

PTSD- Microbiome

A specific bacteria cluster of the gut microbiota Involvement in the progress of a unique PTSD treatment

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Prof. Yadid specializing for 3 decades in Neuropsychopharmacology Reward-related psychiatric disorders. More than 120 publications and patents, and worldwide collaborations.

Project Status:

Filed provisional.

Pre clinic study finished.

Next step- clinical trial.

Background:

Post-traumatic stress disorder (PTSD) is a mental health condition that can develop after a person experiences or witnesses a traumatic event. 15-20% of survivors from a traumatic event will develop PTSD.

PTSD effects not only the person, but also his entire surroundings, and can develop a both emotional and financial burden on a family- social level. - In the national level there is also a socioeconomic burden both in the allocation of many resources for the treatment (psychiatrists and/or psychotherapists, equal investment of time for all trauma victims) and decrease of the patient's productivity at work.

The Problem:

- Today there are no biological markers for diagnosing PTSD.
 - Early diagnosis of PTSD and treating it sooner is critical for preventing deterioration of the symptoms and even the developing of PTSD.
- Today testing PTSD is not parametric (quantitative) but qualitative (questionnaires), and takes 1-3 months to evidently diagnose a PTSD patient.
- The existing drug treatments are not satisfactory, and there is also no unique drug for PTSD. The success rates of using drug treatment in PTSD are less than 50%.

Solution and project uniqueness:

We have found 3 specific bacteria in the gut microbiota (animal model) that are related to development of PTSD.

We can treat susceptible ('PTSD-like') animals with these 3 bacteria, with significant results for improvement of behavioral performance (up to a normalized behavior!).

we believe that we can provide a proper solution for the currently weakness of the diagnosis and treatment of PTSD.

1. A fast and easy early diagnosis of PTSD (instead of 1-3 months).
2. First aid treatment (for everyone how have been in a traumatic event) to prevent development of severe PTSD.
3. A supportive add-on treatment to increase resilience, for existing PTSD patients.

Market size:

The estimated prevalence of PTSD worldwide is around 3.6%. Among military veterans, the rate of PTSD is 11-20%.

In Israel the estimates are 9% and 35% in veterans.

After October 7th, estimates rates in Israel went up to 50-60% (!).

The global market in 16B\$ with a growth of 4.9% up to 26.1B\$ in 2031

In Israel the market size is 1.5B NIS.