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A Preliminary Study: The Influence of Psychostimulants on Misconducts Among Incarcerated Individuals with Attention Deficit Hyperactivity Disorder

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BACKGROUND

- Approximately 25% of incarcerated adults worldwide meet the diagnostic criteria for attention-deficit/hyperactivity disorder (ADHD).¹
- ADHD-related problems, including blunted reward, behavioural disinhibition, and emotional dysregulation, are substantial predictors of criminal offending and delinquent behavior.^{1,2,3}
- Psychostimulants are considered the most effective treatment for ADHD; however, the use of these medications in the prison setting remains controversial due to concerns of misuse and diversion.^{1,4}
- Studies have shown that the use of psychostimulants among inmates with ADHD improve behavioral functionality and self-reported quality of life while reducing criminality with no detection of substance misuse.^{2,5}
- Despite this, ADHD remains misdiagnosed and undertreated among incarcerated populations, with only 15.6% of ADHD inmates receiving treatment for their symptoms.^{1,6}
- Thus, it is necessary to assess the influence of psychostimulant treatment on misconducts in ADHD inmates.

OBJECTIVES

- The purpose of this study is to compare total, non-violent, and violent misconducts before and after stimulants were introduced to inmates with ADHD.
- Ultimately, our goal is to evaluate the impact of psychostimulant treatment for inmates with ADHD in hopes of understanding the benefits and risks of implementing ADHD treatment in the prison.

METHODS

Pre-Stimulant Data Collection

- The total sample (N = 6,624) included incarcerated individuals at the Central North Correctional Centre (CNCC) in Canada from 2006-2011.

Post-Stimulant Data Collection

- The total sample (N = 5,569) consisted of incarcerated individuals at the CNCC from 2012-2017.
- 97 of these inmates were diagnosed with ADHD.
- All ADHD diagnoses were determined using DSM criteria.
- The ASRS v1.1 was routinely implemented to improve diagnostic precision.

Types of Misconducts

- Total misconducts: total number of non-violent and violent misconducts
- Non-violent misconducts: non-aggressive disruptive behavior that impacted the prison facility (e.g., contraband, escape attempts)
- Violent misconducts: aggressive behavior towards inmates or staff (e.g., commits/threatens assault, incites disturbances)

Safety Evaluations

- All inmates prescribed a stimulant underwent cardiac screening (blood pressure, heart rate, and auscultation monitoring).
- A family history of sudden cardiac death syndrome and a screening for any psychotic and bipolar disorders was completed.

Treatment Duration

- Inmates with at least 5 weeks of stimulant treatment were included.

Drug Doses and Administration

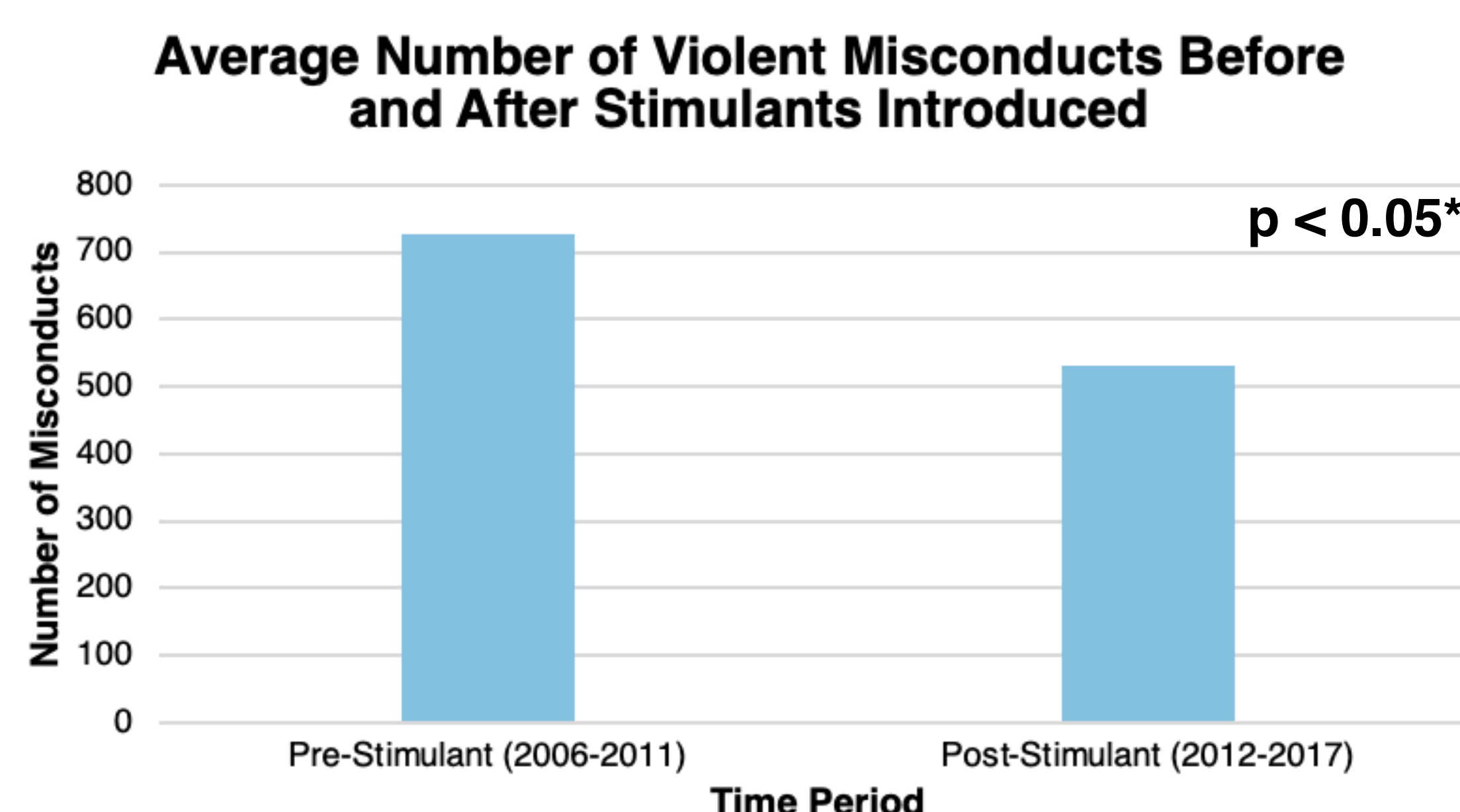
- Vyvanse (20-60mg) and Biphentin (15-80mg) were selected for this trial due to their dissolvability.
- Biphentin beads from the capsule are placed on top of the tongue and swallowed whole, followed by the immediate consumption of water. Inmates must then open their mouths for inspection.
- Vyvanse are administered as a powder already dissolved in water in a medication cup. Inmates then showed the remaining contents of the cup and opened their mouths for inspection.

Statistical Analysis

- Two Independent sample t-tests were performed to compare violent and total misconducts between pre-stimulant and post-stimulant populations.

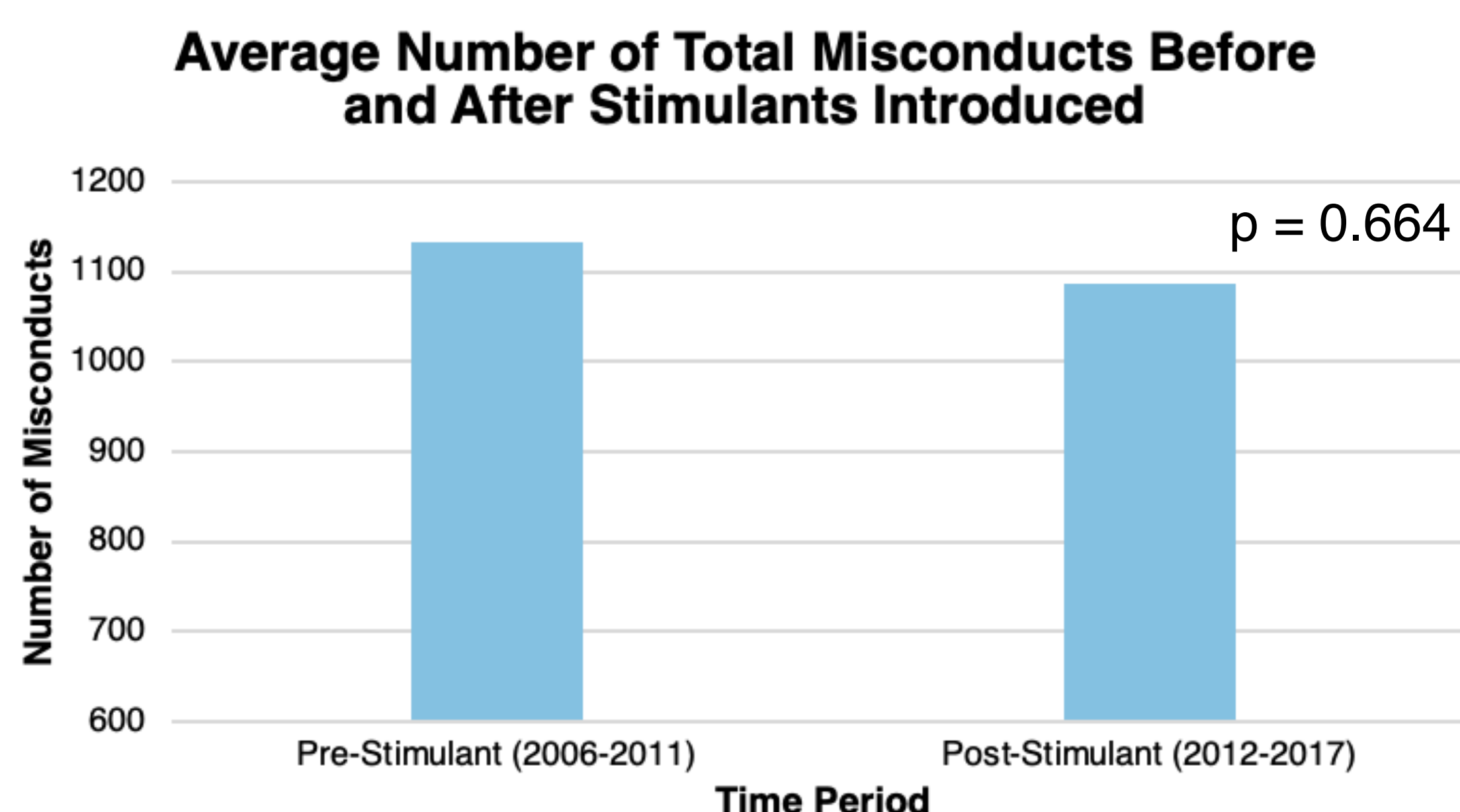
RESULTS

Figure 1.



Pre-stimulant inmates (M = 726.17, SD = 133.51) committed significantly more violent misconducts ($t(10) = 2.57$, $p = 0.028^*$) compared to post-stimulant inmates (M = 532.50, SD = 127.84).

Figure 2.



Pre-stimulant inmates (M = 1132.00, SD = 155.30) demonstrated no significant difference in total misconduct ($t(10) = 0.45$, $p = 0.664$) compared to post-stimulant inmates (M = 1087.33, SD = 188.46).

DISCUSSION

- Results from this preliminary study found that violent misconducts were significantly reduced and total misconducts were not significantly changed after psychostimulants were introduced.
- Therefore, the use of Vyvanse and Biphentin may be beneficial treatments for incarcerated individuals diagnosed with ADHD.
- Stimulant treatment could potentially alleviate hyperactive and attentional symptoms of ADHD, while importantly reducing the number of violent misconducts, potentially lowering recidivism rates, and improving the mental health of inmates.

LIMITATIONS

- Although pre-stimulant (N = 6,624) and post-stimulant (N = 5,569) sample sizes were similar, the number of individuals diagnosed and treated with a stimulant in the post-stimulant group (n = 97) was much lower due to the study's preliminary nature.
- There was a lack of comparison of specific misconducts by individual ADHD inmates between pre- and post-stimulant data.

CLINICAL AND THEORETICAL IMPLICATIONS

- Increased awareness of the high prevalence and significant implications of ADHD among prisoners are required.
- Results from this preliminary study support the introduction of psychostimulants into the prison environment, specifically due to the influence of psychostimulants on reducing violent misconduct among ADHD inmates.
- In conclusion, the considerable potential benefits of introducing psychostimulant medication to inmates with ADHD seem to outweigh the potential risks, as long as treatment follows strictly controlled procedures.

Future Directions

- Comparatively assess the number of misconducts by the same ADHD inmates from before and after psychostimulant treatment.
- Investigate changes in non-violent misconducts after the implementation of psychostimulants.
- Explore the number of misconducts amongst ADHD inmates based on subtypes (i.e., comorbid psychiatric disorders and minority groups, such as females).

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