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Recently I had the pleasure of interviewing two of the world’s leading authorities on addiction and its treatment. Dr. Kenneth Blum is the editor-in-chief of The Journal of Reward Deficiency Syndrome, where John J Giordano is a Subject Editor.

Dr. Kenneth Blum

In the early nineties Dr. Kenneth Blum and Dr. Ernest Noble made global headlines with their discovery of the reward gene – also known as the addiction gene. With their discovery published in the peer reviewed Journal of the American Medical Association (JAMA) came a completely new understanding of addiction and a fresh direction in the way it should be treated. In 1995 Dr. Blum coined the phrase ‘Reward Deficiency Syndrome’ or RDS to describe a condition unique to people with this specific genotype. Dr Blum is launching the Journal of Reward Deficiency Syndrome (JRDS), a new peer-reviewed quarterly published journal that covers the experimental, clinical and epidemiological areas of research which involves the gene associations (including environmental epigenetics) especially the genes involved in brain reward circuitry.

Patricia: What is Reward Deficiency Syndrome (RDS)?

Dr. Blum: In general terms, RDS is a condition where an individual with a specific genotype experiences muted reward and pleasure from their daily pursuits and activities as compared to others who don’t carry the genotype. Most often, people with this condition will seek outside stimuli such as drugs, alcohol, gambling, eating, sex, gaming and other risky behavior to help elevate the ‘feel good’ brain chemicals so that they can feel normal and at ease.

Patricia: When did you first believe that Dopamine played a role in addiction?

Dr. Blum: I went to many conferences on the subject and found that what was being proposed just didn’t add up in my view. I was sitting in a chair outside of one of those conferences and reasoned it was Dopamine that was responsible for the feeling of reward, or in the case of addiction, the lack of reward, and then I set out to prove my theory.

Patricia: You’d mentioned you spent over a decade researching before your paper was published in the Journal of the American Medical Association. Please tell us what your work revealed.

Dr. Blum: What we were able to determine was that people with the DRD2-A1 genotype don’t feel reward the way others do. Their responses are blunted. We were also able to determine that this is a direct result of fewer Dopamine receptors.

Patricia: How does this affect someone’s behavior?

Dr. Blum: Dopamine has many functions, but for this conversation we need to look upon it as the primary communicator (neurotransmitter) of reward and pleasure. Its job is to transmit calmness and ease to the rest of the brain. Imagine for a moment a basketball game where the ball goes through the net and the fans cheer. The basketball (Dopamine) goes in the basket (Receptor) creating joy in the fans’ brains. Now let’s look at the opposite; the ball (Dopamine) hit’s the rim and bounces away from the basket (Receptor) causing a collective uneasiness in the fans.

This is a crude representation of how Dopamine works in the brain. However, different from a basketball court, the brain has many (receptors) baskets. It also has many basketballs (Dopamine) in play at the same time, similar to a basketball team warming up before a game. When Dopamine (the ball) doesn’t make it into the receptors (baskets) because there are too few (baskets) available, the message of calm and ease is not communicated; leaving that person feeling edgy, jumpy, apprehensive and restless. As a consequence, most people with this genotype – the reward/addiction gene – will engage in the risky behavior I’d mentioned earlier because it will stimulate the release of Dopamine. Inevitably the additional Dopamine (basketballs) will find their way into the receptors (baskets) in greater numbers, thus communicating the feeling of calm and ease throughout the brain.

Patricia: You’ve just launched the peer reviewed Journal of Reward Deficiency Syndrome. Please tell us about it.

Dr. Blum: RDS touches all of us, either directly or indirectly, every single day. The realization and understanding of RDS is emerging but not at a pace commensurate with the influence this condition has on our everyday lives. My colleagues and I felt it was time to focus mainly on the research of Reward Deficiency Syndrome as a way to foster a better understanding of the condition and encourage new study. The Journal will provide a platform for understanding of the commonality of brain function in substance and non-substance addictive behaviors.

John J Giordano DHL, MAC

John Giordano is a pioneer in alternative medicine. He was one of the leaders to usher holistic protocols into the mainstream of addiction treatment. Mr. Giordano is the founder and former president of G & G Holistic Addiction Treatment Center – a 62 bed in/out patient JCAHO accredited facility in North Miami Beach, Florida – and the founder and current president of the National Institute for Holistic Addiction Studies (NIFHAS). The addiction treatment programs he developed at G & G have been proven to consistently out-perform industry standards. Giordano has worked closely with Dr. Blum on several genetic research projects and is a Subject Editor with the Journal of Reward Deficiency Syndrome.

Patricia: John, you are a thirty-year veteran of addiction treatment. What does the face of RDS look like?

Giordano: That is a very good question. Most people associate the ugly image of a person whose abusive drugs for years with RDS. But that is simply not the case. RDS has no unique physical features by which it can be identified. It could be anybody, the person you sit next to at work or the person handing you your dry cleaning. It could be your doctor or your boss. You simply can’t tell by their looks, but you can by their actions. Someone with RDS is going to feel uncomfortable in their own skin. They have trouble sitting still and paying attention. They might scratch their head or other areas of their body incessantly. The outward signs of discomfort are often the tell tale cues that lead me to look deeper. Keep in mind that RDS is a group of disorders such as impulsive and compulsive disorders, substance abuse and some personality disorders that all share a common trait.

Patricia: And that common trait would be the feeling of, in this case, the lack reward?

Giordano: Right. The common denominator here is Dopamine, one of the primary ‘feel good’ brain chemicals. When we do something good or accomplish a goal, our brain releases dopamine. Subsequently, we experience reward, pleasure and just feel good all over. On a subconscious level we take from this experience and learn that if we repeat the process we can feel good again. Unfortunately, people with Reward Deficiency Syndrome don’t derive pleasure from their experiences at the level of others. For the person with RDS to experience that same level reward and

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pleasure, he or she often relies on dangerous and potentially deadly stimulants. In addition, there are other contributing factors such as stress, low thyroid levels, heavy metals and others that contribute to low production and/or diminished levels of dopamine.

Patricia: You had mentioned that you’ve worked with Dr. Blum on genetic research projects. Can you tell us about it?

Giordano: Statistically, the one that jumps out right away was a study we did a few years ago at my former center. We tested all the participants who were in rehab to determine if they carried the reward gene, colloquially known as the addiction gene. We found that 74% of the people tested carried the (DRD2-A1) addiction gene. I was astonished but Dr. Blum said the results correlated with other studies he’d done. In fact, he estimates that up to 33% of the American population, or one in three people, carry this genotype and are at far greater risk of Reward Deficiency Syndrome compared to those who don’t share this genotype. Upon learning this I came to realize that RDS is ubiquitous, it touches all of us in one way, shape or form every single day.

Patricia: Is there a cure for RDS?

Giordano: No, not at this time. However the condition is treatable. It is important to note that even though you may have been born with a genetic predisposition to RDS, it is by no means a punitive sentence. You have the power to change with small lifestyle adjustments. There is a growing interest in epigenetics among scientists and researchers. Simply put, epigenetics is the study of external modifications to DNA that turn genes “on” or “off.” More studies need to be done but I’m very encouraged by the early results. Scientists and researchers are finding that we have much more control over our gene expression than previously thought. They’ve discovered we can change the gene expression completely by adjusting our environment and lifestyle.

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Patricia: What healthy habits can someone with RDS develop to turn “off” the addiction gene or at least improve their condition?

Giordano: What we’ve known for quite some time now is that much of what ails us can be traced directly back to exercise and diet. From my perspective, technology has outgrown our physiology. Our bodies and brains are not built for the cube farm or to be couch potatoes with remote controls and game controllers growing out of our hands; but rather to be hunters and gatherers walking through fields, swimming across lakes and climbing mountains. Yet we live sitting on our rear ends munching on processed foods and sucking on sodas loaded with harmful chemicals. In saying this, my recommendation is to exercise for at least thirty minutes per day. This alone will blunt the brain’s response to physical and emotional stress (stress is known to deplete Dopamine) while helping your body rid itself of dangerous toxins. Take a walk, go for a swim, ride a bike or join a gym. Aerobic activities will stimulate dopamine release, thus waking up the pleasure circuit. In addition to exercise, a balanced diet rich in tyrosine and omega 3 fatty acids will have a positive result. Tyrosine is an amino acid that helps the body produce dopamine. It can also be taken as a supplement. Meditation has also shown great promise in alleviating stress and other symptoms of RDS. It’s also important to replace as many of the toxic processed foods with organic everywhere you can.

In today’s hurry up society it’s impossible to eliminate all process foods, but with a little effort you can replace a big portion of it with healthy organic foods. Yet even with organic foods it is likely you’ll stick lack all the daily minimum nutritional requirements. Because of this I always recommend amino acid and vitamin therapy that will aid in neuro-transmission.

To learn more about Dr Blum and Reward Deficiency Syndrome (RDS), please visit: www.blumsrewarddeficiencysyndrome.com For the latest development in cutting-edge treatment check out John Giordano’s website: www.holisticaddictioninfo.com

Patricia Rosen, Publisher Sober World Magazine