Original Article

Development of a Care Model for Substance use Patients with Mental Disorders and Aggressive Behavior in Lomkao Crown Prince Hospital

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Abstract

Background: Substance use in patients with mental disorders and aggression poses significant challenges to care quality and safety. However, a critical gap exists regarding integrated care models to overcome the lack of coordinated care from various departments. This study aimed to develop and evaluate a comprehensive care model for substance use patients with mental disorders and aggressive behavior.

Methods: A randomized control trial (RCT) was employed, with 80 participants randomly assigned to intervention (n=40) or control (n=40) groups from May 2025 to October 2025 through structured questionnaires. The intervention group received an integrated care model and post-discharge monitoring via the LINE application. Outcomes were measured using the Overt Aggression Scale (OAS) and adherence at baseline and 4-month follow-up. A mixed-effects linear regression model was used to assess the effect of the intervention on OAS scores over time while chi-square tests were used to compare categorical variables. t-tests were used to compare continuous variables.

Results:At baseline, there was no significant difference between the intervention and control groups. A significant reduction in OAS scores from baseline to 4-month follow-up (β = -35.800, $p < 0.001$). While the group×time interaction was statistically significant (β = 13.500, $p < 0.001$).Post-discharge adherence was higher in the intervention group, including LINE tracking (82.5%), medication adherence (77.5%), and appointment reminders and attendance (87.5%) ($p < 0.001$).

Conclusion: The integrated care model significantly improved outcomes for substance use patients with mental disorders and aggressive behavior. Its success highlights the importance of interdisciplinary collaboration, staff training, and digital follow-up systems. The model offers a scalable solution for similar settings.

Keywords: Substance use, Mental disorders, Aggressive behavior, Integrated care model, Overt Aggression Scale

Introduction

Globally, there has been an upsurge in the use of drugs. An estimated 292 million people used drugs in 2022, which means a 20% increase compared to

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the previous decade. Cannabis is the most used substance, followed by opioids and amphetamines. It is estimated that about 64 million people have drug use disorders, only one in eleven people receive treatment.[1] The drug problem in Thailand remains equally concerning, particularly among youth who show increased substance use.[2] Trend in use of drugs are increasing especially methamphetamine, and cannabis which a significant rise in treatment admissions for methamphetamine was rising from 150,121 in 2023 to 177,533 in 2024.[3] Substance use is a notable issue among adolescents in rural communities, with lifetime prevalence at 24.4% and one-year prevalence at 16.7%.[4]

Patients with drug abuse problems often experience severe psychiatric symptoms such as auditory hallucinations, delusions, and paranoia. These symptoms can result from continuous substance use, affecting brain chemistry and causing changes in the nervous system that lead to uncontrollable psychiatric symptoms, which can result in aggressive behavior.[5] Patients with drug problems and psychiatric symptoms present complex cases requiring close medical supervision. These patients often develop psychiatric conditions from continuous substance use, impacting mental health and behavior.[6]

Substance use affects over 70% of psychiatric patients in Thailand which exacerbated by a treatment budget.[7] The rise in psychiatric cases linked to amphetamines [8,9], particularly among men more likely to self-medicate through substance use, complicating treatment.[10,11] Additionally, permanent psychiatric symptoms may develop, such as psychotic disorders and bipolar disorder, which may result from long-term substance use.[12] The majority of individuals who suffer from substance-induced psychosis make a full recovery. Chronic psychosis is more likely to occur in people who begin using drugs at a young age, abuse them for a long period of time.[13] These findings underscore the urgent need for a comprehensive care model that integrates early screening for risk factors, sustained psychiatric follow-up, and targeted interventions for aggressive behavior. Such a model should be emphasized.

The treatment of substance use patients with psychiatric symptoms and violent aggressive behavior requires a holistic approach with clear procedures.[14–16] This begins with preparing patients and their families to create understanding of the treatment model and the roles of all involved parties. Detoxification is the next step, requiring close monitoring to reduce both physical and psychological complications that may arise. This is followed by rehabilitation processes focused on modifying patient behavior and thinking patterns, using group activities to build positive social relationships.[17–19] Finally, follow-up care is provided to support patients in living valuable lives in society. This care must also consider the safety of patients and surrounding individuals to prevent recurrence of aggressive behavior.[20]

The number of substance use patients with psychiatric symptoms and violent behavior in treatment at Lomkao Crown Prince Hospital surged from 30 in 2022 to 160 in 2025, raising urgent care system needs. Several challenges exist in uncoordinated interdepartmental care create gaps, the absence of post-discharge follow-up applications limits patient monitoring, aggressive behavior of the patients is dangerous to the staff and other patients, and inaccurate local patient data makes effective planning and resource allocation impossible. Therefore,This study aimed to develop and evaluate anintegrated care model for substance use patients with mental disorders and aggressive behavior, creating an efficient holistic system for the care model of substanceuse patients with psychiatric symptoms and violent aggressive behavior between various departments, will help to improve the quality of care for substance use patients with psychiatric symptoms.

Methods

Research Design

Arandomized control trial designwas utilized from May 2025 to October 2025.

Population

Substance use patients with mental disorders and aggressive behavior in Lomkao Crown Prince Hospital, Lom Kao District, Phetchabun Province, Thailand.

Sample sizeand sampling techniques

The primary outcome was whether the care model intervention decreased aggressive behaviors more than standard care as reflected by changes in OAS. Between-group differences were assessed with Chi-Square tests evaluating patients achieving specific OAS thresholds at follow-up. A priori power analysis based on effect size (w) of 0.5 from pilot data with significance level (α) of 0.05 and power (1-β) of 0.95 was performed. A required sample of 62 participants was determined based on this calculation. Accounting for 20% dropout yielded a target enrollment of 78 participants, 39 per group. The study actually enrolled 80 participants, 40 per group.

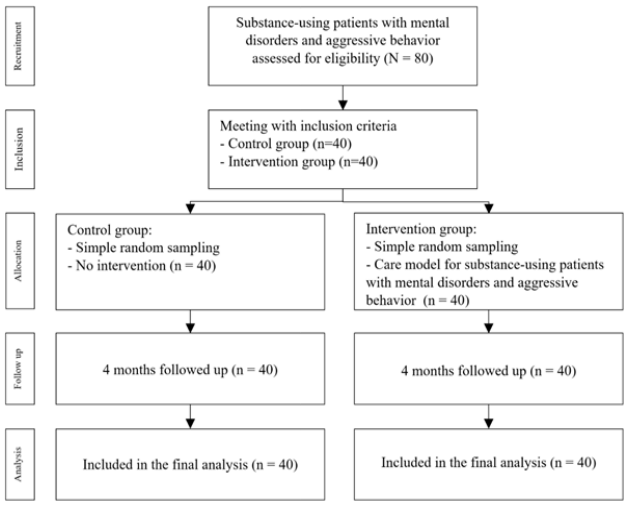
Patients who used substances and had current diagnosed mental disorders with documented aggressive behavior (either from clinical records or from baseline OAS) were included in the study, aged 18-65 years, and received treatment from Lomkao Crown Prince Hospital, Phetchabun Province, Thailand. They had to be medically stable and willing to participate. Exclusion criteria included the following: severe cognitive impairment that prohibited study comprehension, risk to self or others, refusal to adhere to protocols, currently enrolled in another trial, had acute medical conditions that would interfere with participation, and having legal/custodial restrictions without voluntary consent.

The sample size was determined by simple random sampling. A total of 80 patients were assessed for eligibility and who met the inclusion criteria and provided informed consent were enrolled in the study. A computer-generated randomization sequence was used to assign these 80 participants to either the intervention group (n=40) or the control group (n=40).

Data Collection

Data was collected through a structured process involving informed consent, staff training, patient interviews, and follow-up monitoring. Before participation, eligible patients were provided with detailed information about the study, including its purpose, procedures, potential risks, and benefits. Written informed consent was obtained from all participants, ensuring voluntary participation and confidentiality. The study spanned six months, beginning with a two-month training phase for staff, where the first month focused on foundational knowledge (e.g., mental disorders, substance use, and aggression management) and the second month emphasized care planning and therapeutic interventions. Following training, patient data was collected through a structured questionnaire, which captured demographic information and OAS. To maintain data quality, staff were trained in standardized protocols, and measures such as double-data entry were implemented. Post-discharge monitoring was conducted via the LINE Official Account application to track medication adherence, symptom progression, and appointment reminders, while community-based follow-ups ensured continuous assessment.

Due to the nature of the intervention, participants and clinical staff could not be blinded to group assignment. However, outcome assessors conducting 4-month follow-up OAS evaluations were blinded to group allocation. Data analysts remained blinded until primary analyses were complete.



Intervention

Care model for substance use patients with mental disorders and aggressive behavior

Months	Topic	Details
1st	Foundational Knowledge of Psychoactive Substances	- Common types of psychoactive substances - Physiological and psychological effects - Withdrawal syndromes
	Common Psychiatric Symptoms in Substance Users	- Depressive disorders - Anxiety disorders - Delusional disorders - Hallucinations
	Aggressive and Violent Behavior	- Etiology and risk factors - Violence risk assessment - Management strategies
	Emergency Management	- De-escalation and situational control - First aid
	Patient Communication	- Appropriate communication techniques - Building therapeutic rapport - Active listening and empathy
2nd	Patient Care Planning	- Risk assessment - Treatment goal setting - Pharmacological and therapeutic modalities - Post-discharge care planning
	Interdisciplinary Teamwork	- Coordination with relevant agencies - Developing a patient care network
	Therapeutic Interventions	- Pharmacotherapy: Administered under medical supervision. - Psychotherapy: Cognitive Behavioral Therapy (CBT), Dialectical Behavior Therapy (DBT), and group therapy. - Behavioral Therapy: Emotional regulation and problem-solving skills training. - Rehabilitation: Vocational training, physical exercise, occupational therapy. - Counseling: Provided for patients and their families. - Community Linkage: Fostering community relationships and participation.

Continue.....

Months	Topic	Details
3rd-6th	Implementation	A. Initial Assessment: Screening in the clinics or ERs involves vital signs, weight, and complete history, which includes symptoms, treatments, substance use, and allergies. Basic psychiatric screening also identifies urgent needs. B. Psychiatric Diagnosis: Specialists execute mental status tests and apply standardized tools. The team interprets the underlying causes, formulates nursing diagnoses, and refers the patient for physician evaluation to plan appropriate treatments. C. Multimodal Treatment: Psychiatrists devise plans that involve medication management, psychotherapy (CBT, DBT, group), behavioral therapy for emotional regulation, rehabilitation, vocational, occupational, and family counseling. D. Follow-Up & Community Follow-through: The team coordinates follow-up and referrals. Digital tools (LINE) engage in monitoring compliance, monitoring symptoms, counseling, and reminders. Community partnerships help in ensuring continued monitoring and support.

The control group received standard hospital care for substance use patients with mental disorders. This care protocol included an initial psychiatric evaluation and diagnosis, followed by detoxification with necessary medical monitoring. Patients also received standard psychiatric medication management, along with discharge planning that involved scheduling follow-up appointments.

Measurement tools

The current study utilized a three-section questionnaire which spanned demographics, the OAS, and adherence tracking. Demographics included a total of eight items: gender, age, education, marital status, income, occupation, and substance use duration and frequency.

The primary outcome measure was the OAS, a standardized instrument for assessing aggressive behavior in clinical settings. It scores four types of aggression: verbal aggression, physical aggression against objects, physical aggression against self, and physical aggression against others. Each type has five severity levels (0-4). Scores are weighted and summed to produce a total score ranging from 0 to 100.[21]

Adherence was measured by LINE adherence, medication, and appointments. The response rate of LINE adherence was classified into three categories: high (>80%), moderate (50-80%), or low (<50%). Medication adherence, as self-reported through LINE, was categorized into fully (>80%), partially (50-80%), or non-adherent (<50%). Appointment attendance, cross-checked with the hospital records, was categorized into attending all or missing.

Statistical analysis

Descriptive statistics summarize the demographic and clinical characteristics at baseline across intervention and control groups. Summary statistics presented categorical variables, such as gender, education, marital status, occupation, as frequencies and percentages. Continuous variables, such as age, income, and duration of substance use, and OASwere summarized as means and standard deviations.

The primary outcome was the change in OAS from baseline to 4-month follow-up. A mixed-effects linear regression model was utilized to assess the effect of the intervention on OAS scores over time. This model included fixed effects for group (intervention vs.

control), time (baseline vs. 4-month follow-up), and the group×time interaction term. It indicates whether the rate of change in OAS is significantly different between the intervention and control groups. Secondary outcomes included: 1) LINE tracking adherence 2) Medication adherence 3) Appointment attendance were categorical dataand analyzed by chi-square test. All analyses were performed using SPSS version 26 with $\alpha = 0.05$.

Ethical considerations

The study was approved by the Institutional Review Board (IRB) at Phetchabun provincial public health office on April 2, 2025(Approval No.025/2568).

Results

Demographic characteristics of the participants

A total of 80 participants were included in the final analysis, with 40 in the intervention group and 40 in the control group. The demographic characteristics of both groups were comparable at baseline with no statistically significant differences. In the control group, 87.50% were male, with a mean age of 36.10 years (SD = 9.79). A higher proportion had completed education beyond primary school (65.00%). Similar to the intervention group, most were single (62.50%), and the primary occupation was freelance (45.00%). The average income was 6,125.00 baht (SD = 1,136.52), and the mean duration of substance use was 5.13 years (SD = 1.47). The majority (75.00%) reported using substances 3-4 times per week (Table 1).

Overt Aggression Scale scores at baseline and 4-Month Follow-up

The Overt Aggression Scale (OAS) scores were analysedfor both the intervention and control groups at baseline and after 4 months of follow-up. At baseline, the OAS scores were 43.55 (SD = 9.79) in the intervention group and 42.30 (SD = 1.94) in the control group ($p = 0.658$). After 4 months, the intervention group showed a reduction in OAS score with 7.75 (SD = 0.48) and 20.00 (SD = 0.41) in the control group. The mean difference between the groups at 4th month follow-up was statistically significance (Mean diff. = -12.25 ((95% CI of Mean diff. = -13.50 - -11.00), $p < 0.001$) (Table 2).

Mixed-effects linear regression analysis of the effect of the care model for substance use patients with mental disorders and aggressive behavior on overt aggression scale scores

The mixed-effects linear regression analysis evaluates the impact of the integrated care model on OAS scores over time. At baseline, there was no significant difference between the intervention and control groups ($\beta = -1.250$, $p = 0.540$). A significant reduction in OAS scores from baseline to 4-month follow-up ($\beta = -35.800$, $p < 0.001$). While the group×time interaction was statistically significant ($\beta = 13.500$, $p < 0.001$). This significant interaction effect demonstrates that the integrated care model provided substantial added value beyond standard care with the outcomes in reducing aggressive behavior among substance use patients with mental disorders (Table 3).

Post-discharge monitoring outcomes

Post-discharge monitoring at the 4-month follow-up revealed significant differences between the intervention and control groups across all measured aspects. A high level of adherence (>80% response rate) to the LINE tracking application was observed in 82.50% of the intervention group, compared to 42.50% in the control group. 77.50% of participants were fully adherent to their medication in the intervention group, whereas this figure was only 27.50% in the control group. A significant majority of the intervention group attended all their follow-up appointments (87.50%). In contrast, only 37.50% of the control group attended all appointments, with 62.50% missing one or more. The differences in post-discharge monitoring outcomes between the intervention and control groups were all statistically significant ($p<0.001$) (Table 4).

Table 1: Demographic characteristics of the participants

Demographic characteristics	Intervention group		Control group		P-value
	n	%	n	%	
Gender					0.723**
Male	36	90.00	35	87.50	
Female	4	10.00	5	12.50	
Age (years)					
Mean (SD)	35.93 (7.99)		36.10 (9.79)		0.382*
Min - Max	21.00 – 57.00		18.00 - 59.00		
Educational level					0.175**
No education	0	0.00	0	0.00	
Primary school	20	50.00	14	35.00	
Higher than Primary school	20	50.00	26	65.00	
Marital status					0.893**
Single	27	67.50	25	62.50	
Marriage	8	20.00	9	22.50	
Divorce	5	12.50	6	15.00	
Occupation					0.092**
Farmer	12	30.00	6	15.00	
Business	8	20.00	16	40.00	
Freelance	20	50.00	18	45.00	
Income (Baht)					
Mean (SD)	6,100.00 (1,150.25)		6,125.00 (1,136.52)		0.906*
Min - Max	4,000.00 - 9,000.00		4,000.00 - 9,000.00		
Duration of substance use (Years)					
Mean (SD)	4.98 (1.41)		5.13 (1.47)		0.075*
Min - Max	3.00 – 9.00		3.00 – 9.00		
Frequency of substance-use per week					0.095**
1-2 times	17	42.50	10	25.00	
3-4 times	23	57.50	30	75.00	

Note: * Independent t-test** Chi-square test

Table 2: Overt aggression scale scoresat baseline and 4-Month Follow-up

Total overt aggression scale scores	Intervention group	Control group	P-value
Baseline			0.658
Mean (SD)	43.55 (2.04)	42.30 (1.94)	
Min - Max	32 -72	20 - 72	
Mean diff. (95% CI of Mean diff.)	1.25 (-4.36 – 6.86)		
4th Month follow up			<0.001
Mean (SD)	7.75 (0.48)	20.00 (0.41)	
Min - Max	2 - 18	13 - 25	
Mean diff. (95% CI of Mean diff.)	-12.25 (-13.50 - -11.00)		

Note: t-test test used for comparing mean between groups

Table 3: Mixed-effects linear regression analysis of the effect of the care model for substance use patients with mental disorders and aggressive behavior on overt aggression scale scores

Variable & Effect	Coefficient (β)	Std. Error	95% CI of β	P-value
Overt aggression scale scores				
Group (Intervention vs. Control)	-1.250	2.040	-5.249 - 2.749	0.540
Time (vs. Baseline)				
4th Month follow-up	-35.800	2.024	-39.768 - -31.833	<0.001
Group × Time Interaction				
Intervention×4thMonth follow-up	13.500	2.863	7.889 - 19.111	<0.001
Constant	43.550	1.443	40.723 - 46.377	<0.001

Table 4: Post-discharge monitoring outcomes at follow up

Monitoring aspect	Intervention group		Control group		P-value
	n	%	n	%	
LINE Tracking adherence					<0.001
Low	2	5.00	10	25.00	
Moderate	5	12.50	13	32.50	
High	33	82.50	17	42.50	
Medication adherence					<0.001
Non-adherent	2	5.00	10	25.00	
Partially adherent	7	17.50	19	47.50	
Fully adherent	31	77.50	11	27.50	
Appointment reminders and attendance					<0.001
Missed one or more appointments	5	12.50	25	62.50	
Attended all follow-up appointments	35	87.50	15	37.50	

Note: Chi-square test used for comparing categories between groups

Discussion

The findings demonstrate that the intervention group, which received the integrated care model for substance-use patients, showed a statistically significant reduction in aggressive behavior and improved post-discharge outcomes.

The demographic profile of our participants was primarily maleand engaged in freelance work is consistent with previous studies in rural settings.[4,20] Additionally, Our observed patterns of methamphetamine use align with documented increases in amphetamine-related psychiatric admissions in Thailand and globally which particularly relevant to populations experiencing a rising burden of amphetaminerelated psychiatric hospitalizations.[8,9]

The success of our model in significantly reducing aggressive behavior in the intervention group confirms that integrated models must be multifaceted to effectively address the complex interactions among substance use, mental health, and behavioral disorders.[14,22] Similarly, the Thai context reported that applying structured nursing processes and interpersonal theory could effectively calm aggressive patients with methamphetamine addiction.[19] Our model's success can be attributed to several key components: structured staff training in de-escalation and risk assessment, a clear clinical pathway from screening to community reintegration,

and the use of a digital follow-up platform. These elements address common systemic gaps such as fragmented interdepartmental coordination and inadequate post-discharge support, which have been noted as barriers to effective care.[15,23] However, despite evidence supporting integrated approaches, implementation remains limited which integrated care in addiction treatment settings faces significant barriers, including resource constraints and organizational challenges.[24]

In addition, the care model used the LINE Official Account for post-discharge monitoring and demonstrated significantly higher adherence to tracking, medication, and appointments in the intervention group. This finding contributes to the growing evidence supporting mobile health (mHealth) interventions in addiction treatment. This shown their potential to improve treatment engagement and reduce relapse rates by providing real-time support, monitoring, and reminders.[25,26]

A component of this care model was the utilization of the LINE application for post-discharge monitoring. This supports mobile health (mHealth) technologies can bridge the gap between patient care and community reintegration that continuing care approaches.[17] Our results are consistent with a patient-centered medication management app improved adherence to medication changes following hospital discharge.[27] While on telemonitoring, remote monitoring systems reduce unnecessary outpatient visits and improve patient support parallels our findings in a psychiatric context.[28] These results emphasized the importance of embedding digital health tools within holistic care frameworks to sustain gains achieved during treatments, improve long-term adherence behaviors, and reduce relapses in substance use patients.

However, our study cannot isolate the specific effect of LINE monitoring from the integrated care model, as the intervention group received multiple enhancements to care. The improved adherence may reflect increased contact with healthcare providers rather than the digital platform.

The strengths and limitations

This randomized control trial design allows this study to produce strong, real-world evidence for the model. The comprehensive intervention included staff training, structured patient pathways, and innovative community follow-up. Using the validated OAS instrument ensured a reliable primary outcome, while the integration of LINE into post-discharge care represented a practical strength of mHealth.

This is a single-hospital study and may limit generalizability. Though powered, a larger multi-center study is required. Post-discharge, some data, such as medication adherence, were based on self-reporting and hence prone to bias. The 4-month follow-up was also short regarding long-term recovery and relapse.

Implications for Community Nurses

The present study reinterprets community nurses as main coordinators within a holistic model, connecting hospital services such as ER, psychiatry, and social work. This integration allows the nurse to access a complete, multi-faceted patient view regarding medication, psychosocial stressors, and symptoms. In the case of dual-diagnosis patients, successful LINE-based follow-up clearly underlines the nurse's important role in utilizing digital tools for monitoring and adherence. Continuous-model-trained nurses can therefore offer early warning signs that may proactively enable timely intervention, reduction of rehospitalization, and shifting of focus from acute to long-term recovery within the community.

Recommendations

Based on our findings, we recommend that healthcare facilities in similar regional contexts consider adopting this integrated care model. Prioritizing interdisciplinary staff training and integrating mHealth solutions for post-discharge follow-up are key strategies to improve patient engagement and outcomes.

Future research should focus on conducting multi-center trials to establish broader generalizability and on implementing longer-term follow-up (12 months or more) to evaluate sustained recovery and relapse prevention. A formal cost-effectiveness analysis of the model is also needed.

For health policymakers, our results support the promotion of integrated service delivery for mental

health and substance use disorders. Investing in and supporting the integration of accessible digital health technologies into standard care protocols can help bridge critical gaps in the management of these chronic, complex conditions.

Conclusion

The developed care model proved to be a highly effective intervention for reducing aggression and improving treatment adherence among substance use patients with mental disorders. By successfully integrating evidence-based strategies within a specific regional context, this study provides a practical, real-world example of how established best practices can be implemented effectively. The integration of staff training, a structured care pathway, and an accessible digital follow-up system offers a scalable solution to a growing public health problem. It is recommended that this model be adopted more broadly and that future research focuses on its long-term impact, cost-effectiveness, and adaptability to other settings.

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Declarations

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Conflict of interest: The authors declare that there is no conflict of interest.

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References

1. United Nations. UNODC World Drug Report 2024: Harms of world drug problem continue to mount amid expansions in drug use and markets. United Nations. June 26, 2024. Accessed December 11, 2024. //www.unodc.org/unodc/en/press/releases/2024/June/unodc-world-drug-report-2024_-harms-of-world-drug-problem-continue-to-mount-amid-expansions-in-drug-use-and-markets.html
2. Thaikla K. The illegal drugs market in Thailand. Published online July 2022. Accessed October 12, 2024. https://www.rihes.cmu.ac.th/research/?page_id=3323
3. *Synthetic Drugs in East and Southeast Asia: Latest Developments and Challenges*. UNODC; 2025. Accessed September 3, 2025. https://www.drugsandalcohol.ie/43293/
4. Yaimai W, Oopakarn K, Phumvichitr C, et al. PREVALENCE AND ASSOCIATED RISK FACTORS OF SUBSTANCE ABUSE AMONG ADOLESCENTS IN RURAL COMMUNITIES, CENTRAL THAILAND: A CROSS-SECTIONAL STUDY. *Journal of Southeast Asian Medical Research*. 2019;3(2):73-81. doi:10.55374/jseamed.v3i2.49
5. Sumonta C. Nursing care of Amphetamine dependence induced psychosis and High risk of harm others. Published online September 2024. Accessed October 12, 2567. www.pmnidat.go.th/thai/downloads/research/67/pmnidat19-67.pdf
6. Department of Mental Health M of PH. *Guidelines for Acute Psychiatric Emergency Care for Public Health Service Units (Levels A, S, M1, and M2): Pilot Version*. Second. BEYOND PUBLISHING CO.,LTD; 2020. Accessed July 18, 2025. https://mhso.dmh.go.th/page/subject_details.php?subject_id=174
7. Hfocus. More than 70% of psychiatric patients use drugs together, just drinking alcohol, and are at risk of mental health problems. Hfocus.org. October 2, 2024. Accessed December 11, 2024. http://www.hfocus.org/content/2024/02/29734
8. Acuff S. Methamphetamine-related psychiatric hospitalizations on the rise. Recovery Research Institute. January 22, 2025. Accessed July 18, 2025. https://www.recoveryanswers.org/research-post/methamphetamine-related-psychiatric-hospitalizations-on-rise/
9. Tardelli VS, Johnstone S, Xu B, et al. Marked Increase in Amphetamine-Related Emergency Department Visits and Inpatient Admissions in Toronto, Canada, 2014–2021. *Can J Psychiatry*. 2023;68(4):249-256. doi:10.1177/07067437221125302
10. Greenwood CJ, Foulds J, McKetin R, et al. Amphetamine use and mental health difficulties across adolescence and young adulthood: An integrative data analysis of four Australasian cohort studies. *Addiction*. 2025;120(8):1623-1633. doi:10.1111/add.70033

11. Miller N. Amphetamines: a current epidemic. *Front Psychiatry*. 2025;16. doi:10.3389/fpsyt.2025.1460341
12. Preuss UW, Schaefer M, Born C, Grunze H. Bipolar Disorder and Comorbid Use of Illicit Substances. *Medicina (Kaunas)*. 2021;57(11):1256. doi:10.3390/medicina57111256
13. Fiorentini A, Cantù F, Crisanti C, Cereda G, Oldani L, Brambilla P. Substance-Induced Psychoses: An Updated Literature Review. *Front Psychiatry*. 2021;12. doi:10.3389/fpsyt.2021.694863
14. Bahji A. Navigating the Complex Intersection of Substance Use and Psychiatric Disorders: A Comprehensive Review. *Journal of Clinical Medicine*. 2024;13(4):999. doi:10.3390/jcm13040999
15. Baldaçara L, Ramos A, Castaldelli-Maia JM. Managing drug-induced psychosis. *International Review of Psychiatry*. 2023;35(5-6):496-502. doi:10.1080/09540261.2023.2261544
16. Garson E, Castle DJ, George TP. Substance-Induced Psychosis: a Narrative Review. *Curr Addict Rep*. 2023;10(2):335-340. doi:10.1007/s40429-023-00475-6
17. McKay JR. Impact of Continuing Care on Recovery From Substance Use Disorder. *Alcohol Res*. 2021;41(1):01. doi:10.35946/arcr.v41.1.01
18. Ministry of Justice O of the NP and SC, Ministry of Public Health D of MH. Surveillance guidelines! to find referral, therapy and follow-up care drug patients with mental symptoms. Published online November 1, 2019. Accessed December 11, 2024. https://dmh-elibrary.org/items/show/269
19. Natebute N. Nursing care of schizophrenia patients with aggressive behavior: A case study. *JOURNAL OF ENVIRONMENTAL AND COMMUNITY HEALTH*. 2024;9(1):672-679.
20. Sitthirung P. Factors Associated with 6 Months Follow-Up in Clients Who Completed the Rehabilitation Program at Bangkok Behavior Modification Center. *Science, Technology, and Social Sciences Procedia*. 2021;2021(1):acm017-acm017.
21. Ratey JJ, Gutheil CM. The measurement of aggressive behavior: Reflections on the use of the Overt Aggression Scale and the modified Overt Aggression Scale. *The Journal of Neuropsychiatry and Clinical Neurosciences*. 1991;3(2):S57-S60.
22. Hudon A, Cloutier-Tanguay JP, Levy J, et al. Managing substance abuse on psychiatric units: a scoping review. *Front Psychiatry*. 2025;16. doi:10.3389/fpsyt.2025.1653093
23. Hove E, Hazelton MJ, Santangelo P, Wilson RL. Integrated nursing care for people with combined mental health and substance use disorders. *International Journal of Mental Health Nursing*. 2023;32(2):378-401. doi:10.1111/inm.13094
24. Chokron Garneau H, Assefa MT, Jo B, Ford JH, Saldana L, McGovern MP. Sustainment of Integrated Care in Addiction Treatment Settings: Primary Outcomes From a Cluster-Randomized Controlled Trial. *Psychiatr Serv*. 2022;73(3):280-286. doi:10.1176/appi.ps.202000293
25. Pratap A, Neto EC, Snyder P, et al. Indicators of retention in remote digital health studies: a cross-study evaluation of 100,000 participants. *NPJ Digit Med*. 2020;3:21. doi:10.1038/s41746-020-0224-8
26. Tofighi B, Chemi C, Ruiz-Valcarcel J, Hein P, Hu L. Smartphone Apps Targeting Alcohol and Illicit Substance Use: Systematic Search in in Commercial App Stores and Critical Content Analysis. *JMIR Mhealth Uhealth*. 2019;7(4):e11831. doi:10.2196/11831
27. Habib B, Buckeridge D, Bustillo M, et al. Smart About Meds (SAM): a pilot randomized controlled trial of a mobile application to improve medication adherence following hospital discharge. *Jamia Open*. 2021;4(3):ooab050. doi:10.1093/jamiaopen/ooab050
28. Baniasadi T, Hassaniazad M, Rostam Niakan Kalhori S, Shahi M, Ghazisaeedi M. Developing a mobile health application for wound telemonitoring: a pilot study on abdominal surgeries post-discharge care. *BMC Med Inform Decis Mak*. 2023;23(1):103. doi:10.1186/s12911-023-02199-z.