotonin pathways.

Paracetamol has a central analgesic effect that is mediated through activation of descending serotonergic pathways.

EMPATHY AND PAINKILLERS

To examine the impact of painkillers on empathy, a study was conducted where randomized subjects were given a direct form of irritation by quick air puffs. A group of subjects were tested where they were to estimate the level of pain other subjects experienced when observed in the “painful situation”. Subjects again assessed the pain experience after an oral administration of 1000mg of acetaminophen in double blind study.

You can review this study [here](#).

Surprisingly, what was discovered is that acetaminophen (aka paracetamol or Tylenol) had a profound affect not only on direct painful stimuli but also in the pain attributed to others experiencing pain. In other words, empathy was directly diminished by taking 1000mg of Tylenol.

As hypothesized, acetaminophen reduced empathy in response to others' pain. Acetaminophen also reduced the unpleasantness of noise blasts delivered to the participant, which mediated acetaminophen's effects on empathy. Together, these findings suggest that the physical painkiller acetaminophen reduces empathy for pain and provide a new perspective on the neurochemical bases of empathy (2)

This ought to raise some concern for those involved in mental Health care.

"Based on the drug-induced reductions in empathy seen here, acetaminophen, and potentially other analgesics, might interfere with social processes that are critical for the promotion of social bonds and social order." (2).

"Because empathy regulates prosocial and antisocial behavior, these drug-induced reductions in empathy raise concerns about the broader social side effects of acetaminophen (as well as other potential pain regulating medicines), which is taken by almost a quarter of all adults in the United States each week". (2)



"As hypothesized, acetaminophen reduced empathy in response to others' pain. ...these findings suggest that the physical painkiller acetaminophen reduces empathy for pain and provide a new perspective on the neurochemical bases of empathy".

What this study implies is that most people taking Tylenol for chronic pain are likely experiencing an ongoing emotional shift just like the one I had experienced. Tylenol (acetaminophen) is frequently administered to manage chronic pain since it does not have the same concerns that most other pain medications, which may contribute to gastric ulcers and increased bleeding risks. Yet it seems very important to expose the impact that our medicines have on our emotional tone. Let us face it, without the awareness that a very common pain medicine can dampen our empathy and fuel our depression we would not appreciate a different level of our emotional experience. One can understand that taking pain medicine while being treated for a depressive disorder, it would be easy to conclude, "it is just how I feel" or "something must be wrong with me for not caring for others in my life". Counseling is always important in addressing the maladaptive way we approach relationships. It is very important to be 'equipped emotionally' to make necessary changes in our thinking for our progress. If we do not consider the broad impact of our medicine strategies, many people may be left hopeless in path toward healing. Emotional trials contribute to problems in our relationships despite all our mental health efforts to help others improve in their relationships. The missing piece of someone's emotional puzzle, may just be as simple as a change a pain medicine.

I wonder how many people we meet in our life who struggle with "I should care about him/her but I just don't"?

I wonder how many clergy or pastors, dealing with chronic physical pain are questioning their lack of empathy for others in their congregation? I wonder how many spiritual people actually wrestle with feel abandoned by God because they do not have the love for others as modeled by their Savior.



For some frustrated people, this post may bring some hope just knowing their pain medication may be preventing them from effectively restoring a wayward relationship.

Conclusion

There is so much we do not know about our treatment strategies for the many health problems we experience. Most strategies are evidenced-base, in that results of our best-known treatments guide future treatments of particular pathologies. The scope of clinical treatment is most often based on physical goals and it rarely considers the impact efforts on other aspects of life, i.e. influence on emotions. Medicine is not perfect, but good clinicians strive to improve their efforts by observing the impact of treatment on all planes of a patient's life. My post did not provide clear answers, nor did it reveal the exact mechanisms behind the dysphoria I experienced from my prescription medicine. However, it does likely explain what I experienced and it offers an insight to consider in treating patients with similar symptoms of depression. ,

If my readers personally experience depressive symptoms that seem untouched by prescribed medicines and applied therapeutic counseling efforts, please consider the impact of any pain medicines, which may be contributing to your prolonged dysphoria. Always seek the alliance with mental health professionals if you are depressed and feeling hopeless. I wish you joy and peace in your journey. Thank you for taking this walk with me.

Greg

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