1. **Title :** :

REWARD DEFICIENCY SYNDROME :
A RATIONAL OF TOBACCO HARM REDUCTION

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3. **Background and objectives :**

Tobacco use disorder is a public health scourge. Only 1 in 4 smokers succeed in quitting. Those with risky genetic factors, such as low dopaminergic function in the brain's reward site, are at high risk for relapse. This presentation sheds light on the Reward Deficiency Syndrome as a rational of Tobacco Harm Reduction

4. **Material and Methods :**

This overview is based on bibliographic data targeting substance abuse vulnerability factors, in particular the Reward Deficiency Syndrome.

5. **Results and conclusions :**

The path to addictive behaviors is facilitated by various determinisms such as personality traits, environmental factors, genetic and epigenetic factors. Reward deficiency syndrome is the salient expression of this, that result in a hypodopaminergic state and a predisposition to obsessive, compulsive and impulsive behaviors . All of these behaviors have been linked with low dopamine function. TAQ1A1 polymorphism of DRD2 has been reported as a genetic liability for substance use disorders. Recently, a multivariate genome-wide association meta-analysis found that across ancestries, PDE4B was significant (among other genes), suggesting dopamine regulation as a cross-substance vulnerability. The brain may compensate for the lack of pleasure by seeking an external source of dopaminergic stimulation like smoking, alcohol, drugs, food, sex and gaming..

Individuals In vulnerable populations, seek nicotine to regulate their mood and may self-medicate a reward deficiency syndrome. Non smoking nicotine products such as electronic cigarettes, heated tobacco, smokless tobacco and other nicotine non tobacco products offer them this less risky opportunity..

6. Conflicts of interest :

I declare no conflict of interest with pharmaceutical, tobacco, ecig, Alcool and gamebling industry.