

## Gender differences in depression comorbidity of fibromyalgia

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**Background:** The mechanism of fibromyalgia, characterized by chronic widespread pain (CWP), is complex, hindering the development of effective treatments to release patients from poor life quality.

Female with fibromyalgia syndrome usually show higher pain intensity than male, yet more research studies have been done in male. Furthermore, the prominent comorbidity of fibromyalgia is found to be depression, where they share similar pathophysiology and the same dual serotonergic and noradrenergic agonists in pharmacological treatments, supporting the concept that they are “Differential symptom presentations of a single underlying conditions”, yet it is unclear about the intensity of depression symptoms between genders.

**Objective:** To investigate the differences in depression symptoms and respective intensity between male and female rats of Chronic Widespread Pain (CWP) model.

**Methods:** Bilateral mechanical hyperalgesia in rats of both genders will be developed through repetitive unilateral intramuscular injections of acid saline. The intensity of pain and depressive comorbidity of acid-induced pain model of are evaluated by Von Frey filament testing on pain behaviors, and by forced swimming, sucrose consumption, and sucrose preference tests on depression-like behaviors.

**Results:** The study is in progress. We are interested to understand if the types of depression symptoms and respective intensity are in proportion to the intensity of muscle pain between male and female rats.

**Conclusion:** The differences in depression symptoms and respective intensity between male and female rats would suggest a different phenotype for each gender, thus future drug development with gender specific considerations may be of benefits to the patients.

### Biography

Sabrina is a student of Medical Science Industries Department. Her current research is focusing on relationship of chronic pain and comorbidities, hoping to facilitate future drug development in Fibromyalgia.