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CASE STUDY

Emergency Nursing Care for a Teenage Parturient with Methamphetamine Use at Srisatchanalai Hospital: A Case Study

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Abstract

This case study examined a teenage parturient who used methamphetamine and received care at Srisatchanalai Hospital, Sukhothai Province. The objectives were to assess her health status and formulate nursing diagnoses; to plan and deliver nursing care using the nursing process across four phases (antenatal, emergency, labor, and postpartum with follow-up), with emphasis on the emergency nurse's role in screening, risk assessment, and interdepartmental coordination; and to evaluate nursing outcomes and derive lessons learned. The study was conducted from October 2025 to June 2026 (9 months). The case was selected purposively. Data were collected from medical records, interviews with the patient and her guardian, observation, and physical examination, and analyzed using content analysis based on a risk assessment and screening framework, the nursing process, and the concept of continuity of care and referral system. Trustworthiness was ensured through data triangulation and expert review.

The case was a 16-year-old Thai primigravida who attended her first antenatal visit at 11+5 weeks of gestation. Her urine amphetamine test was positive, her ASSIST V2 score was 16, she had mild depression (9Q = 7), and a history of a previous suicide attempt; she was referred to the mental health and substance use service on the same day. Seven nursing diagnoses covering all phases were identified. She stopped using methamphetamine by the second antenatal visit, and her urine tests were negative from November 17, 2025 until delivery. Her 9Q score decreased from 7 to 3 at the fourth visit, with no recurrence of suicidal ideation. She presented to the emergency department once with acute anxiety from a family conflict; her symptoms subsided within 35 minutes and she was safely discharged. She had a normal vaginal delivery of a female infant weighing 2,640 g without severe complications. Nursing outcomes were fully achieved for six of seven diagnoses and partially achieved for one (readiness for the maternal role), because she remained concerned about the costs of child-rearing. Key lessons were screening at the first point of entry into the system, continuous cross-departmental care, the emergency

nurse serving as a system link who is sensitive to psychological risk, and non-judgmental care that fosters trust.

Keywords: Emergency nursing, teenage parturient, methamphetamine, case study, continuity of care

Introduction

Adolescent pregnancy is a public health problem that continues to receive global attention. Each year, approximately 16 million girls aged 15-19 years and about 2 million girls under 15 years give birth; 95.00% of adolescent births occur in low- and middle-income countries, and complications of pregnancy and childbirth remain a leading cause of death among girls aged 15-19 years worldwide.[1] At the same time, amphetamine-type stimulant use has expanded in parallel, with approximately 30.70 million users worldwide and record-high seizures of these substances in 2023.[2] When both problems occur in the same individual, namely an adolescent pregnant woman who uses amphetamine-type stimulants, she belongs to a high-risk group with complex obstetric, psychiatric, and social needs.

In Thailand, although the live birth rate among women aged 15-19 years has been declining, standing at 20.90 per 1,000 women aged 15-19 years in 2023, it remains above the Ministry of Public Health target of no more than 19.00 per 1,000.[3] Methamphetamine use during pregnancy increases the risk of preeclampsia, placental abruption, preterm birth, and low birth weight, as well as neonatal hypoglycemia, respiratory distress, jaundice, and withdrawal symptoms.[4] In addition, adolescent pregnant women are at higher risk of depression than adult mothers, which is associated with self-harm ideation,[5] and stress is associated with methamphetamine use among pregnant women.[6] These patients therefore require a more holistic assessment than general patients.

Srisatchanalai District, Sukhothai Province, has faced a persistent problem of drug abuse in the community, to the extent that Srisatchanalai Hospital, together with local administrative agencies, has had to set up community drug screening checkpoints every year.[7] A key challenge for the hospital's emergency nurses is assessing and triaging teenage parturients with multiple overlapping risks, who often

do not disclose information at initial presentation, and care that frequently lacks continuity as patients move between the antenatal clinic, emergency department, labor room, and community postpartum follow-up, each with a different care team.

Most previous studies have focused mainly on nursing care during the antenatal and intrapartum periods, and there is still a lack of studies that systematically link the role of emergency nurses to the care pathway of teenage parturients who use substances, even though international studies indicate that pregnant women with moderate to severe substance use disorders often access services through the emergency department.[8] The author was therefore interested in studying emergency nursing care for a teenage parturient using methamphetamine in the form of a case study, an appropriate method for understanding complex individual phenomena in a real-world context,[9] in order to provide guidance for improving the quality of nursing care and the continuity-of-care system for high-risk teenage parturients in the area.

Research Objectives

1. To assess the health status and formulate nursing diagnoses of a teenage parturient using methamphetamine based on a risk assessment and screening framework.

2. To plan and provide nursing care using the nursing process across four phases (antenatal, emergency, labor, and postpartum with follow-up), with emphasis on the emergency nurse's role in screening, risk assessment, and referral coordination.

3. To evaluate nursing outcomes and derive lessons learned from the care of this teenage parturient, leading to recommendations for developing nursing practice guidelines.

Methods

This study was a case study of one teenage parturient using methamphetamine at the Emergency, Accident and Forensic Nursing Department, Srisatchanalai Hospital, Sukhothai Province. The five-step nursing process was applied, comprising health assessment, nursing diagnosis, planning, nursing intervention, and evaluation,[10] together with the concept of continuity of care and referral system.[11] The study was conducted from October 2025 to June 2026, a total of 9 months, divided into 3 phases: preparation, data collection and nursing care, and data analysis and reporting. The case was followed continuously from the first

antenatal visit through the postpartum period.

Study Case

The case was selected by purposive sampling according to the following criteria: a teenage parturient aged 19 years or younger; a urine test positive for methamphetamine or a history of use; complete medical records from the antenatal through the postpartum period; able to communicate in Thai; fully conscious and able to give information; residing in Srisatchanalai District or nearby areas and reachable by telephone; and consent from both the patient and her guardian to participate. Exclusion criteria were other severe psychiatric complications requiring immediate referral for specialized treatment, loss to follow-up for more than 2 consecutive visits, inability to provide complete information, withdrawal from the study, or transfer of primary care to another hospital.

Research Instruments

The instruments comprised 1) a general information form for the parturient and family, and a clinical data and test results form; 2) an emergency triage form based on the MOPH ED Triage criteria, which assesses chief complaint, vital signs, level of consciousness, vaginal bleeding, uterine contractions, mental state, and self-harm risk behaviors;[12] 3) standard screening tools used in antenatal care, namely the ASSIST V2 for substance use, the withdrawal assessment scale (OAS), the stress test (ST-5), the depression assessment (9Q), and the suicidal ideation assessment (8Q); 4) a nursing record form based on the four-phase nursing process, comprising nursing diagnoses, nursing activities, and outcomes; and 5) a post-discharge follow-up form and referral record, which scheduled telephone follow-up in the first week, a home visit in the second week, and a postpartum clinic follow-up in the sixth week.

The content validity of the instruments was examined by 3 experts, namely an emergency registered nurse, a midwifery nursing instructor, and an obstetrician or medical specialist, yielding item-level Index of Item-Objective Congruence (IOC) values of 0.67-1.00 (mean = 0.83). The instruments were then pilot-tested with 2 patients outside the sample to check language comprehension and the time required.

Data Collection

After explaining the objectives and obtaining consent from the patient and her guardian, the author collected data from medical records, laboratory results, urine drug tests, in-depth interviews with the patient and guardian (approximately 45-60 minutes per session), behavioral

observation, and physical examination. Health status was assessed across the obstetric, substance use, mental health, and family relationship dimensions; nursing diagnoses were formulated; and nursing care was planned and provided by phase, with continuous documentation.

Data Analysis

Qualitative data were analyzed using content analysis and categorized according to the risk assessment and screening framework, the nursing process, and the concept of continuity of care and referral system. A timeline matrix was constructed to present the situation and care in each phase, and lessons learned were synthesized through inductive analysis. Trustworthiness was ensured through data triangulation of interviews, observation, medical records, and information from the guardian, and the data analysis was reviewed by 3 experts (peer review).

Research Ethics

This study was approved by the Human Research Ethics Committee, and permission was obtained from the Director of Srisatchanalai Hospital before any data collection. The author explained the objectives, procedures, benefits, and potential risks to the patient and her guardian, who had the right to refuse or withdraw at any time without affecting the services received, and who signed an informed consent form before participating. All data were kept confidential, codes were used instead of real names, and results were presented in aggregate without any identifying information. Original documents were stored in a locked cabinet and electronic data on a password-protected computer, and all data will be destroyed within 5 years after the end of the study.

Results

1. General Information and Medical History of the Patient

The patient was a 16-year-old single Thai female, a secondary school student living with her grandmother, in her first pregnancy. She had attended 1 antenatal visit at 30 weeks of gestation and was at 38+2 weeks of gestation. She had no underlying disease and no history of drug allergy. She reported smoking methamphetamine for about 8 months, most recently 6 hours before arriving at the hospital, and denied using other substances. Her relatives brought her in with frequent labor pains every 4-5 minutes for 3 hours, accompanied by agitation, insomnia, and rapid speech. On arrival, her blood pressure was 168/108 mmHg, pulse 128 beats/min, respiratory rate 24 breaths/min, temperature 38.1 °C, oxygen saturation 97%, and fetal heart rate 170 beats/min. Dilated

pupils and profuse sweating were observed, with no headache, blurred vision, or epigastric pain. Urine testing was positive for methamphetamine, and urine protein was checked. The patient was triaged as ESI level 2. The sequence of events is shown in Table 1.

Table 1 Sequence of events and nursing care from arrival to discharge from the emergency department and labor room (times shown as relative intervals)

Time period	Patient assessment and situation	Key nursing care
On arrival (minutes 0-5)	Brought in by relatives with frequent labor pains and agitation; BP 168/108 mmHg, pulse 128 beats/min, temperature 38.1 ℃, FHR 170 beats/min; triaged as ESI level 2	Moved immediately to the resuscitation room; placed in the left lateral position; oxygen given and 2 IV lines started per treatment plan; physician and obstetrician notified; a calm, low-stimulus room provided
Minutes 5-15	ABCDE assessment: airway patent, rapid breathing, SpO_2 97%, rapid pulse, dilated pupils, profuse sweating; no warning signs of preeclampsia; uterine contractions every 4-5 minutes; no vaginal bleeding	Vital signs monitored every 5-15 minutes; FHR and uterine contractions monitored continuously by EFM; tepid sponging for fever; IV fluids given per plan; capillary blood glucose checked
Minutes 15-30	BP ≥160/110 mmHg not decreasing; increasing agitation; attempting to get out of bed; refusing examination	Communicated calmly and non-judgmentally using short, clear sentences; reduced stimuli; allowed relatives to stay close as appropriate; avoided physical restraint; gave medications to control agitation and blood pressure as ordered and monitored for side effects
Minutes 30-60	Urine positive for methamphetamine; urine protein: preliminary findings showed no abnormality indicating preeclampsia; cervix dilated 6 cm	Specimens collected and sent, including HIV, VDRL, and HBsAg per protocol; information provided to the physician to differentiate stimulant-induced hypertension from preeclampsia; emergency drugs and equipment

		prepared; labor room and neonatal team notified
Hours 1-6	BP 150/96 mmHg; calmer; regular uterine contractions; FHR within normal limits	Care handed over to the labor room using ISBAR; BP, pulse, and temperature monitored continuously; comfort care provided; encouragement and information given periodically
Delivery	Vaginal delivery at 19:00; infant weight 2,780 g; Apgar scores 8, 9, 9	Delivery and placental delivery managed; uterotonic given per standard to prevent hemorrhage; uterus and blood loss reassessed; infant handed to the pediatrician for assessment
Postpartum to discharge	Stable vital signs; no hemorrhage; patient crying and anxious about the infant and possible prosecution	Mood and self-harm risk assessed; counseling provided; social worker and drug treatment team coordinated; advice given on breastfeeding, contraception, and follow-up appointments

2. Assessment and Nursing Problems

Triage and initial assessment The patient was triaged as ESI level 2 because of severely abnormal vital signs and a high risk to the lives of both mother and fetus, and was therefore taken immediately to the resuscitation room. The ABCDE assessment found A (Airway): patent airway, able to talk; B (Breathing): rapid breathing at 24 breaths/min, normal breath sounds, SpO_2 97%; C (Circulation): rapid pulse, severe hypertension, sweaty skin, no vaginal bleeding; D (Disability): agitation, dilated pupils, no seizures; and E (Exposure): fever of 38.1 °C, with no wounds or signs of assault. Obstetric examination revealed uterine contractions every 4-5 minutes, cephalic presentation, and no sustained uterine rigidity. Once the patient had calmed down, the nurse performed a psychosocial assessment in a private room using the HEADSS approach (home, education, activities, drugs, sexuality, safety, and emotions), together with screening for violence and sexual abuse. The assessment identified 6 nursing problems, ranked by urgency.

3. Nursing Diagnoses and Key Nursing Interventions

3.1 Control of blood pressure and tachycardia (Diagnosis 1). A blood pressure of 160/110 mmHg or higher requires prompt treatment to reduce the risk of stroke and placental abruption.[9] The nurse rechecked blood pressure within 15 minutes using an appropriately sized cuff, prepared antihypertensive drugs and magnesium sulfate according to the treatment plan, and monitored for warning signs of preeclampsia, namely headache, blurred vision, epigastric pain, and hyperreflexia, together with urine and blood test results, so that the physician could differentiate stimulant toxicity from preeclampsia, because the symptoms may overlap and the treatment approaches partly differ.[9,10] In addition, tepid sponging was performed and IV fluids were given according to the treatment plan.

3.2 Safety and management of agitation (Diagnosis 3). The nurse started with non-pharmacological methods: dimming lights and reducing noise, providing a calm room, communicating calmly and non-judgmentally, using short sentences, and allowing a relative trusted by the patient to stay close. Physical restraint was considered a last resort because it may raise body temperature and increase muscle breakdown.[10] When non-pharmacological methods were ineffective, benzodiazepines were given as ordered, as they are the first-line option for controlling stimulant-induced agitation, tachycardia, and hypertension,[10] with monitoring for respiratory depression, left lateral positioning, and raised bed rails.

3.3 Maternal and fetal surveillance during labor (Diagnoses 2 and 4). The nurse continuously monitored FHR and uterine contractions by EFM and reported abnormal patterns to the physician immediately, while assessing for signs of placental abruption, namely persistent abdominal pain, uterine rigidity, and vaginal bleeding, which are more common in methamphetamine users.[4,5] After delivery, postpartum hemorrhage was prevented by routine uterotonic administration, proper delivery of the placenta, uterine massage, and continuous assessment of blood loss.[11]

3.4 Neonatal care and continuity of care (Diagnoses 5 and 6). The nurse prepared neonatal resuscitation equipment and coordinated with the pediatrician before delivery. After birth, the infant's temperature, blood glucose, feeding, and signs of startling, tremors, irritability, or lethargy were monitored.[12,18] For the patient, non-judgmental counseling was provided, her rights and assistance procedures were explained, and the social worker, One Stop Crisis Center, and drug

treatment team were coordinated, along with advice on breastfeeding while substance use continues[17] and postpartum contraception. Nursing diagnoses, interventions, and evaluation are shown in Table 2.

Table 2 Nursing diagnoses, key nursing interventions, and evaluation

Nursing diagnosis	Key nursing interventions	Evaluation
1. Risk for complications of hypertension and tachycardia due to methamphetamine toxicity	Measured BP and pulse every 5-15 minutes; gave antihypertensives and other drugs per treatment plan; tepid sponging; monitored for warning signs of preeclampsia and seizures; sent urine and blood tests to aid differential diagnosis	BP decreased to 150/96 mmHg within 60 minutes; no warning signs of preeclampsia; no seizures; temperature 37.4 ℃
2. Risk for fetal distress due to stimulants and maternal hypertension	Left lateral positioning; oxygen per plan; continuous FHR monitoring by EFM; reported abnormal patterns to the physician; prepared for intrauterine resuscitation	FHR within 110-160 beats/min; no severe abnormal patterns
3. Risk for injury from agitated and aggressive behavior	Calm environment; non-judgmental communication; relatives kept close; restraint avoided; benzodiazepines given as ordered; monitored for respiratory depression	Calmed within 30 minutes; no restraint used; no injury to the patient, fetus, or staff
4. Risk for intrapartum complications and postpartum hemorrhage	Assessed for signs of placental abruption; prepared blood group and IV fluids; routine uterotonic administration; uterine massage;	Safe vaginal delivery; blood loss 300 mL; good uterine contraction

	continuous assessment of blood loss	
5. Risk for neonatal complications	Coordinated with the pediatrician and prepared resuscitation equipment; assessed Apgar score; monitored temperature, blood glucose, feeding, and signs of startling, tremors, irritability, or lethargy	Apgar scores 8, 9, 9; normal blood glucose; no severe withdrawal symptoms; observed for a further 48-72 hours
6. Anxiety of the adolescent patient and family, and need for continuity of care	Non-judgmental counseling; explained rights and assistance procedures; assessed risk of self-harm and violence; coordinated with the social worker, One Stop Crisis Center, and drug treatment team; advised on breastfeeding and contraception	Patient and relatives acknowledged the care plan and consented to treatment; post-discharge follow-up scheduled and community team coordinated

Note: ESI = Emergency Severity Index; EFM = electronic fetal monitoring (continuous monitoring of fetal heart rate and uterine contractions); HEADSS = Home, Education, Activities, Drugs, Sexuality, Safety, Suicide/depression

4. Nursing Outcomes and Continuity of Care

After receiving nursing care, the patient's blood pressure decreased to 150/96 mmHg within 60 minutes, and her agitation subsided without restraint. The fetal heart rate remained within normal limits. She had a vaginal delivery at 38+2 weeks of gestation without postpartum hemorrhage, and her blood pressure 24 hours after delivery was 132/84 mmHg. The newborn weighed 2,780 g with Apgar scores of 8, 9, and 9, was observed continuously, and had a maximum Finnegan score of 4. Before discharge, the patient was referred to the social worker, One Stop Crisis Center, and drug treatment team. Length of hospital stay and follow-up plan: 3 days. The outcomes are shown in Table 3.

Table 3 Maternal and neonatal outcomes and continuity of care after nursing care

Indicator	Finding	Interpretation
Maternal blood pressure 24 hours postpartum	132/84 mmHg	Decreased to normal range
Postpartum blood loss	300 mL	No postpartum hemorrhage
Physical restraint and adverse events in the emergency department	None	Patient, infant, and staff safe
Mode of delivery and gestational age at delivery	Vaginal delivery at 38+2 weeks	Term delivery
Birth weight and Apgar scores at 1, 5, and 10 minutes	2,780 g; 8, 9, 9	Within normal limits
Maximum Finnegan score within 72 hours	4 points	No withdrawal symptoms requiring specific treatment
Continuity of care	Coordinated with the social worker, One Stop Crisis Center, and drug treatment team; follow-up in 3 days	Coordination completed as planned

Discussion

This case study shows that the success of emergency nursing care for a teenage parturient using methamphetamine depends on decisions made in the first minutes. Triage as ESI level 2 on arrival allowed the patient to enter the resuscitation room and receive immediate monitoring of vital signs and fetal heart rate, consistent with the ESI principle that patients at high risk to life or with vital signs in the danger zone should be assessed rapidly.[16] This patient had concurrent labor, severe hypertension, and agitation, and therefore required a team that coordinated simultaneously from the outset.

Hypertension in this patient may have resulted from methamphetamine toxicity, preeclampsia, or both. Methamphetamine stimulates the sympathetic nervous system, raising blood pressure and pulse rate, increasing body temperature, and dilating the pupils,[10] whereas preeclampsia is diagnosed by

hypertension with proteinuria or target-organ dysfunction,[9] and methamphetamine users are at greater risk of hypertension during pregnancy.[4,5] Because the nurse did not stop at giving antihypertensive drugs but also collected specimens and monitored for warning signs of preeclampsia, the physician was able to make correct treatment decisions and prepare magnesium sulfate in time if the criteria were met.

Managing agitation with non-pharmacological methods first and avoiding restraint is consistent with a systematic review indicating that restraint may raise body temperature and cause muscle breakdown, and that benzodiazepines are the first-line drugs for controlling stimulant-related symptoms.[10] In teenage parturients, respectful communication, having relatives nearby, and brief step-by-step explanations also help the patient cooperate with examinations and fetal monitoring.

Regarding fetal and intrapartum risks, several studies have found that methamphetamine and amphetamine use during pregnancy is associated with preterm birth, fetal growth restriction or low birth weight, and placental abruption,[4-7] which supports the nurse's use of continuous EFM, left lateral positioning, and monitoring for signs of abruption in this case. Prevention of postpartum hemorrhage followed the principles of third-stage labor management recommended by the World Health Organization, namely uterotonic administration, proper delivery of the placenta, and postpartum uterine assessment.[11]

For the newborn, infants with prenatal amphetamine exposure have been reported to be at risk of preterm birth and low birth weight and may show lethargy, poor feeding, or irritability in the early period.[12] The Finnegan scale was developed for opioid withdrawal syndrome;[18] it can therefore serve only as an aid for initial symptom monitoring together with the pediatrician's clinical judgment. Regarding breastfeeding, individualized counseling should follow the Academy of Breastfeeding Medicine guidelines, which generally recommend avoiding breastfeeding while methamphetamine use continues.[17]

The psychosocial dimension is often overlooked in the emergency department. Teenage parturients are at higher risk of obstetric complications than adult women,[2] and stimulant users during pregnancy are often undetected or enter treatment late.[8] Treating the patient as a person in need of care rather than as an

offender encouraged her to disclose accurate information on substance use, in line with legal provisions that direct drug users into treatment[14] and the law supporting assistance for teenage mothers.[13] Screening for violence and sexual abuse in pediatric patients is therefore a duty that must be performed alongside clinical care.

In the context of a community hospital, this case study highlights 3 system issues: 1) there should be practice guidelines and alert signs for triaging parturients with a history of substance use; 2) the emergency department, labor room, and pediatric team should conduct joint drills and have clear referral channels when cases exceed the hospital's capacity; and 3) there should be a system linking patients with social workers and drug treatment teams before discharge.

This study has limitations: 1) as a single case study, its findings cannot be generalized to other teenage parturients; 2) substance use data were based on self-report and urine screening tests, which cannot confirm the amount or duration of use; 3) the infant was followed only briefly during hospitalization, so long-term growth and developmental outcomes are unknown; and 4) the author was involved in the patient's care and may therefore have introduced bias in recording and interpreting the data, which was minimized through data triangulation.

Conclusion

This teenage parturient using methamphetamine received nursing care based on the nursing process covering 6 nursing diagnoses, including ESI level 2 triage, ABCDE assessment, control of blood pressure and agitation without restraint, continuous maternal and fetal surveillance, prevention of postpartum hemorrhage, and coordination of continuing care with the multidisciplinary team. As a result, the mother was safe, there was no hemorrhage, and the infant was monitored continuously. The key lessons are to carefully differentiate stimulant toxicity from preeclampsia, to treat the patient without stigma, and to plan continuity of care starting in the emergency department.

Recommendations

1. Recommendations for Applying the Findings

1.1 The hospital should develop emergency nursing practice guidelines for parturients using stimulants, specifying triage criteria, an ABCDE assessment flowchart, control of blood pressure and

agitation, maternal and fetal surveillance, and criteria for consultation or referral.

1.2 Joint training and drills should be conducted among emergency department nurses, labor room nurses, and the pediatric team, covering differentiation of stimulant toxicity from preeclampsia, de-escalation without restraint, and maternal and neonatal resuscitation.

1.3 Emergency department staff should be trained in non-judgmental communication and adolescent psychosocial screening, such as HEADSS, and a private space for counseling should be provided.

1.4 A continuity-of-care network should be established with social workers, the One Stop Crisis Center, sub-district health promoting hospitals, schools, local administrative organizations, and drug treatment facilities, so that teenage mothers receive treatment, contraception, and infant developmental follow-up continuously after discharge.

2. Recommendations for Future Research

2.1 Studies of multiple teenage parturients using substances (case series) or retrospective medical record reviews from several hospitals should be conducted to estimate prevalence and complications within the health region.

2.2 The guidelines derived from this case study should be developed and tested through action research, with long-term follow-up of mothers and infants.

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