

# Precision Behavioral Management (PBM) A Novel Approach to Combat Post-Traumatic Stress Disorder (PTSD)

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## Editorial

The genetic determinants of Post Traumatic -Stress Disorder (PTSD) are in fact the same sequence variations of polymorphic genes that support a hypodopaminergic trait (low dopamine function) that is also the mechanism of action of a list of Reward Deficiency (RDS) behaviors including Substance Use Disorder (SUD) [1,8,13]. During combat stress, dopamine is released from neurons 100 times above the resting state. This epigenetic insult added to trait hypodopaminergia is associated with increased vulnerability to PTSD [7]

The patented GARS is a ten gene panel of established polymorphisms or gene variations, selected from thousands of studies that associate most with the hypodopaminergic trait. The GARS; predicts risk for RDS behaviors including PTSD, by examination of the combination of reward polymorphisms [4]. Early GARS testing for risk stratification could allow for non-pharmacologic interventions. Pro-dopaminergic therapies may be used to ameliorate the hypodopaminergia and prevent the emergence of RDS behaviors like PTSD and SUD [5].

Genius Health has developed Precision Behavioral Management (PBM) which is the combination of GARS and an algorithm-driven, precise, ingredient-based dopamine regulator neuro nutrient (KB220Z). The six formulations of a pro-dopamine regulator (KB220PAM) are matched to the sequence variations specific to each patient [13]

Three independent published studies show that chronic administration of a nutraceutical KB220Z eliminated terrifying lucid nightmares in treated PTSD-ADHD patients. In at least four cases the persistent amelioration of these dreams continued for up to 12 months, after a self-initiated cessation of KB220Z

[11,12,13]. These cases support increased dopamine stability as well as functional connectivity between networks as shown in fMRI studies of both rodents and humans [2, 6]. The increase in connectivity volume (recruitment of more dopamine neurons firing in the reward site of the brain) in rodents suggest the induction of epigenetic changes (neuroplastic adaptation), which may be like that involved in human lucid dreaming.

Combat soldiers with a childhood background of violence or with a familial susceptibility and increased risk for SUD [15] might benefit from the administration of PBN directed precision pro-dopamine regulation with KB220Z to effect epigenetic expression (mRNA) to overcome this deficiency and reduce the suffering and violence committed by soldiers, returning to the USA after combat who have untreated PTSD. Reducing the stigma of PTSD by embracing both genetic and epigenetic effects of traumatic stress might influence all people with PTSD to seek out treatment without fear. Our laboratory is committed to continued required research involving the clinical benefits of PBM

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