

**SASKATCHEWAN  
PSYCHIATRIC  
ASSOCIATION**

**DEPARTMENT OF PSYCHIATRY  
RESIDENTS AND GRADUATE STUDENTS'  
RESEARCH SESSION**

**April 22, 10:15 – 11:30 a.m.**

***(In person)***

**April 19, 9:00 – 9:45 a.m.**

***(Pre-conference (virtual) poster session)***

**CONFERENCE & ANNUAL GENERAL MEETING**

**April 21-22, 2023**

Questions to [research.psychiatry@usask.ca](mailto:research.psychiatry@usask.ca)

Department of Psychiatry, CoM, University of Saskatchewan

**Adjudicators:**

Dr. AG Ahmed, MD, MSc, FRCPC (Provincial Department Head); Dr. Senthil Damodharan, MD, FRCPC, MB-BS (Regina); Dr. Camellia Srikanthan, MD, PGY2 (Regina); Dr. Adewumi Adegboyega, MD, FRCPC (Area Department Lead SW); Dr. Jenna Pylypow, MD, FRCPC (Saskatoon)

**Pre-Conference (virtual) Poster Session (April 19<sup>th</sup>, 2023); 9:00 am – 9:45 am***Introduction:*

9:00 am – 9:05 am

Dr. Mariam Alaverdashvili, PhD

#	Time	Presenters	Campus	Adjudicators
1	9:05 – 9:14	Dr. Huynh, Dan & Dr. Phang, Jonathan	Saskatoon	AG & CS & AA
2	9:15 – 9:24	Dr. Hamid, Emma	Saskatoon	AG & CS & AA
3	9:25 – 9:34	Dr. Ojah, Rani	Saskatoon	AG & CS & AA

**The main Poster Session (April 22<sup>nd</sup>, 2023); 10:15 am – 11:30 am***Introduction:*

10:15am – 10:20am

Dr. Mariam Alaverdashvili, PhD

#	Time	Presenters/Residents	Campus	Adjudicators
1	10:20 – 10:28	Dr. Vanderlot, Brittany	Regina	AA & JP
2	10:30 – 10:39	Dr. Singh, Sita	Regina	AG & JP
3	10:20 – 10:28	Carley, Samantha (MSc Student)	Sask.	SD & CS
4	10:30 – 10:39	Dr. Jacobson, Patrick	Sask.	SD & CS
5	10:40 – 10:49	Drs. Shokar, Aarondeep & Rahman, Hiba	Sask.	SD & AG
6	10:40 – 10:49	Dr. Wekerle, Mackenzie	Regina	AA & JP
7	10:50 – 10:59	Dr. Sunny Kang	Regina	AG & JP
8	10:50 – 10:59	Dr. Moradi-Nowghabi, Armin	Regina	AA & CS
9	11:00 – 11:09	Dr. Johnson, Donavon	Regina	AG & AA
10	11:00 – 11:09	Dr. Gattey, Natasha	Sask.	SD & CS

Both in-person and virtual poster presentations will proceed in the order identified and maintain the schedule.

- Each presentation will be comprised of a Presentation (5 min) and subsequent Q&A (4-5 min).
- Judges will ask you up to four (4) questions, so up to one minute will be allocated to each question.
- There will be prizes of \$600 (1<sup>st</sup> prize), \$300 (2<sup>nd</sup> prize), \$100 (3<sup>rd</sup> prize) provided by the SPA

## **Pre-Conference (virtual) Poster Session – Presentation #1**

**Project Title:** Is there an association between Attention Deficit-Hyperactive Disorder and cannabis among university students?

**Authors:** D. Huynh (MD)\*, J. Phang (MD)\*, A. Holt (MD, FRCPC)

\*Department of Psychiatry (Saskatoon Campus), University of Saskatchewan

### **Background**

There is growing evidence that ADHD is associated with cannabis use; however, this association has mainly been studied in middle-aged adults, with limited studies that focus exclusively on the young adult and university-aged population. The fairly recent legalization of cannabis in Canada makes examining this link all the more timely and relevant. This cross-sectional study examines the association between ADHD and cannabis use specifically in a university population.

### **Methods**

Cross-sectional data was obtained from the 2019 University of Saskatchewan National College Health Assessment (NCHA). The NCHA is nationally recognized research self-administered survey that collects precise data about students' health habits, behaviours, and perceptions. We performed a multivariable binary logistic regression to analyze the relationship between ADHD and cannabis.

### **Results**

A total of 1155 university students participated in the NCHA survey. There was a significant association between ADHD and cannabis use in the female student population ( $p=0.002$ ). Furthermore, females diagnosed with ADHD were three times more likely to use cannabis compared to non-ADHD females ( $OR=3.3$ , 95% CI [1.58-7.05]). This association remained significant even when accounting for mood disorders and anxiety ( $p=0.048$ ). Conversely, there was no association between ADHD and cannabis use in males ( $p=0.210$ ).

### **Discussion**

Since our results demonstrate a significant relationship between ADHD and psychiatric comorbidities with cannabis use in females, it may suggest that females are self-treating their psychiatric conditions with cannabis. Meanwhile, males are likely using cannabis for purposes other than self-medication (e.g., recreationally).

### **Acknowledgements**

We would like to acknowledge Dr. Evyn Peters for providing guidance with the statistical analysis.

## **Pre-Conference (virtual) Poster Session – Presentation #2**

**Project Title:** Potential risk factors among psychiatric inpatients developing venous thromboembolism while admitted to the Dubé Centre for mental health

**Authors:** E. Hamid (BSc MD)\*, R. Chan, T. Le (PhD), M. Alaverdashvili (PhD), A. Wanson (MD FRCPC), K. Halpape (BSP ACPR PharmD BCPP)

\*Department of Psychiatry (Saskatoon Campus), University of Saskatchewan

### **Background**

Venous thromboembolism (VTE) is a source of preventable morbidity and mortality among psychiatric inpatients, with the incidence of VTE ranging between 2-25%. The Dubé Centre for Mental Health (DCMH) team identified a trend of inpatients developing VTE. This study aimed to identify potential risk factors associated with VTE diagnosis.

### **Methods**

This was a retrospective case-control chart review of patients admitted to the DCMH from January 2007 to December 2021. The study included 32 patients (cases) aged 18 and older who received anticoagulation for acute VTE treatment, identified through inpatient pharmacy software, and 159 randomly selected controls from the pool of patients admitted to DCMH with discharge diagnoses other than VTE. Descriptive analysis involved frequency calculations (e.g., count, percentage, mean, standard deviation) of variables. To identify potential factors associated with VTE, univariate followed by multivariable logistic regression analysis was performed.

### **Results**

VTE patients were older than controls ( $52.3 \pm 19.7$  years vs.  $36.1 \pm 14.6$  years;  $p < 0.001$ ). There were no differences in gender and ethnic backgrounds between the two groups. Most patients (59-66%) were female and Caucasian (68-84%). Cancer, cardiovascular, hematological-related diseases, insomnia, psychiatric-specific interventions such as ECT, mechanical restraints, and acute medical diagnoses were significantly associated with VTE (ORs = 7.8 – 88.8;  $p$ -values  $< 0.05$ ). Substance use was significantly associated with decreased VTE odds (OR=0.14,  $p < 0.001$ ).

### **Conclusions**

Psychiatric inpatients have risk factors which could increase the likelihood of VTE. Resources targeted at VTE prophylaxis for those at risk, including staff education and clinical practice tools could help optimize inpatient psychiatric care.

### **Acknowledgements**

The Interdisciplinary Summer Student Research Award, and The Psychiatry Intramural Research Award (Laura E. Chapman Award and Alfred G. Molstad Trust) should be acknowledged for financial contributions.

## **Pre-Conference (virtual) Poster Session – Presentation #3**

**Project Title:** A retrospective chart analysis of the effectiveness of amantadine in youth with emotional dysregulation: A pilot study

**Authors:** R. Ojah (MD)\*, D. Quinn (MD, FRCPC)

\*Department of Psychiatry (Saskatoon Campus), University of Saskatchewan

### **Background**

Emotional dysregulation (ED) represents an inability to self-soothe leading to externalizing reactions such as irritability, mood lability, and deliberate self-harm. If unaddressed in childhood, ED is linked to future depression, anxiety, and substance use. Currently, no guidelines exist to direct practitioners on how to pharmacologically manage these challenging symptoms. Since glutamatergic dysfunction has implications in ED, this study *proposal* aims to evaluate the effectiveness of Amantadine in reducing ED symptoms in youth.

### **Methods**

We aim to conduct a retrospective observational cross-sectional study using data from medical records from the Child Psychiatry Division in Saskatoon, Saskatchewan. Since ED can present in Autism Spectrum Disorder, Attention-Deficit/Hyperactivity Disorder, and Oppositional Defiance Disorder, characteristics of ED instead will be targeted by: (1) review of screening tools (Swanson, Nolan, and Pelham Rating Scale; Clinical Evaluation of Emotional Regulation; Patient Health Questionnaire; *Screen* for Child *Anxiety* Related Emotional Disorders); and (2) practitioner notes including patient and family report, and mental status examination. Lastly, considering that Amantadine for ED is an off-label indication, adverse side effects will also be noted. Descriptive statistics, multiple linear regression, paired t-test, and ANOVA will be used to identify a demographic profile; determine if a relationship between Amantadine and ED exists; pre/post-treatment symptom assessment; and impact of co-prescribed medications for ED, respectively.

### **Conclusions**

As this study is currently awaiting ethics approval, there are no firm results or conclusions to report. Nonetheless, we expect to see improvement in ED with the addition of Amantadine, but it is unclear whether these changes will be statistically significant.

### **Acknowledgements**

None

## **Poster Session – Presentation #1**

**Project Title:** Maternal mental health access to psychiatry in Saskatchewan

**Authors:** B. Vanderlot (MD)\*, M. Baetz (MD, FRCPC), M. Alaverdashvili (PhD), T. Le (PhD), H. Aftab (MD, FRCPC)

\*Department of Psychiatry (Regina Campus), University of Saskatchewan

### **Background**

The rates of depression, anxiety, bipolar, and psychosis are higher in the perinatal period than the general public. These untreated mental health disorders lead to a wide array of complications in mothers, their babies, and families. It is imperative that these women have rapid and easy access to appropriate psychiatric care, in order to decrease their risk of untreated mental illness.

### **Methods**

This is a retrospective chart review that analyzed patient demographics and outcomes from a dedicated Saskatoon Maternal Mental Health Clinic (MMHC), the Referral Management System, and the provincial 811 Maternal Wellness Program (MWP). Data was extracted from multiple questionnaires at both programs. Descriptive statistics and data across programs were analyzed.

### **Results**

From 2019-2022, the MMHC had 167 perinatal patients see a psychiatrist, of which 76.8% were from Saskatoon and area, and none from Regina. The provincial 811 MWP had 524 patient supported by the program, of which 32% were from Saskatoon and 21% from Regina. Mean wait time to see a psychiatrist at the MMHC was 34 days. There was a significant difference ( $p=0.003$ ) between the MMHC initial Edinburgh Postnatal Depression Scale (EPDS) score and the last follow up EPDS score.

### **Conclusions**

There is a large maternal mental health population of Saskatchewan that are being managed without convenient access to a dedicated psychiatric clinic, outside of Saskatoon. This data is still preliminary and further analysis needs to be conducted on the 811 MWP data for further comparison.

### **Acknowledgements**

We would like to thank G. Yang for her work with data collection, and the Department of Psychiatry Intramural Research funding including the Alfred G. Molstad Trust, Aruna and Kripe Thakur Award, and Laura E. Chapman Award.

## **Poster Session – Presentation #2**

**Project Title:** Autism and sleep difficulties: What sleep strategies are caregivers of autistic children turning to and does this line up with what is recommended?

**Authors:** S. Singh (MD)\*, S. Newaz (PhD), S. Petryk (MD, FRCPC), F. Peluola (MD, FRCPC)

\* Departments of Psychiatry (Regina Campus), University of Saskatchewan

### **Background**

Insufficient sleep in children with Autism Spectrum Disorder (ASD) can lead to difficulties in social interactions, day to day life, academic achievement, and to more problematic behavioural difficulties. This study explored which strategies are being used by caregivers to help with sleep difficulties and evaluated if this is in line with the guidelines.

### **Methods**

A retrospective chart review of 100 school-aged autistic patients with sleep problems from the Child & Youth Centre in Regina was conducted. Descriptive information regarding the nonpharmacological and pharmacological strategies being used by caregivers was obtained. Descriptive statistics were computed and differences in the use of pharmacological and non-pharmacological strategies were compared using a t-test. Sex and presence of comorbidity are expressed as counts and percentages and compared with Pearson's chi-square test/ Fisher's exact test.

### **Results**

Non-pharmacological management strategies (68%) were used most when compared to pharmacological agents (32%). Autistic children who had comorbidity were mostly treated with pharmacological agents (90.6%). Melatonin (28%) was the most common pharmacological agent used and sleep hygiene (60%) was suggested most frequently as the non-pharmacological management. Half (50%) of the nonpharmacological interventions were not tried or used by caregivers.

### **Conclusions**

Caregivers turn more to nonpharmacological intervention for sleep problems. Fifty percent of the nonpharmacological strategies that have been recommended in the guidelines and which have shown to be effective were not tried in this population before switching to pharmacological methods. Future research can be directed at exploring which nonpharmacological methods are most beneficial in ASD children with comorbidities.

### **Acknowledgments**

Sincere thanks and gratitude to Sanjida Newaz and Dr. Susan Petryk for their expertise, advice, constructive suggestions and ongoing support during the development of this project.

### Poster Session – Presentation #3

**Title:** The interaction between Trauma, Attachment and Cannabis use in creating vulnerability for severe psychosis and suicide

**Authors:** Samantha J. Carley<sup>1</sup> BSc, G. Camelia Adams<sup>1</sup> MD, MSc, FRCPC, Robert Laprairie<sup>2</sup> BSc, MSc, PhD, Stephen Adams<sup>1</sup> MD, FRCPC

1. Psychiatry Department, College of Medicine, University of Saskatchewan
2. Division of Pharmacy, College of Pharmacy and Nutrition, University of Saskatchewan

**Introduction:** The objective of this qualitative study is to assess the common understanding patients and families have with respect to these major risk factors and their role in relapse or recovery, and to test the theory that these factors have interrelationships at play that increase the severity of the disease.

**Methods:** Semi-structured interviews examining the role of cannabis, trauma and attachment in relationships will be conducted with patients and family members. Codes will then generate the dominant themes and subthemes.

**Results:** 12 patients and 2 family members have been evaluated so far. Emerging themes include: *cannabis seen as coping, shift in views of cannabis due to illness, shift in cannabis use due to illness, negative experiences with psychosis as a motivator for change (positive or negative), the presence of trauma as a motivator for change (positive or negative), and social life as a motivator for change (positive or negative).*

**Conclusion:** Findings so far confirm significant relationships between cannabis use, trauma, attachment and psychosis. The results of this study will ultimately provide insights into targeted psychosocial treatments and educational programs that can be incorporated in early psychosis treatment in addition to biological interventions.

**Acknowledgments:** This project is supported by the Royal University Hospital Foundation Award, Department of Psychiatry Intramural Research Award (Laura E. Chapman award), and the Health Sciences Graduate Scholarship. We would also like to thank Dr. Lloyd Balbuena and Dr. Lachlan McWilliams as additional committee members in this MSc project.



## **Poster Session – Presentation #4**

**Project Title:** Predictors of response to intranasal ketamine in patients hospitalized for treatment-resistant depression

**Authors:** P. Jacobson (MD)\*, I. Cheveldae (MD), K. Halpape (BSP, ACPR, PharmD, BCPP), A. Wanson (MD, FRCPC), E.M. Peters (MD, MSc, FRCPC)

\* Department of Psychiatry (Saskatoon Campus), University of Saskatchewan

### **Background**

Ketamine is now recognized as an effective treatment for major depressive disorder but there remains a need to identify predictors of response to ketamine therapy.

### **Methods**

This naturalistic study was a retrospective analysis of data from 48 patients with treatment-resistant depression who received up to four doses of intranasal ketamine in an acute inpatient psychiatry hospital setting. Baseline demographic and clinical variables were examined as potential predictors of response along with treatment-emergent dissociation and blood pressure changes. Response was defined as a depression score decrease of 50% or more from baseline measured with the Hamilton Depression Rating Scale or the Montgomery–Åsberg Depression Rating Scale.

### **Results**

The response rate was significantly lower in patients diagnosed with a personality disorder, the most common of which was borderline personality disorder. In contrast, baseline scores on patient-reported questionnaires assessing maladaptive personality traits were not associated with lower response rates. Adverse childhood experiences and dissociation during treatment were associated with higher response rates.

### **Limitations**

The analysis was retrospective and exploratory. Treatment was naturalistic without a control group. Comorbid disorders were extracted from charts and could not be confirmed. Dissociation was assessed clinically without a validated scale.

### **Conclusions**

Patients with significant childhood trauma appeared to benefit more from ketamine treatment, consistent with previous research. More research to determine if personality disorders influence ketamine response is needed and should distinguish clinical diagnoses from those derived solely from patient-reported questionnaires. Treatment-emergent dissociation could be a predictor of response to intranasal ketamine but requires further study.

### **Acknowledgements**

We would like to thank the Dube Centre staff who participated in the quality improvement project.

## **Poster Session – Presentation #5**

**Project Title:** Bridging the gap: A pocket resource to assist students' transition into their psychiatry clerkship

**Authors:** H. Rahman (MD)\*, A. Shokar (MD)\*, M. Alaverdashvili (PhD), T. Le (PhD), D. De Souza (MD, FRCPC)

\* Department of Psychiatry (Saskatoon Campus), University of Saskatchewan

### **Background**

Transitioning to clerkship is the most challenging time for medical students. Consequently, students appreciate formal, structured information during rotations. We aimed to evaluate the effectiveness of a Psychiatry Information Card (PIC), designed for 3rd year medical students entering their psychiatry rotation in Saskatoon.

### **Methods**

This is a quasi-experimental study conducted among seven cohorts of 3-year medical students (cohort 1-3: control (no card) group and cohort 4-7: experimental (card) group, estimated n=59). Students completed an online survey that covers demographics, knowledge and comfort in psychiatric care at the start and end of rotation. Pre-post comparison formed the basis of the analysis. At the time of this presentation, data was collected for cohort 1-5 (n=39).

### **Results**

Fifty six percent of the study sample was female and there was no gender difference between the two study groups. There were significant improvements in the overall knowledge score (3.2 to 4.8 in control and 2.9 to 4.9 in experimental group; p-values<0.05) and comfort score (19.3 to 35.0 in control and 18.7 to 34.5 in experimental group; p-values<0.05). The improvement in comfort was comparable in both groups while improvement in knowledge was larger in experimental than control group. After controlling for gender and pre-rotation score, there was no significant difference between the two groups in post-rotation knowledge and comfort score.

### **Conclusions**

Clerkship is an essential part of medical training and although it can be daunting, it is a necessary component of training. Our study shows that an information card can aid in learning during clerkship.

### **Acknowledgements**

This work was supported by the University of Saskatchewan Department of Psychiatry Intramural Award.

## **Poster Session – Presentation #6**

**Project Title:** Assessing the influence of faith maturity on suicidality and depression

**Authors:** M. Wekerle (MD)\*, T. Le (PhD), M. Alaverdashvili (PhD), C. Adams (MD, MSc, FRCPC)

\*Department of Psychiatry (Regina Campus), University of Saskatchewan

### **Background**

The relationship between religion and mental health has been extensively studied, most of the evidence suggesting a protective role. Most research has focused on the impact of religious behaviours on mental health. The relevance of individuals' belief system, including the maturity of religious ideology has been largely ignored. This study aimed to explore the impact of faith maturity on various mental health outcomes.

### **Methods**

Data was collected via Intake Questionnaire from psychiatric service outpatients at the Royal University Hospital, Saskatchewan during August 2019 – March 2022 (n=155). Measures included demographics, faith maturity (Faith Maturity Scale- Short Form), depression (QIDS-SR 16), anxiety (GAD-7), suicidality (SBQR) and functional impairment (Sheehan Disability Scale). Descriptive analysis, univariate, followed by multivariable linear regression analysis was performed to examine the association between faith maturity and mental health outcomes.

### **Results**

The patient population was 73% female with mean age of 35.2 ( $\pm 13.2$  years). Univariate analysis found a significant association between faith maturity (overall score and vertical subscale that measures closeness to God) and suicidality ( $p = 0.02$  and  $0.01$ , respectively). However, the association was lost when patients' gender, age, and depression status were considered in multivariable analysis.

### **Conclusions**

Our study suggests that the protective impact that faith maturity seems to have on suicidality might be largely explained by depression status. Further studies are required to better understand the mechanisms that connects these factors, and the implications for clinical education and spiritual counseling.

### **Acknowledgements**

Thank you to Dr. Malin Clark for her support in developing this research initiative for the department. Funding was provided by the Education/Services fund through the Department of Psychiatry.

## **Poster Session – Presentation #7**

**Project Title:** Taking on the psychiatrist waitlist: The pooled referral system and psychiatric shared care model

**Authors:** S. Kang (MD)\*, V. Bennett (MD, FRCPC), M. Alaverdashvili (PhD), T. Le (PhD), M. Edwards (MD), G. Marcoux (MD, FRCPC)

\* Department of Psychiatry (Regina Campus), University of Saskatchewan

### **Background**

Saskatchewan has some of the highest wait times for patients referred to psychiatrists in Canada as compared to other provinces. One of the models in which the long wait times may be addressed is through the Pooled Referral System (PRS) model and shared care model between psychiatrists and family physicians (FP).

### **Methods**

To understand the advantage and barriers of the PRS and shared care model, satisfaction surveys were sent to FPs (n=300) in 2013 and 2020 (i.e., before and after implementation of the PRS) with ~25% response rate. Descriptive analysis was performed on quantitative data. Qualitative data from open-ended questions was explored using NVivo. Wait times to psychiatrists were measured by the PRS.

### **Results**

Assistance in the management of depression (over 50%) and anxiety (~10%) were most frequently requested by FPs in both survey rounds. However, the number of referrals for anxiety tend to increase in 2020. Assistance with management was most helpful psychiatric consult. The FPs also found telephone consultation service – LINK helpful. Limited access to psychiatrists was identified as the major barrier to optimize benefits of shared care model. With the initiation of the PRS in 2019, psychiatric wait times were reduced for the first six months. However, the impact of the COVID-19 pandemic created an unprecedented volume of referrals to psychiatric services.

### **Conclusions**

The PRS is an appropriate model to improve patients' access to psychiatrists. The FPs believe that discharge of stable patients back to them might improve psychiatric care capacity in Saskatchewan.

### **Acknowledgements**

None

## **Poster Session – Presentation #8**

**Project Title:** Do digital transformation and automation of administrative forms lead to lower levels of burnout symptoms in residents?

**Authors:** A. Moradi-Nowghabi (MD)\*, K. Shukla (PhD), E. Karreman (PhD), A. Papish (MD, MSc, FRCPC)

\* Department of Psychiatry (Regina Campus), University of Saskatchewan

### **Background**

Administrative burden contributes to burnout and well-being. In fact, the most prominent complaint by clinicians about their workplaces is the excessive amount of time spent on administrative tasks. Our aim is to evaluate the effects of digital automation on burnout.

### **Methods**

The level of burnout and frustration related to administrative tasks was evaluated among a sample of local resident physicians in the psychiatry department using a questionnaire based on Brief Burnout Questionnaire. The Leave Request Authorization and Notification Form was digitized and partially automated to reduce repetitive actions. The study was initiated in January 2023 and a follow up survey was completed 3 months after the initial pre-intervention survey. Results were compared using paired t-test.

### **Results**

There was no significant difference in experience of burnout and frustration which was high in both pre-intervention and post-intervention surveys. The mean score in the sample population for pre-intervention survey was 4.28 with a standard deviation of 0.26 and 95% confidence interval falling between 4.06 and 4.49. The post-intervention survey had an overall mean of 4.43 with a standard deviation of 0.31 and 95% confidence interval between 4.17 and 4.68.

### **Conclusions**

Further studies are warranted to elucidate and alleviate the effects of administrative burden on physician burnout.

### **Acknowledgements**

None

## **Poster Session – Presentation #9**

**Project Title:** Effects of antipsychotic medications on neural tissue using brain organoid models

**Authors:** **D. Johnson** (MD)\*, T. Wenzel (PhD), J. Lukan, R. Heistad, **D. Mousseau** (PhD)

\*Department of Psychiatry (Regina Campus), University of Saskatchewan

### **Background**

Three-dimensional human brain models known as brain organoids are a promising tool for studying drug effects on the brain. Brain organoids have previously been used to study drug-induced neurotoxicity and to model neurodevelopmental disorders. However, their application in psychiatric research is still in its infancy. This research looks into the feasibility of using brain organoids to study the effects of antipsychotic medications on the human brain. This study specifically examines how clozapine, a second-generation antipsychotic, affects the expression of key biomarkers linked to psychiatric disorders.

### **Methods**

The brain organoids used in this study were grown using a modified version of a previously published method (Wenzel et al., 2022). The treated organoid was exposed to a concentration of 20 micromols of clozapine for one week. The levels of expression of several biomarkers, including 5HT-2A, 5HT-2C, CB1R, CNP, DRD2, DRD4, MDR1, NET, NeuN, Nestin, TH, TPH2, and TUBB3 were analyzed using Western Blotting.

### **Results**

Overall, these findings suggest that clozapine exposure can cause significant changes in the expression of various biomarkers in the human brain, however, with a sample size of one, any meaningful statistical analysis or conclusions about the effects of clozapine on biomarkers in the brain are difficult to draw.

### **Conclusions**

Our study results support the pre-experimental hypothesis, indicating that additional research with a larger sample size is required to determine the quality of these findings.

### **Acknowledgements**

None

## Poster Session – Presentation #10

**Project Title:** Accelerated Resolution Therapy to treat children and adolescents with psychiatric symptoms

**Authors:** N. Gattey (MD)\*, K. Edwards (MD FRCPC)\*\*, M. Alaverdashvili\* (PhD), T. Le\* (PhD), D. Quinn (MD, FRCPC)

\*Department of Psychiatry (Saskatoon Campus), University of Saskatchewan

\*\*Department of Psychiatry (Regina Campus), University of Saskatchewan

### Background

There is empirical evidence for use of Accelerated Resolution Therapy (ART) in adult populations for treating post-traumatic stress disorder and anecdotal evidence for relieving symptoms of various psychiatric conditions. However, research on ART in youth is limited. Our study aimed to characterize the psychiatric profile of youth who received ART, identify potential barriers to ART, and gain insights into the use of standardized psychiatric scales to evaluate the effectiveness of ART.

### Methods

We performed a retrospective medical chart review on child and adolescent psychiatric outpatients seen at Royal University Hospital (2017-2021). Ninety-five ART patients and 95 non-ART patients were matched on primary diagnosis from the electronic medical record (EMR). Data was analyzed using descriptive analysis, independent t-test and chi square tests for group comparisons.

### Results

The ART population was significantly older (mean age=17.7±2.9 years vs. 15.3±3.1 years) and included more female (85% vs. 64%) than the non-ART group. The most common reasons for ART were sexual assault (22%) and anxiety (21%) in females, and household dysfunction (23%) and anxiety (15%) in males. ART was effective in 75% of patients. Barriers to receiving ART were reported in 22% and these were largely those who did not find ART effective and were identified as having poor engagement. Only 31% of patients completed rating scales prior to ART.

### Conclusion

ART is highly effective in treating psychiatric symptoms in youth. There is a need to apply standardized scales to measure patient outcomes and evaluate ART effectiveness.

**Acknowledgements:** Special thanks to Candace LaPointe (Mental Health & Addictions Services, Saskatchewan Health Authority) and Adrian Teare (University of Saskatchewan M.D. Candidate, Class of 2024) for assisting with data collection. This research is funded by the Alfred G. Molstad Trust through the Intramural Awards via the Department of Psychiatry.