

THE PRESENCE OF MIND

Official Newsletter of the UMass MIND Program



A WARM WELCOME BACK TO OUR COMMUNITY

Thank you for your continued interest and support of UMass MIND Clinical and Research Program. We are a team of devoted health care professionals and trainees who work to create a more inclusive community amongst patients, family members, mental health advocates, local organizations and providers within the Greater Worcester Area. In the past we have shared ground breaking research, local services, numerous events and various novel treatment approaches. We hope that our program can promote collaboration and connections throughout Central Massachusetts.

Research

Risperidone's Effect on 'Gut Feeling'

By Ruben Noroian

A part of the World Health Organization's (WHO) "List of Essential Medicines," Risperidone is considered an effective antipsychotic medication to treat schizophrenia. Risperidone can rebalance dopamine and serotonin in the brain, improving mood and behavior in those with psychotic disorders.

However, Risperidone is linked to a number of side effects, with weight gain as a common one. This may contribute to the increased prevalence of diabetes, obesity, hyperlipidemia, and cardiovascular diseases amongst patients suffering from psychotic disorders. These conditions lower quality of life, and are likely related to the shorter life expectancy in patients with schizophrenia, averaging almost 15 years below the norm in the United States.

Researchers have investigated how antipsychotic medications cause weight gain. Animal studies have shown that risperidone can inhibit the growth of specific kinds of gut bacteria, altering the gut microbiota. Gut microbiota is associated with digestion and metabolism and serves as a reliable indicator of human health. Therefore, any alterations to gut bacteria may cause more systemic metabolic changes.

In a 2018 study that was published in *Schizophrenia Research*, UMass MIND collaborated with researchers in China to investigate the changes in the gut microbiota of schizophrenia patients prescribed Risperidone over a 24-week period. The study found a significant weight gain that was associated with abnormalities in the gut microbiota. Specifically, a decrease in the Bifidobacterium bacteria was correlated to lower metabolisms.

In a follow-up randomized controlled trial to be published in *Translational Psychiatry*, UMass MIND and China collaborators investigated possible microbial biomarkers for schizophrenia treatment response in a sample of 107 individuals with first-episode schizophrenia, and 107 healthy individuals. When comparing these two groups, significant differences were found in 19 types of gut bacteria; and 9 novel biomarkers were discovered. Furthermore, a significant increase in the population of Lachnocostridium was found. This bacterium affects tryptophan metabolism and causes a significant decrease in the population of Romboustia, a bacterium that plays a role in the astrocyte-neuron metabolism system. Changes in the levels of these bacteria, which are involved in various metabolic and neurological processes, could lead to differences in the metabolism of affected patients. These findings present promising horizons for the future of schizophrenia research, suggesting that those living with schizophrenia could benefit from novel treatments targeting the gut microbiota.

1.Song X. Gut microbial biomarkers for the treatment response in first episode, drug-free schizophrenia: a 24-week follow-up study. *Translational Psychiatry*, in press.

2.Song X. Changes in metabolism and microbiota after 24-week risperidone treatment in drug naive, normal weight patients with first episode schizophrenia. *Schizophrenia Research*, 2018; 201, 299-306. PMID: 29859859.

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Lost & Found: A Message of Hope Through Dramatherapy

By Kalea Barger

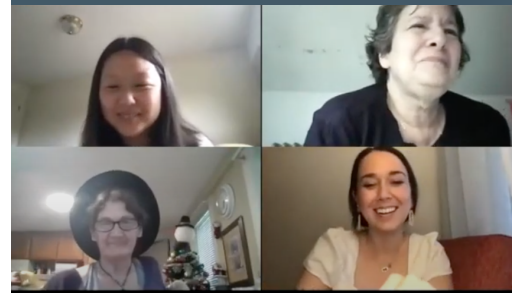
Creative arts therapies, while only recently gaining traction in medical communities, have been a central part of the UMass MIND's treatment exploration for individuals with significant mental issues. Drama therapy is an innovative approach that can provide a platform for individuals to express themselves in new and effective ways. Drama therapy uses concepts such as embodiment, projection, metaphor, and performance to suit the needs of any given participant, and can be especially helpful for those who have difficulties verbalizing their life journeys and values.

As part of the "Celebrating a Beautiful Mind" event series, UMass MIND held a public performance on May 23rd, 2021, to showcase our pilot virtual drama therapy program. In collaboration with Lesley University and through a co-active therapeutic theater model, participants worked to create a play that could represent themes found in their own real life experiences. After much discussion, the participants collectively decided on the title "Lost & Found: A Message of Hope," as a way to express the importance of the concept of hope within their own lives.

Lost & Found tells a heartwarming story of a long-lost royal family who finally reunites after a mysterious invitation to a Zoom meeting. Each of the family members have been on their own journeys where most have become great leaders or wise advisors. Upon reunion, this family learns about the true meaning of family and the importance of hope within their lives. The co-active element of this performance involved inviting viewers to share their messages of hope, which were then used to create a piece of spoken word poetry. Some of these messages were "you are enough," "we are all connected," and "embrace the challenge."

This performance highlighted the dedication and hard work of all participants, and acted as a great preview of what is to come. A two-year, large-scale virtual drama therapy program for individuals with serious mental illness, such as schizophrenia, major depression and bipolar disorder, will be launched soon. And while the virtual aspect of this project was a result of the COVID-19 pandemic, a focus group with the participants in the pilot program revealed that most actually preferred the online structure. With this feedback, we are working to restructure the program to incorporate a hybrid online/in-person model.

"Hope is always there; there is always hope for you. When the time is right, love is the way. Love is the way when the time is right."
-Dramatherapy Participant



Community

Food for Thought: Instilling Nutrition Values Through the Screen

By Natasha Nadar

Obesity is one of the most prevalent comorbidities among those with lived experience of serious mental illness. Not only do many antipsychotic drugs on the market come with weight gain-related side effects, the nutritional education for those with serious mental illness is significantly lacking. UMass MIND developed *Food for Thought*, a virtual nutrition education program, to address these unmet needs. The initiative acts as direct intervention to educate our patients on values of good nutrition, and the interconnectedness of mental health and eating.

This past May, we collaborated with Genesis Club of Worcester to implement our program into the community. Genesis Club is a non-profit organization that utilizes a clubhouse model of rehabilitation to help people with mental illness achieve their full potential through opportunities for employment, education, wellness, and housing. All individuals that participated in the virtual nutrition sessions were Genesis Club members.

Food for Thought Cont.

Food for Thought is one of the first programs to include both informational and interactive virtual cooking sessions. Cooking sessions included the preparation of parfaits, tacos and Thai curry. Although held on Zoom, the events were a success, with one member saying, “I can’t wait to have this for lunch tomorrow!” In another session, the group agreed that awareness of emotional/behavioral responses to food in addition to less distractions (TV, phone usage, etc.) can lead to more mindful eating. One individual said, “I want to try to think about the texture and taste of the food. Might help me stay in the moment.”

One of the major topics was centered around cooking on a budget. This is an extremely important aspect of nutrition as it is commonly misunderstood that healthy, whole foods come at a higher cost than processed, ‘junk’ food. In actuality, many healthy choices are available at affordable prices.

Following just a few sessions, there was a noticeable buzz about the program throughout members of Genesis Club. The program emphasized having fun in the kitchen, while also equipping participants with the tools to continue eating healthily. Post-event feedback revealed that the majority of participants found our initiative to be helpful, suggesting a positive influence on peoples’ outlooks on eating. We plan to bring our virtual nutrition education program to other mental health organizations in Central MA so that more patients can learn about and practice healthy eating.

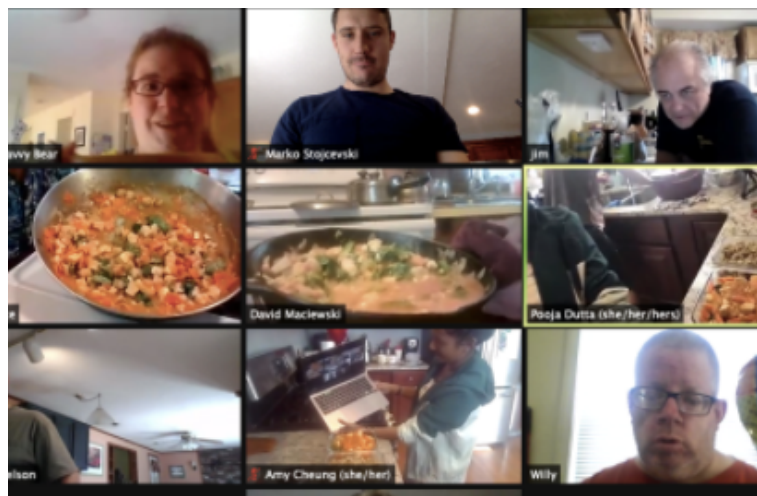


Figure 1: Example of Thai Curry cooking session conducted over Zoom

Global

US-China Collaboration: Mental Health in China

By Catherine Leonard

It is estimated that at least 250 million people in China are living with symptoms of mental illness, and of that, more than 16 million have a diagnosis of serious mental illness. The Chinese healthcare system is struggling to deal with this heavy burden, as there are not nearly enough psychiatrists or therapists to support the demands in this massive patient population. Currently, there are less than 30,000 psychiatrists and 5,000 therapists. These numbers translate to a mere 2 psychiatrists per 100,000 people.

During the American Psychiatric Association (APA) annual meeting this year (May 1-3, 2021), Dr. Xiaoduo Fan and top leaders from the mental health field in China delivered an invited general session entitled “US-China collaboration to advance mental health service and research in China.”

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Mental Health in China Cont.

Dr. Xiaoping Wang, professor and director of the Department of Psychiatry at the Second XiangYa Hospital of Central South University, spoke of a major area in need of an upgrade: mental health legislation in China. In 2013, the first “Mental Health Law” in China was finally established. According to the law, treatment should be the priority for individuals with mental illness; sufficient spaces and resources should be allocated to provide training in life and social skills; and most importantly the rights of those with mental illness should be protected.

Dr. Yifeng Xu, president of Shanghai Mental Health Center and professor and head of the Department of Psychiatry at Shanghai JiaoTong University School of Medicine, contextualized the mental healthcare system in the time of COVID-19 by providing an in-depth explanation as to the current pandemic has impacted those living with mental illness.

Dr. Jie Li, professor and president of Tianjin Mental Health Center and Tianjin Medical University, touched upon several unique psychosocial interventions that are becoming available to people with mental illness in China. In addition to Dr. Li, Dr. Min Zhao, professor and vice president of Shanghai Mental Health Center and Shanghai JiaoTong University School of Medicine, explained the rapid growth of mental health research in China.

The session was closed off by Dr. Fan, the organizer and moderator of this general session, as he recounted his personal journey with the US-China collaboration over the last 10 years.

Mental illness is a worldwide problem that each country grapples with on their own. China is not alone in experiencing the heavy burden of insufficient resources in the mental health field. However, collaborations amongst mental health professionals, like those who attended this session, made the hope for improved care for those who suffer from mental illness get closer to a reality.

1. State Council of the PRC. National Mental Health Working Plan (2015-2020).
2. Liang et al. Integrated mental health services in China: challenges and planning for the future. *Health Policy and Planning*, 33, 2018, 107-122.
3. Shao et al., The first mental health law of China. *Asian Journal of Psychiatry*, 13, 72-74.

Ongoing Research

Study #1
Substance Use Study
The purpose of this study is to see whether brexpiprazole, a recent FDA approved antipsychotic medication to treat schizophrenia, may help reduce substance use in individuals who are living with schizophrenia or schizoaffective disorder. Docket # H-00014611

Study #2
Negative Symptoms Study
The purpose of this study is to see if an investigational drug has effects on the negative symptoms of schizophrenia or schizoaffective disorder. Your participation will last approximately 5-months. Docket # H-00016707

Editors

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