



CAFFEINE CONSUMPTION AND POLARIZED AFFECTIVE
RESPONSES IN SCHIZOPHRENIC AND EPILEPTIC PATIENTS

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Abstract

The present study is focused on six case reports examining the interactions of caffeine consumption with the affective states patients diagnosed with schizophrenia and epilepsy. The findings reveal commonalities across both diagnostic groups, with all patients experiencing elevated negative affects such as irritability, restlessness, agitation, and hyperactivity without goal-oriented behavior following significant caffeine intake. Both groups also reported anxiety and jitteriness. However, diagnosis-specific patterns emerged: patients with schizophrenia exhibited pronounced mood swings, disorganized thinking, and confrontational behavior, while those with epilepsy displayed heightened neurological sensitivity, with caffeine exacerbating seizure-related symptoms and nervous tension. The study supports the hypothesis that caffeine consumption leads to emotional dysregulation and behavioral agitation in both schizophrenia and epilepsy. In schizophrenia, caffeine contributed to cognitive disorganization and mood instability, consistent with prior research, while in epilepsy, it increased neurological vulnerability, aligning with earlier studies. These findings suggest that while caffeine may offer temporary stimulation, its overall impact on patients with these chronic conditions is predominantly detrimental.

Keywords: *caffeine, schizophrenia, epilepsy, positive and negative affect*

1. INTRODUCTION

Caffeine is a widely consumed substance with stimulant effects on the central nervous system. Moderate intake—defined as up to 400 mg per day, approximately equivalent to five cups of coffee—is generally regarded as safe and may even confer certain benefits. Among its desirable effects are heightened alertness, improved mood, and the potential to prevent depressive symptoms. However, caffeine can also produce adverse effects, including insomnia, restlessness, agitation, and, in a subset of individuals with heightened sensitivity, increased anxiety (Nehlig, 2016).

Lifetime coffee consumption has been associated with a reduced risk of developing neurodegenerative diseases, such as Parkinson's and Alzheimer's, as well

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as a decreased risk of stroke. Caffeine does not favour the development of addiction in most of the cases, even though slight symptoms of withdrawal have been noticed in isolated cases (Dager et al., 1999).

The majority of coffee consumers primarily choose it for its energizing effects; however, coffee also possesses a significant social dimension associated with its consumption (Richards & Smith, 2016).

Coffee drinking in psychiatric settings has been widely debated by scholars over the past few decades (Kruger, 1996; Pareek et al., 2024; Thompson et al., 2014), as its frequent presence in such facilities is unneglectable. Neuropsychiatric patients, especially individuals diagnosed with schizophrenia, tend to consume larger quantities of caffeine compared to the general population (Thompson et al., 2014). The motivations they invoke for doing so are usually related to the invigorating effect of the substance or the taste- sensorial reward, however, individual experiences differ from one another.

Schizophrenia and Epilepsy are two severe illnesses that induce significant psychological suffering to the ill. While the latter is a neurological disease, with a straightforward physiological mechanism of manifestation, the first is an intricate psychiatric diagnosis, with underlying structures that are yet to be understood. The subjective experience of each person who suffers from the illness is unique, therefore there are a plethora of versions of symptom profile (Mendez et al., 1993). Both are chronic and require treatment protocols that need to be respected throughout the whole lifespan, which constitutes a challenge for the people in question, as adherence to treatment is variable and depends on the severity of the illness, personal features and various external factors.

Epilepsy is the denomination used for a series of neurological disorders which are characterised by recurrent partial and/or generalized seizures. The difference between the two types of seizures is established by the focal area of onset, which is characteristic for partial seizures, or the bilateral hemispheric onset, which accounts for generalized seizures. Both categories of seizures are generated by aberrant electrical activity within the brain, with EEG-identifiable patterns (Smith, 2005). The cognitive and behavioural repercussions of epilepsy are related to the constant dysregulation imposed by the abnormal electrical activity of the brain and the most common amongst them are: slow speech, delayed understanding and reaction (Aldenkamp & Bodde, 2005), slowed cognitive processing (Hwang et al., 2019; Novak et al., 2022). The affective dimensions of epilepsy are equally relevant and have been studied for different versions of the disorder (Jackson-Tarlton et al., 2020; Rauschenbach et al., 2022) as the persistent modifications prompted by the recurrent seizures could lead to the onset of depression, anxiety and limited insight (Rauschenbach et al., 2022) altered emotional processing (Hixson & Kirsch, 2009) susceptibility to frustration and irritability (Campos-Fernández et al., 2020).

Schizophrenia, on the other hand, is, by excellence, one of the most intricate psychiatric diagnoses from the last two centuries (Adityanjee et al., 1999). It is defined by impaired cognitive-behavioural processes – reasoning, memory performance, purposeful acts, and by flat affect, which are comprised under the name of “negative psychotic symptoms”, and also by disorganized global conduct (speech,

actions, thinking), hallucinations and delusions, which are known as positive psychotic symptoms. The causal mechanisms of schizophrenia have not been fully explained to the present day, as the historical evolution of the diagnosis has pointed out significant differences between cases and little grounds for categorization (Rabinowitz et al., 2012). From what is known about schizophrenia, it has been argued that low levels of dopamine in areas of the prefrontal cortex explain the negative psychotic symptoms and high levels of dopamine in the mesolimbic pathway account for the positive ones. Affect is another extensively debated aspect of schizophrenia: on the one hand, a frequent symptom of the illness is the bluntness of affect, which can deteriorate to the point of flattening- term that is synonym with lack of emotional experience; on the other hand, there are the changes that antipsychotic medication produce within the chemistry of the brain, that impact mood and affective processing of experiences.

Both illnesses produce evident changes of chemical-somatic and cognitive-behavioural natures. The recommended pharmacotherapy is necessary for symptom management and functionality preservation, however, it also impacts the cognitive-behavioural structure of the person. Besides them, additional alterations are conveyed by substances people choose to consume. Caffeine is one of the most popular and accessible stimulants and is commonly used among people diagnosed with various neuropsychiatric disorders.

A wide number of studies have investigated the relationships between coffee intake and various aspects of schizophrenia (Gurpegui et al., 2004; Koczapski et al., 1989; Szoke et al., 2023) and epilepsy (Bourgeois-Vionnet et al., 2021; Socała et al., 2020). Caffeine impacts both schizophrenia and epilepsy, at a physiological level- namely, the adenosine receptors (Ribeiro & Sebastião, 2010) and at a neurobehavioural one (Alasmari, 2020).

2. OBJECTIVES AND HYPOTHESES

2.1. OBJECTIVES

The current research aims to describe in depth the relationships between caffeine consumption and elevated positive and negative affective states in chronic inpatients diagnosed with schizophrenia and epilepsy. Also, to explore the motivation and the level of insight behind this behaviour, for this PARTICULAR set of individuals.

2.2. HYPOTHESES

H1. Individuals with schizophrenia. who consume more than 200 grams of caffeine in one sitting will report both elevated positive and negative affective states

H2. Individuals with epilepsy who consume more than 200 grams of caffeine in one sitting will report both elevated positive and negative affective states

H3. Individuals with schizophrenia and individuals with epilepsy who are informed about the interactions of their treatment with caffeine will not alter their consumption patterns

H4. Individuals with schizophrenia and individuals with epilepsy who consume more than 200 grams of caffeine in one sitting provide emotional motivation for the consumption

3. METHOD

3.1. PARTICIPANTS

The research focuses on 6 chronic inpatients, committed to the psychiatric hospital. 3 diagnosed with schizophrenia (two men, one woman) and 3 diagnosed with epilepsy (two women, one man). Participants have either elementary or highschool studies. None of them are currently working. Five of them benefit from invalidity pensions.

3.2. INSTRUMENTS

1. The PANAS-GEN (Positive and Negative Affect Schedule - General) (CRAWFORD & HENRY, 2004) scale is a psychometric tool that measures general positive and negative affect. It consists of two 10-item subscales that assess a broad range of mood states over a longer, non-specific time period. Using a Likert scale from 1 (very slightly or not at all) to 5 (extremely), it captures the intensity of emotional experiences, providing reliable and valid measures of affective states across various contexts.

2. The Lazarus Clinical Interview- a comprehensive, multimodal assessment technique that evaluates clients across seven modalities: Behavior, Affect, Sensation, Imagery, Cognition, Interpersonal relationships, and Drugs/Biology (BASIC ID). It is a structured yet flexible approach that uses open-ended questions to gather detailed information in these areas

3.3. PROCEDURE

The questionnaire and the clinical interview were both administered by a clinical psychologist who offered additional explanations to the participants when needed. All participants provided their consent, after being informed on how their data will be utilised in the research, thus ensuring compliance with both ethical codes and GDPR legislation. All participants were informed about the subject of the research and provided consent, fully aware of the anonymity of their identities and the research's purpose.

3.4. RESEARCH DESIGN

The study consists of six case reports, compiled from data gathered through the administration of the PANAS-GEN, the Lazarus Clinical Interview, and psychological observation.

For the research design, the following variables were analyzed:

1. Dependent variables: positive and negative affective states
2. Independent variables: coffee consumption

The case reports will be presented as follows, under the codings of E1, E2, E3 (Epilepsy Patients Case Reports) and S1, S2, S3 (Schizophrenia Patients Case Reports)

4. PRESENTATION OF CASE REPORTS

E1: MM, 7 months of hospital commitment, was admitted after the nursing home where she was residing was closed due to noncompliance with the current regulations.

Patient Information: Female, 36 years, with childhood-diagnosed epilepsy, moderate mental disability and kleptomania. She has been in the care of the state (various nursing homes) since her teenage years, both parents are alive, but estranged from the patient, she also has a younger brother with whom she is not in contact. Her family invokes the patient's behavioural issues and reduced ability to care for herself as motives for leaving her in the care of the state and keeping the distance.

The patient was never enrolled in a special education system which resulted in limited literacy-she is only able to write a few letters.

The patient has been committed to a hospital for ongoing behavioral disturbances, including kleptomania, irritability, and an inability to care for herself independently.

Caffeine Consumption: Against the concerns of the medical personnel regarding seizures, the patient consumes 3-4 cups of instant coffee per day, with most intake concentrated in the early hours. The patient reports experiencing the following effects shortly after caffeine consumption: Elevated enthusiasm and hyperactivity without purposeful direction (sometimes browses for things she can take, takes them without a clear purpose “just to see them” “to play with them”); Irritability and a jittery state, which are consistent with scores on the PANAS-GEN scale (Positive and Negative Affect Schedule – General Form), low impulse control and low inhibition or self-censorship in social interactions, leading to inappropriate and disinhibited behaviors, Marked restlessness, characterized by excessive fidgeting and difficulty sitting still; increased emotional reactivity, including frequent mood swings.

Illness-Substance interaction: The patient's diagnosis of epilepsy raises additional concerns regarding the impact of caffeine on her neurological condition. While caffeine can act as a stimulant, it is known to increase seizure risk in certain individuals who are prone to these manifestations (Bourgeois-Vionnet et al., 2021; Van Koert et al., 2018). Although the patient has not reported any recent seizures, her elevated irritability and agitation after caffeine intake could be contributing to the overall instability in her mental state and emotional regulation. Furthermore, her moderate intellectual disability significantly limits her ability to

understand and self-regulate behaviors, which complicates her clinical management. Her limited literacy and lack of special education make it difficult for her to engage in structured therapy or behavior modification programs.

The patient's family dynamics have played a considerable role in her current circumstances. Having been abandoned by her family due to her inability to care for herself and her challenging behaviors, the patient has lacked adequate social support. This has likely contributed to her emotional instability, social isolation, and her reliance on caffeine as a potential coping mechanism.

E2: DS, 3 weeks of hospital commitment, was admitted after his inability to manage caregiving responsibilities and escalating behavioral disturbances, potentially aggravated by alcohol consumption.

Patient Information: Male, 34 years, with traumatic brain injury (TBI) sustained at age 9, leading to seizures and a mild mental disability. The patient also has a history of occasional alcohol abuse. He is the primary caregiver for both his toddler daughter and his parents, who suffer from severe somatic illnesses. Despite completing seven years of primary education in a special school, he struggles with managing his daily responsibilities, adding further strain.

The patient has been committed to the hospital for ongoing behavioral disturbances, including irritability, vindictive behavior, and difficulty managing his caregiving responsibilities.

Caffeine Consumption: The patient was advised to limit his coffee intake due to concerns seizures and mental state, the patient consumes 5-6 cups of coffee per day, mostly concentrated in the early hours. He reports experiencing the following effects shortly after caffeine consumption: Elevated enthusiasm and heightened energy, though lacking in purposeful direction; he frequently engages in disorganized or erratic behavior; hostility and irritability, with frequent arguments and agitated interactions with staff; nervousness and hyperactivity, often characterized by restlessness, fidgeting, and a jittery state, ruse of speech, speaking rapidly and forcefully, especially during emotional or agitated moments; Vindictive behavior, marked by persistent demands and a heightened sense of entitlement in interactions with hospital personnel, often presenting grievances in a confrontational manner. These observations align with his self-reports on the PANAS-GEN scale, where he scores high in negative affect states such as hostility, irritability, and nervousness, along with hyperactivity that lacks focus.

Illness-Substance Interaction: The patient's history of traumatic brain injury raises significant concerns regarding his neurological and cognitive

state. While not formally diagnosed with epilepsy, his seizures, which may be triggered by stress, lack of sleep, and high caffeine intake, are a significant aspect of his clinical picture.

His mild mental disability, likely a result of the TBI, further impacts his ability to regulate his behavior, manage stress, and solve problems effectively. This impairment makes him more prone to emotional dysregulation, especially given his caregiving responsibilities, which place additional pressure on him.

The patient's occasional alcohol abuse also complicates his health, particularly in conjunction with caffeine consumption, as the opposing effects of alcohol (a depressant) and caffeine (a stimulant) may exacerbate mood swings, irritability, and erratic behavior.

The patient's role as the primary caregiver for his 27 month-old daughter and both parents, alongside his difficulties with impulse control, significantly impacts his mental and emotional health. His irritability, revendicative behavior, and frequent confrontations with hospital staff reflect his underlying frustration, emotional instability, and inability to cope with the demands placed upon him. The social and emotional strain resulting from these responsibilities likely heightens his stress levels, contributing to his behavioral disturbances.

E3: RM, 5 months of hospital commitment, was admitted for evaluation and treatment after ongoing behavioral disturbances and emotional dysregulation, potentially exacerbated by excessive caffeine intake.

Patient Information: Female, 42 years, with childhood-diagnosed epilepsy and a moderate mental disability. The patient completed only four years of primary education, which has limited her coping skills and ability to engage in structured therapeutic interventions. She has been committed to the hospital for ongoing difficulties in managing her emotional state, including restlessness, irritability, and poor impulse control.

Caffeine Consumption: Despite concerns from medical personnel regarding the impact of caffeine on her seizure threshold, the patient consumes 4-5 cups of instant coffee daily, with occasional increases. She reports the following effects, which have been corroborated by hospital staff: Periods of excessive energy and enthusiasm that are often disproportionate to her surroundings; Marked difficulty sitting still or focusing, with frequent physical fidgeting and mental agitation; despite episodes of elevated mood, she also reports frequent feelings of fear and anxiety, leading to emotional instability; expressions of heightened self-esteem that are often exaggerated and inconsistent with her circumstances; accentuated irritability and physical jitteriness, especially following caffeine consumption, consistent with the

jittery state she reports on the PANAS-GEN scale; difficulty managing impulses, reacting without thinking, and displaying poor social boundaries, often leading to inappropriate comments or behaviors. These symptoms are episodic, often intensifying after caffeine intake, suggesting a strong correlation between her coffee consumption and emotional instability.

Illness-Substance Interaction: The patient's epilepsy, diagnosed in childhood, is a significant factor in her medical profile. Although her seizure activity has not been thoroughly documented in this report, the potential for caffeine to lower the seizure threshold in individuals with epilepsy raises concerns regarding her high caffeine intake. Her moderate mental disability further complicates her condition, limiting her ability to regulate emotions, manage social interactions, and control impulses. The combination of limited education and cognitive challenges hinders her participation in structured therapeutic interventions, contributing to her difficulties in emotional regulation. The patient's family situation has likely influenced her current emotional and behavioral difficulties. Both parents are deceased, leaving her without primary family support. While her 19-year-old son visits occasionally, she lacks consistent familial or social support. Additionally, the patient has a daughter whom she gave away (the circumstances remain unclear), indicating potential past emotional or social challenges in maintaining stable relationships. This loss of family support has likely contributed to her emotional instability, social isolation, and reliance on caffeine as a potential coping mechanism.

S1: BM, 3 months of hospital commitment, was admitted for ongoing management of schizophrenia, which has been complicated by excessive caffeine consumption and its impact on his behavioral and emotional state.

Patient Information: Male, 42 years, diagnosed with schizophrenia at the age of 26. The patient completed eight years of formal education and has displayed behaviors resembling gender dysphoria for several years, which are likely linked to his mental illness rather than a transgender identity. Both parents are deceased, and he has never been married nor has any children. He has been committed to the hospital for management of schizophrenia, including auditory hallucinations, delusions, and disorganized thinking, with additional complications from excessive caffeine consumption.

Caffeine Consumption: Despite concerns from medical personnel about the impact of caffeine on his mental and physical state, the patient consumes 6-7 cups of instant coffee per day, sometimes more. He reports the following effects, which have been corroborated by hospital staff: frequent experiences of upbeat energy and heightened enthusiasm (PANAS-GEN scale), though this is likely overstimulation rather than true emotional well-being, frequent

pacing, fidgeting, and difficulty sitting still characterize his behavior, particularly after caffeine intake; episodes of heightened irritability and agitation, especially following caffeine consumption, during which he becomes confrontational with staff and other patients; the patient reports an increased appetite and engages in excessive eating, possibly linked to heightened nervous energy and caffeine-induced hyperactivity.

Illness-Substance Interaction: The patient's schizophrenia is a significant factor in his medical and behavioral profile. His longstanding psychiatric history includes auditory hallucinations, delusions, and disorganized thinking, and while he has displayed behaviors resembling gender dysphoria, these appear to be manifestations of his psychosis rather than a genuine transgender identity. These symptoms have lessened with psychiatric treatment, but his cognitive limitations and social deficits make it difficult for him to sustain meaningful relationships or engage in structured therapeutic activities.

Caffeine consumption is known to exacerbate symptoms in individuals with schizophrenia, particularly anxiety, irritability, and agitation, which are evident in this patient. Moreover, caffeine may interfere with the effectiveness of antipsychotic medications, raising concerns that his excessive intake could be worsening his psychiatric symptoms.

S2: TT-7 months of hospital commitment, was admitted for ongoing management of schizophrenia, compounded by excessive caffeine consumption, which exacerbates his psychiatric and somatic symptoms.

Patient Information: Male, 57 years, diagnosed with schizophrenia during military service. The patient completed 12 years of formal education and served in the army, where his schizophrenia was first diagnosed. Both parents are deceased, and the patient has never married nor has children. The patient has been hospitalized for management of chronic schizophrenia, with significant behavioral and physical health complications, including excessive caffeine consumption. This case study focuses on the impact of his high caffeine intake on his mental and physical state.

Caffeine Consumption: The patient consumes 7-8 cups of instant coffee per day, sometimes more. He reports the following symptoms on the PANAS-GEN scale (Positive and Negative Affect Schedule – General Form), which are strongly associated with his caffeine intake: overwhelming energy or euphoric after caffeine intake, though these moods appear exaggerated and disconnected from true emotional stability; physical and mental restlessness, pacing frequently, fidgeting, and struggling to sit still or focus on tasks; frequent episodes of irritability, particularly following caffeine consumption, during which he becomes easily frustrated and confrontational; chronic muscle aches, which are likely linked to his physical agitation and tension

from caffeine. The patient complains of slurred speech (dysarthria) and often speaks rapidly and urgently (pressured speech), making communication difficult for others.

Illness-Substance Interaction: The patient has a long history of psychosis, having his first episodes during his time in the military. Symptoms include auditory hallucinations, delusions, disorganized thinking, and cognitive impairments. Though he completed 12 years of schooling and has some military background, his illness has impaired his ability to live independently, form relationships, and manage daily tasks. His social isolation, compounded by the loss of both parents, may have contributed to his excessive caffeine consumption as a coping mechanism. Caffeine consumption, especially in high amounts, is known to worsen symptoms in individuals with schizophrenia. Anxiety, irritability, and restlessness are particularly aggravated, and caffeine can interfere with antipsychotic medications, reducing their efficacy. This interaction is likely contributing to the patient's psychiatric instability. The patient's schizophrenia presents with classic symptoms such as disorganized thinking and impaired reality testing. However, his excessive caffeine consumption amplifies these issues. His high caffeine intake correlates strongly with increased irritability and restlessness, making it difficult for him to adhere to hospital routines or cooperate with staff.

Additionally, the patient reports muscle pain, which could be linked to his constant restlessness and physical tension from caffeine. These pains may also be related to side effects from medication or a lack of physical activity, but they tend to worsen after periods of high caffeine consumption.

S3: EB, 3 months of hospital commitment, was admitted for ongoing management of residual schizophrenia with catatonic features

Patient Information: Female, 72 years, diagnosed with residual schizophrenia with catatonic features. She completed 12 years of formal schooling. The patient has an adult son, who reportedly suffers from personality disorders and has a history of violence toward her. They are no longer in contact. The patient has been hospitalized for the management of residual schizophrenia, complicated by catatonic symptoms and mobility challenges. Her case is further complicated by excessive caffeine consumption, the primary focus of this case. She consumes approximately 8 cups of instant coffee daily, occasionally more, resulting in noticeable psychological and physical symptoms.

Caffeine Consumption: The patient consumes about 8 cups of instant coffee daily, with occasional spikes in intake. On the PANAS-GEN scale (Positive and Negative Affect Schedule – General Form), she reports the following symptoms related to her caffeine use: although generally immobile

due to catatonia, the patient shows signs of internal agitation or mental restlessness, which coincides with caffeine intake despite her overall restricted physical activity; episodes of intense fearfulness occur, during which she expresses irrational concerns about her safety. These fears appear disproportionate and are likely influenced by her schizophrenia and the overstimulating effects of caffeine; the patient becomes irritable and agitated, particularly during interactions with hospital staff, and these mood fluctuations are associated with her caffeine consumption.

Despite her restricted mobility, the patient reports subjective sensations of feeling jittery or anxious during brief moments of lucidity, likely linked to caffeine overstimulation.

Illness-Substance Interaction: The patient has a long history of schizophrenia, which has progressed to the residual phase. Residual schizophrenia is characterized by a reduction in positive symptoms such as hallucinations and delusions, but patients continue to experience negative symptoms like emotional blunting, social withdrawal, and cognitive decline. In this patient's case, catatonia and mobility challenges are prominent. Historically, she experienced more florid psychotic symptoms, but in recent years, these have subsided, replaced by negative symptoms like apathy and catatonia. However, her excessive caffeine consumption appears to exacerbate lingering anxiety, occasional mood elevations, and restlessness. The patient's family history, particularly the strained and violent relationship with her son, has contributed to her psychiatric deterioration and isolation. The lack of contact with her only child amplifies her feelings of insecurity and fearfulness, which she appears to manage through increased caffeine consumption.

In this patient's case, her high caffeine intake seems to disrupt her otherwise catatonic state, leading to episodes of restlessness, exaggerated self-esteem, fearfulness, and irritability. These mood shifts and internal agitation appear to complicate the management of her schizophrenia, particularly her catatonic symptoms.

5. RESULTS

The six case reports comprised in this article share a series of commonalities within and between diagnosis categories. They also display particularities which are specific to each individual case, but also key aspects that characterise each category of diagnosis.

Patients across both diagnostic groups exhibited elevated negative affects such as irritability and restlessness. Both diagnoses displayed agitation and impatience after consuming significant quantities of caffeine. Moreover, patients from both diagnosis groups reported increased enthusiasm and displayed hyperactivity without a clear purpose orientation. Patients from both categories reported anxious feelings or jitteriness.

Despite these commonalities, diagnosis-specific patterns were also evident in each group. In patients with schizophrenia, the effects of caffeine consumption were often marked by more pronounced mood swings and disorganized thinking. The increase in irritability typically resulted in confrontational behavior, complicating their ability to cooperate with hospital staff and adhere to treatment plans. Additionally, patients with schizophrenia exhibited periods of disordered cognition, where heightened energy did not translate into goal-directed behavior, but rather contributed to psychological disarray.

In contrast, patients with epilepsy displayed different patterns of symptom amplification following caffeine consumption. The stimulant effects of caffeine appeared to exacerbate seizure-related symptoms, such as nervous tension and, in certain cases, seizure triggers. These patients reported feeling hypersensitive to stimuli, with caffeine-induced anxiety and jitteriness contributing to a heightened state of neurological vulnerability. This sensitivity to overstimulation made caffeine particularly problematic for patients with epilepsy, as it aggravated their underlying condition.

6. CONCLUSIONS & DISCUSSION

This study attempted a channelled analysis of how caffeine consumption interacts with two chronic illnesses- schizophrenia and epilepsy. Findings support the initial hypotheses, as patients from both diagnostic categories demonstrated considerable emotional dysregulation and behavioral agitation following caffeine consumption. While many of the observed symptoms—such as irritability, restlessness, anxiety, and jitteriness—were common across both diagnostic groups, caffeine’s impact on mood regulation and cognitive function varied in severity and expression depending on the underlying condition. In schizophrenia, caffeine exacerbated cognitive disorganization and mood instability, which is consistent with the findings of recent research (Peng et al., 2014; Radwan et al., 2022) whereas in epilepsy, it heightened neurological sensitivity and increased the likelihood of seizure-related complications, in conformity with findings of previous quantitative studies (Gratz & Roemer, 2004; Ribeiro & Sebastião, 2010).

These findings suggest that while caffeine may offer temporary stimulation, its overall impact on patients with psychiatric or neurological conditions is largely detrimental, amplifying symptoms that are already difficult to manage.

This study provides insight into caffeine’s interaction with the emotional and behavioral regulation of patients with schizophrenia and epilepsy, however, several limitations should be considered. The small sample size of six case reports limits generalizability, and the case report design lacks the rigor of controlled studies, which impediments the inference of causality. Confounding factors, such as medication interactions and lifestyle influences, may have impacted the results. Moreover, the study’s short-term scope does not capture long-term caffeine effects, and the absence of neurobiological data limits understanding of underlying mechanisms. Additionally,

schizophrenia and epilepsy are heterogeneous conditions, so the findings may not apply to all patients within these groups.

To address these limitations, future research should involve larger, controlled studies, with attention to subgroup differences in caffeine response. Longitudinal research could explore the cumulative effects of caffeine over time. It would also be to study how caffeine interacts with medications used to treat schizophrenia and epilepsy. Incorporating neuroimaging and cognitive assessments would provide a deeper understanding of the mechanisms driving caffeine's impact.

In sum, while this study suggests caffeine exacerbates symptoms in schizophrenia and epilepsy, more extensive and controlled research is needed to confirm these findings and explore individualized responses.

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