

Intrapartum Management of Severe Intellectual Disability with Acute Agitation Resulting in Successful Vaginal Delivery: A Case Report from a Resource-Limited Setting

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Abstract

Women with intellectual disabilities experience substantial inequities in maternity care and are more likely to undergo obstetric interventions because of communication barriers, behavioural challenges, and limited evidence to guide intrapartum management. We report the case of a primigravid woman in her late twenties with lifelong severe intellectual disability who lacked decision-making capacity and presented at 38⁺₆ weeks' gestation in latent labour with severe agitation that prevented safe obstetric assessment. Following unsuccessful non-pharmacological de-escalation, a single intramuscular dose of ketamine enabled urgent maternal and fetal assessment and multidisciplinary review. Formal capacity assessment confirmed the absence of decision-making capacity, and surrogate consent was obtained from her mother. After reassessment demonstrated no obstetric indication for Caesarean delivery, the multidisciplinary team revised the initial management plan in the patient's best interests. Labour was expedited using vaginal misoprostol followed by oxytocin augmentation because of an unfavourable cervix, ineffective uterine activity, and recurrent agitation. Ongoing behavioural management was achieved with carefully titrated haloperidol and adjunctive promethazine under close maternal and fetal monitoring. Despite persistent communication difficulties and poor maternal expulsive effort, vacuum-assisted vaginal delivery resulted in favourable maternal and neonatal outcomes without respiratory compromise, extrapyramidal adverse effects, or other significant complications. This case demonstrates that severe intellectual disability and acute intrapartum agitation alone should not be considered indications for Caesarean delivery. With

multidisciplinary collaboration, surrogate best-interest decision-making, appropriate pharmacological management, and vigilant intrapartum monitoring, safe vaginal birth may be achievable in carefully selected patients. Although a single case cannot establish safety or efficacy, it provides valuable insight into managing a complex clinical scenario for which evidence remains limited and highlights the need for further research and context-specific guidelines.

Keywords

Intellectual Disability, Intrapartum Agitation, Labour, Vacuum-Assisted Delivery, Resource-Limited Setting, Shared Decision-Making, Maternal Health Equity

1. Background

Intellectual disability is characterized by significant limitations in intellectual functioning and adaptive behavior, which affect communication, autonomy, and social participation [1]. Women with intellectual disability experience substantial reproductive health inequities and are at increased risk of adverse maternal and offspring outcomes compared with women without intellectual disability. These adverse outcomes include higher rates of pregnancy complications, adverse neonatal outcomes, and maternal rehospitalization [2] [3]. Women with disabilities were more likely to require operative vaginal delivery than women without disabilities (adjusted relative risk [aRR] 1.33, 95% CI: 1.27 - 1.39) [4].

Women with intellectual disabilities experience reproductive healthcare inequities that are exacerbated by systemic barriers, including negative provider attitudes, communication challenges, and inadequate professional training [1] [5]. Clinician assumptions regarding a patient's ability to cooperate during labour may contribute to a lower threshold for operative delivery, even in the absence of clear obstetric indications [6] [7]. Acute intrapartum agitation represents a recognized obstetric emergency that requires prompt stabilization to protect maternal and fetal well-being [8]. Management is further complicated when patients lack decision-making capacity, requiring clinicians to balance ethical principles, surrogate decision-making, and the patient's best interests while ensuring timely obstetric care [3] [8].

However, evidence-based protocols for managing acute behavioral disturbances during labour, particularly regarding the use of pharmacological sedation, remain scarce, resulting in considerable variability in clinical practice [5] [8]. While international guidance emphasizes respectful maternity care, individualized assessment, and the involvement of a chosen companion whenever possible, there is little high-quality evidence to guide the selection, dosing, and monitoring of sedative or antipsychotic medications for women experiencing severe agitation during labour [8] [9]. Consequently, management often relies on multidisciplinary clinical judgment, careful maternal and fetal monitoring, and individualized

risk-benefit assessment.

This report describes the clinical reasoning underpinning a multidisciplinary, best-interest approach to intrapartum management that ultimately enabled successful vacuum-assisted vaginal delivery in a woman with severe intellectual disability and acute intrapartum agitation in a resource-limited setting.

2. Case Presentation

2.1. History and Antenatal Care

A primigravida in her late twenties with lifelong severe intellectual disability (ID) presented at 38+6 weeks' gestation in the latent phase of labour. She was born following an unsupervised home delivery and had a severe developmental delay since infancy, with minimal verbal communication and complete dependence on others for activities of daily living. She had never attained decision-making capacity and had no documented history of a formal psychiatric disorder.

Antenatal care was initiated at 23⁺¹ weeks' gestation, a common occurrence among women with intellectual disabilities who may have difficulty recognizing pregnancy symptoms and accessing maternity care [2]. Routine antenatal investigations were unremarkable, and her blood group was O Rh(D)-positive. The pregnancy progressed without obstetric complications over seven antenatal visits.

Because of her lifelong severe intellectual disability and lack of decision-making capacity, all major obstetric decisions throughout pregnancy were undertaken through discussions with her mother, who served as her primary caregiver and surrogate decision-maker. Before admission, an elective Caesarean section had been planned after counselling because vaginal birth was anticipated to be challenging owing to concerns regarding cooperation during labour rather than any established obstetric indication. This reflected the clinical uncertainty frequently encountered when managing labour in women with intellectual and developmental disabilities, particularly in the absence of standardized evidence-based guidance [6] [10].

2.2. Presentation in Labour

The patient presented approximately 24 hours before her scheduled elective Caesarean section with painful uterine contractions, marked agitation, and aggressive behaviour. Despite approximately 20 minutes of repeated verbal reassurance, caregiver-supported communication, and behavioral de-escalation, she remained highly agitated and physically uncooperative, preventing safe maternal and fetal assessment and posing an immediate risk to herself, her fetus, and healthcare staff.

Given the immediate need to ensure the safety of the patient, fetus, and healthcare personnel while facilitating urgent obstetric assessment, the attending medical officer administered a single intramuscular dose of ketamine 100 mg (approximately 1.3 mg/kg) for rapid tranquillization before specialist review. The patient weighed 77.6 kg. Intramuscular administration was chosen because severe agitation and aggressive behaviour made intravenous access unsafe. Within 2 minutes of

ketamine administration, the patient was sufficiently sedated to allow clinical assessment, secure intravenous access, obtain baseline investigations, and commence intravenous hydration. Adequate spontaneous respiration and hemodynamic stability were maintained, and no immediate adverse effects were observed.

Comprehensive obstetric assessment demonstrated a singleton pregnancy with a symphysiofundal height of 39 cm, longitudinal lie, cephalic presentation, and the fetal head palpable at 3/5 above the pelvic brim. The fetal heart rate was reassuring at 134 beats/min. Vaginal examination revealed a posterior, firm cervix that was 1 cm dilated and approximately 3 cm in length, with the presenting part at station -1, giving a Bishop score of 3, consistent with an unfavorable cervix. Although the patient was experiencing painful uterine contractions, labour failed to establish spontaneously.

Labour was induced with vaginal misoprostol (50 µg every 6 hours). Following three doses, the cervix progressed to 5 cm dilatation. However, uterine activity remained inadequate for effective labour progression, with contractions occurring at a frequency of two per 10 minutes and lasting a mean of approximately 23 seconds over a 2-hour observation period. Oxytocin augmentation was therefore commenced according to the local hospital protocol using an infusion prepared with 0.5 IU oxytocin in 500 mL of Ringer's lactate, initiated at 15 drops/min and increased to 20 drops/min after 30 minutes according to the local hospital protocol. Following augmentation, uterine activity improved to three contractions per 10 minutes, with a mean duration of approximately 46 seconds, and the cervix progressed to full dilatation within the subsequent 3 hours.

2.3. Investigations, Decision-Making Capacity Assessment, and Best-Interest Decision-Making

Initial laboratory investigations demonstrated a hemoglobin concentration of 11.0 g/dL, while repeat hepatitis B surface antigen (HBsAg) and HIV screening were non-reactive.

Following stabilization, a formal assessment of decision-making capacity was undertaken using accepted clinical principles, including the patient's ability to understand, retain, use, or weigh information relevant to treatment decisions, and communicate a choice. The assessment was conducted within the legal framework governing the care of persons with mental disorders in Ghana, as provided by the Mental Health Act, 2012 (Act 846) [11]. The assessment confirmed that she lacked decision-making capacity as a consequence of her lifelong severe intellectual disability. She was unable to understand, retain, use, or weigh information relating to decisions regarding labour and delivery or communicate a consistent treatment preference. These findings were consistent with her longstanding functional impairment, minimal verbal communication, and complete dependence on her primary caregiver for activities of daily living.

As the patient had never possessed decision-making capacity, the previously

planned elective Caesarean section did not constitute contemporaneous autonomous consent. Rather, it reflected a prior best-interest decision reached through discussions with her mother, who served as her primary caregiver and surrogate decision-maker throughout pregnancy, in accordance with accepted ethical principles and the legal and ethical framework guiding decision-making for persons lacking decision-making capacity in Ghana [4] [11].

Following multidisciplinary consultation involving the specialist obstetrician, the nursing team, and the patient's mother, the initial management plan was carefully reconsidered. Reassessment demonstrated reassuring maternal and fetal status, an unfavorable cervix (Bishop score 3), and no obstetric indication for Caesarean delivery. The multidisciplinary team concluded that a carefully monitored trial of vaginal birth represented the safest and least invasive management option in the patient's best interests. Following detailed counselling, the patient's mother agreed with the revised management plan and provided surrogate consent for induction of labour and subsequent obstetric interventions as clinically indicated, acting in the patient's best interests following confirmation that the patient lacked decision-making capacity.

Written informed consent for publication of this case report was subsequently obtained from the patient's mother as the surrogate decision-maker because the patient lacked decision-making capacity throughout her pregnancy and hospital admission.

2.4. Differential Diagnosis

The patient's acute agitation and aggressive behaviour were considered within the context of her lifelong severe intellectual disability and active labour. Potential reversible causes of altered behaviour, including hypoglycaemia, electrolyte abnormalities, hypoxia, infection, eclampsia, delirium, substance intoxication or withdrawal, and an acute primary psychiatric disorder, were considered. However, she had no history of psychiatric illness or substance use, her vital signs remained stable, laboratory investigations were unremarkable, and there were no clinical features suggestive of infection, hypertensive disease of pregnancy, metabolic disturbance, or neurological impairment. The temporal relationship between the onset of painful uterine contractions and worsening agitation, together with her baseline cognitive impairment and the absence of other identifiable medical causes, supported the conclusion that her behavioral disturbance was most likely precipitated by labour pain and the unfamiliar hospital environment superimposed on her severe intellectual disability.

2.5. Management Strategy

2.5.1. Non-Pharmacological Management

Initial management focused on minimising environmental stimuli and reducing the patient's distress through behavioral de-escalation. Reassurance was provided using simple verbal communication, with continuous support from her mother,

who remained at the bedside to facilitate communication and provide reassurance in a familiar manner. Attempts were made to perform an obstetric assessment using the least restrictive approach possible. However, despite approximately 20 minutes of these interventions, the patient remained severely agitated and physically aggressive, preventing safe clinical assessment and posing an immediate risk to herself, her fetus, and healthcare personnel.

2.5.2. Emergency Behavioral Stabilization

Given the immediate need to ensure the safety of the patient, fetus, and healthcare personnel while facilitating urgent obstetric assessment, the attending anesthetist administered a single intramuscular dose of ketamine (100 mg; approximately 1.3 mg/kg) for rapid tranquillization. The patient weighed 77.6 kg. This dose was lower than the 2 - 5 mg/kg intramuscular range commonly reported for dissociative sedation in severe agitation [12]-[14]. Within 2 minutes, the patient was sufficiently sedated to permit safe clinical assessment, secure intravenous access, obtain baseline blood investigations, commence intravenous hydration, and complete a comprehensive maternal and fetal assessment. Adequate spontaneous respiration and hemodynamic stability were maintained, and no immediate maternal or fetal adverse effects were observed.

Following specialist review, ketamine was not repeated. Ongoing behavioral management was achieved using intravenous haloperidol administered in divided doses (2.5 mg, 2.5 mg, 5 mg, and 5 mg), giving a cumulative dose of 15 mg. Promethazine 25 mg was administered every 12 hours as adjunctive therapy. Benztropine was kept immediately available should extrapyramidal symptoms occur, which were keenly monitored.

2.5.3. Best-Interest Obstetric Management

Following a multidisciplinary review involving the specialist obstetrician, nursing team, and the patient's mother, the initial plan for elective Caesarean section was reconsidered. Reassessment demonstrated reassuring maternal and fetal status, cephalic presentation, an unfavorable cervix (Bishop score 3), and no obstetric indication for operative delivery. As the patient lacked decision-making capacity, decisions regarding obstetric management were made in her best interests through surrogate decision-making by her mother following detailed counselling regarding the available management options [9] [15].

A carefully monitored trial of vaginal birth was undertaken, with Caesarean delivery reserved for the development of standard obstetric indications or failure of labour to progress.

2.5.4. Labour Management

Labour was induced with vaginal misoprostol (50 µg every 6 hours), with comprehensive maternal and fetal reassessment performed before each subsequent dose. Following three doses, cervical dilatation progressed to 5 cm. During the subsequent 2-hour observation period, uterine activity remained inadequate for

effective labour progression, with contractions occurring twice every 10 minutes and lasting a mean of approximately 23 seconds. Oxytocin augmentation was therefore commenced according to the local hospital protocol using an infusion prepared with 0.5 IU oxytocin in 500 mL of Ringer's lactate, initiated at 15 drops/min and increased to 20 drops/min after 30 minutes. Following augmentation, uterine activity improved to three contractions every 10 minutes, with a mean duration of approximately 46 seconds, and the cervix progressed to full dilatation within the subsequent 3 hours.

2.6. Maternal and Fetal Monitoring

Maternal and fetal monitoring was intensified throughout labour because of the combined challenges of behavioral disturbance and sedative administration. Maternal blood pressure was measured every 15 minutes using automated monitoring, while oxygen saturation was monitored continuously with pulse oximetry. Respiratory rate was recorded hourly and remained between 15 and 21 breaths per minute throughout labour. Neurological status was assessed regularly using the AVPU (Alert, Voice, Pain, Unresponsive) scale, with no deterioration in conscious level observed.

Continuous cardiac rhythm monitoring and electrocardiography (ECG), including QTc assessment, were not performed because these facilities were unavailable at our institution. In this emergency, referral for ECG before or during haloperidol administration was considered impractical because of the patient's severe agitation, the immediate risk of harm to herself, the fetus, and healthcare personnel, and the need for urgent behavioral control to facilitate obstetric assessment. Consequently, the patient was monitored clinically throughout treatment, with no episodes of syncope, palpitations, hemodynamic instability, or other features suggestive of clinically significant cardiac arrhythmia observed.

Fetal heart rate was monitored intermittently every 15 minutes using a handheld Doppler in accordance with local intrapartum monitoring protocols and remained reassuring throughout labour (123 - 154 beats/min). Labour progress was documented using the WHO partograph, and maternal and fetal assessments were repeated before each dose of misoprostol and throughout oxytocin augmentation. Preparations were made for immediate intervention should fetal distress, respiratory compromise, or extrapyramidal adverse effects develop, including the availability of emergency airway equipment, benztropine, and expedited Caesarean delivery if obstetrically indicated. No maternal hemodynamic instability, fetal compromise, respiratory depression, or extrapyramidal reactions occurred during labour.

2.7. Second Stage and Delivery

Labour progressed satisfactorily following oxytocin augmentation, with adequate uterine activity and continued maternal cooperation under the established behavioral management strategy. The cervix became fully dilated, and the patient en-

tered the second stage of labour with reassuring maternal observations and a normal fetal heart rate throughout.

Although she responded appropriately to verbal encouragement, her ability to sustain effective maternal expulsive efforts was limited by her underlying severe intellectual disability. To facilitate timely delivery, minimize maternal exhaustion, and avoid Caesarean section in the absence of an obstetric indication, a vacuum-assisted vaginal delivery was performed. A live male infant weighing 2.9 kg was delivered at 04:15 hours with Apgar scores of 8 and 9 at one and five minutes, respectively. The final dose of intravenous haloperidol (2.5 mg) had been administered at 22:00 hours, approximately 6 hours before delivery.

At birth, the neonate had a heart rate of 139 beats/min, a respiratory rate of 44 breaths/min, and a temperature of 36.8°C. In view of the maternal exposure to ketamine, haloperidol, and promethazine during labour, the neonate underwent close clinical observation for respiratory depression, excessive sedation, feeding difficulty, and extrapyramidal adverse effects. Serial assessments demonstrated normal spontaneous activity, intact primitive reflexes, including suck, Moro, rooting, and palmar grasp reflexes, with no evidence of hypotonia, dystonia, tremors, abnormal muscle tone, or other extrapyramidal features. The infant remained clinically stable throughout the observation period.

The placenta was delivered spontaneously and was complete on inspection. Estimated blood loss was approximately 300 mLs. There was no postpartum hemorrhage, genital tract trauma requiring surgical repair, or any other intrapartum complication.

The neonate was admitted to the neonatal intensive care unit (NICU) for feeding support because the mother initially declined to breastfeed immediately after delivery. There was no clinical evidence that the feeding difficulty was attributable to medication exposure. Following continued encouragement and support from the healthcare team and her caregiver, the mother commenced breastfeeding approximately 8 hours after delivery, after which the infant was fed satisfactorily.

Throughout the second stage of labour and delivery, maternal hemodynamic stability and spontaneous respiration were maintained. No extrapyramidal adverse effects, fetal distress, neonatal compromise attributable to the pharmacological management, or other intrapartum complications were observed.

2.8. Outcome

The patient's postpartum recovery was uneventful. She remained hemodynamically stable with normal respiratory function and experienced no neurological deterioration, extrapyramidal symptoms, or other adverse effects related to ketamine, haloperidol, or promethazine. Postnatal examination was otherwise unremarkable, and she was discharged home with her healthy newborn after routine postnatal care.

Before discharge, the multidisciplinary team provided comprehensive counseling to the patient's mother regarding newborn care, recognition of maternal dan-

ger signs, postpartum follow-up, and future reproductive planning. As the patient continued to lack decision-making capacity, surrogate consent for postpartum contraception was obtained from her mother after counselling regarding the available options. A Jadelle® two-rod levonorgestrel contraceptive implant, the only long-acting reversible contraceptive available at the facility, was inserted before discharge without complications.

At the 6-week follow-up visit, both mother and infant remained well. The patient had returned to her pre-pregnancy functional baseline, and neither maternal nor neonatal delayed complications related to labour, delivery, or the medications administered during the intrapartum period were identified.

3. Discussion and Review of Literature

3.1. Labour Management in Women with Severe Intellectual Disability

Labour management in women with severe intellectual disability (ID) who develop acute intrapartum agitation presents substantial obstetric, psychiatric, ethical, and communication challenges. Women with intellectual disabilities constitute a particularly vulnerable obstetric population and are at increased risk of adverse pregnancy outcomes, including preterm birth and hypertensive disorders of pregnancy [2]. In addition to these medical risks, communication difficulties, behavioral challenges, and, in some cases, impaired decision-making capacity, together with the limited evidence base to guide intrapartum management, frequently complicate clinical decision-making [6]. Consequently, management often requires an individualized multidisciplinary approach that balances maternal and fetal safety while avoiding unnecessary obstetric intervention.

3.2. Behavioral Disturbance during Labour

Acute agitation during labour in women with severe intellectual disability is likely to be multifactorial. Labour pain, fear, unfamiliar surroundings, communication difficulties, and limited understanding of the labour process may contribute to behavioral escalation, even in the absence of an underlying psychiatric disorder [6] [15]. Women with severe cognitive impairment may also have difficulty expressing pain or distress, resulting in behaviors that are easily misinterpreted as primary psychiatric illness rather than manifestations of labour or environmental stress.

In addition, clinicians often have limited training in adapting communication strategies for women with significant cognitive impairment, particularly those with minimal verbal ability, which may inadvertently worsen distress and hinder intrapartum assessment [6]. Assumptions regarding inability to cooperate during labour, lack of decision-making capacity, or future parenting ability may similarly contribute to more restrictive models of maternity care and a lower threshold for operative delivery [7].

In the present case, behavioral de-escalation using simple communication tech-

niques and continuous caregiver support was attempted before pharmacological intervention. Despite these measures, the patient's severe agitation prevented safe maternal and fetal assessment and posed an immediate safety risk. This highlights the importance of first excluding reversible medical causes of agitation while recognizing that behavioral disturbance during labour may result from the interaction between severe intellectual disability and the physiological and psychological stresses of childbirth.

3.3. Pharmacological Management of Acute Agitation during Labour

The pharmacological management of severe agitation during labour remains poorly described in the obstetric literature, particularly among women with intellectual disability. Consequently, clinicians frequently rely on evidence extrapolated from emergency medicine and psychiatry, together with multidisciplinary clinical judgement and individualized risk-benefit assessment.

In this case, a single intramuscular dose of ketamine was administered solely as an emergency rapid-tranquillization measure after non-pharmacological strategies proved unsuccessful. Intramuscular ketamine offers a rapid onset of action and is particularly useful when intravenous access cannot be safely established in severely agitated patients [12]-[14]. Once urgent obstetric assessment had been completed, ketamine was not repeated because its relatively short duration of action and dissociative effects were considered less suitable for sustained behavioral management throughout labour, where preservation of spontaneous respiration, serial neurological assessment, maternal cooperation, and effective maternal expulsive efforts remained important clinical objectives.

Following psychiatric consultation, intravenous haloperidol combined with promethazine was selected for ongoing behavioral stabilization. Randomised controlled trials have demonstrated that haloperidol combined with promethazine is an effective regimen for rapid tranquillization. Compared with haloperidol alone, the addition of promethazine reduces extrapyramidal adverse effects and the need for rescue sedation [16] [17]. Current NICE guidance similarly recognizes haloperidol combined with promethazine as an accepted option for rapid tranquillization when clinically appropriate, while emphasizing individualized patient assessment, appropriate monitoring, and careful consideration of underlying medical conditions [18]. Although these recommendations are derived primarily from psychiatric rather than obstetric populations, they represent the highest-quality evidence currently available and informed our multidisciplinary management in the absence of labour-specific guidance.

Throughout labour, spontaneous respiration, stable hemodynamic parameters, and an appropriate level of consciousness were maintained, allowing serial maternal and fetal assessment without respiratory compromise or neurological deterioration. No extrapyramidal reactions or other clinically significant adverse effects attributable to pharmacological management were observed.

3.4. Obstetric Decision-Making and Avoidance of Unnecessary Caesarean Delivery

Women with intellectual disability consistently have higher rates of labour induction, operative vaginal delivery, and Caesarean birth than women without disabilities, differences that cannot be fully explained by obstetric comorbidities alone [1] [9] [19]. The limited evidence base and lack of dedicated intrapartum management guidance may increase clinician uncertainty when behavioral or communication challenges arise during labour [6] [15].

In the present case, an elective Caesarean section had initially been planned because cooperation during labour was anticipated to be difficult rather than because of an established obstetric indication. Following multidisciplinary reassessment after admission, maternal and fetal status remained reassuring, labour had commenced spontaneously, the fetus was in cephalic presentation, and no obstetric indication for Caesarean delivery was identified. As the patient had never possessed decision-making capacity, management decisions throughout pregnancy and labour were guided by accepted principles of best-interest decision-making through surrogate consent provided by her mother.

The patient initially had an unfavorable cervix (Bishop score 3). Following cervical ripening with vaginal misoprostol, uterine activity remained objectively inadequate for effective labour progression, with contractions occurring only twice every 10 minutes and lasting a mean of approximately 23 seconds during a 2-hour observation period. Oxytocin augmentation increased uterine activity to three contractions every 10 minutes, with a mean duration of approximately 46 seconds, resulting in progression to full cervical dilatation within the subsequent 3 hours.

The decision to expedite labour rather than continue expectant management reflected both obstetric and behavioral considerations. Objectively inadequate uterine activity following cervical ripening provided a clinical indication for augmentation to establish effective labour. In addition, recurrent episodes of severe agitation repeatedly interrupted safe maternal and fetal assessment and were considered likely to worsen with prolonged labour, potentially increasing the need for repeated pharmacological sedation and compromising ongoing intrapartum care. Under these circumstances, carefully supervised induction and augmentation of labour offered the most appropriate opportunity to achieve vaginal birth while preserving the option of Caesarean delivery should standard obstetric indications subsequently arise.

Although vacuum-assisted vaginal delivery was ultimately required because of poor maternal expulsive effort, successful avoidance of major abdominal surgery potentially reduced the risks associated with operative delivery, including postoperative morbidity and venous thromboembolism, which occur more frequently among pregnant women with disabilities [2] [20].

This case demonstrates that severe intellectual disability alone should not be regarded as an indication for Caesarean delivery. Instead, obstetric management should be guided by standard obstetric indications, individualized multidisciplinary

nary assessment, and careful consideration of the patient's best interests.

3.5. Ethical and Clinical Implications

This case highlights the importance of multidisciplinary collaboration in the management of pregnant women with severe intellectual disability who lack decision-making capacity. Optimal care requires close coordination between obstetric, psychiatric, nursing, and caregiver teams to balance beneficence, non-maleficence, and respect for patient autonomy through appropriate surrogate decision-making while safeguarding the interests of both mother and fetus [21] [22]. It also illustrates the importance of structured assessment of decision-making capacity and best-interest decision-making in patients who lack capacity, consistent with the ethical principles of clinical practice and the legal framework provided by Ghana's Mental Health Act, 2012 (Act 846) [3] [11].

Although the patient lacked decision-making capacity, this did not diminish her entitlement to equitable, individualized obstetric care. Decisions regarding mode of delivery should not be based solely on the presence of intellectual disability or anticipated behavioral challenges but should instead be guided by standard obstetric indications and an objective assessment of maternal and fetal well-being. Active involvement of caregivers may facilitate communication, reduce distress, and support best-interest decision-making when patients are unable to participate meaningfully in complex medical decisions [15] [22].

This case also illustrates the importance of avoiding reflexive Caesarean delivery in women with severe intellectual disability. Careful multidisciplinary reassessment following behavioral stabilization demonstrated that, despite the anticipated challenges, vaginal birth remained an appropriate and achievable option. Individualized care, supported by close maternal and fetal monitoring and timely obstetric intervention when required, enabled a successful vaginal delivery without maternal or neonatal complications attributable to the behavioral disturbance or pharmacological management.

More broadly, this report underscores the need for evidence-based clinical guidance addressing behavioral management, pharmacological sedation, communication strategies, intrapartum monitoring, and ethical decision-making for women with intellectual disability during labour. Greater clinician education and the development of context-specific multidisciplinary protocols may reduce unnecessary operative intervention while promoting equitable, patient-centered maternity care.

3.6. Strengths and Limitations

This report provides a detailed description of the multidisciplinary clinical reasoning, behavioral management, pharmacological interventions, ethical decision-making, and intrapartum monitoring that facilitated successful vaginal birth in a woman with severe intellectual disability presenting with acute intrapartum agitation. It also contributes objective clinical data regarding labour progression, ma-

ternal and fetal monitoring, and the practical application of best-interest decision-making in a setting where evidence-based guidance is limited.

Nevertheless, this is a single case report and cannot establish the safety, efficacy, or generalizability of ketamine, haloperidol, or promethazine for the management of agitation during labour. Although no clinically significant maternal or neonatal adverse effects were observed, continuous electrocardiographic monitoring and QTc assessment were unavailable, preventing exclusion of asymptomatic cardiac conduction abnormalities. In addition, the favorable outcome may not be reproducible in women with different obstetric, psychiatric, or medical comorbidities, and treatment decisions should continue to be individualized.

Accordingly, this report should not be interpreted as supporting the routine use of these medications during labour. Rather, it demonstrates that, in carefully selected women without obstetric contraindications, individualized multidisciplinary care, caregiver involvement, judicious pharmacological intervention, and close maternal and fetal monitoring may facilitate safe vaginal birth while avoiding unnecessary Caesarean delivery. Further prospective studies are required to establish evidence-based recommendations for the intrapartum management of women with severe intellectual disability and acute behavioral disturbance.

4. Learning Points/Take Home Messages

- Severe intellectual disability alone should not be considered an indication for Caesarean delivery. Obstetric management should remain guided by standard obstetric indications, individualized risk assessment, and the patient's best interests.
- In women with severe intellectual disability who lack decision-making capacity, multidisciplinary collaboration, caregiver involvement, and surrogate best-interest decision-making are essential to achieving ethically and clinically appropriate intrapartum care.
- When behavioral de-escalation is unsuccessful, carefully selected pharmacological interventions may facilitate essential maternal and fetal assessment and support continued intrapartum management under close monitoring.
- Operative vaginal delivery may be an appropriate alternative to intrapartum Caesarean delivery when maternal expulsive effort is inadequate despite otherwise favorable obstetric conditions.
- This case highlights the need for context-specific, evidence-based intrapartum protocols to guide the management of women with severe intellectual disability and acute behavioral disturbance, particularly in resource-limited settings.

Patient Consent for Publication

Written informed consent for publication of this case report and the accompanying clinical details was obtained from the patient's mother, who served as the surrogate decision-maker because the patient lacked decision-making capacity throughout her pregnancy and hospital admission.

Ethics Approval

Publication of this case report was reviewed and approved by the hospital management through the Medical Director of St. Theresa's Catholic Hospital, Nkoranza. Written informed consent for publication was obtained from the patient's mother, who acted as the patient's surrogate decision-maker because the patient lacked decision-making capacity throughout her pregnancy and hospital admission.

Author Contributions

Atta Owusu Junior conceived and designed the case report, managed the patient, collected and interpreted the clinical data, conducted the literature review, and drafted the manuscript. **Yaw Gyanteh Owusu** provided senior clinical oversight in the patient's management and contributed to the interpretation of the clinical findings, critical revision of the manuscript, and intellectual content. **Thelma S. Asare** contributed to the literature review, critical revision of the manuscript for important intellectual content, and interpretation of the findings. All authors reviewed and approved the final manuscript and agree to be accountable for all aspects of the work.

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Statement

Artificial intelligence (ChatGPT, OpenAI) was used to assist with language editing, manuscript organization, and refinement of scientific writing. All clinical decisions, interpretation of findings, literature verification, and final manuscript content were independently reviewed, critically revised, and approved by the authors, who take full responsibility for the accuracy and integrity of the work.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Patient's Perspective

Owing to the patient's lifelong severe intellectual disability and lack of decision-making capacity, she was unable to provide a meaningful account of her experience. Her mother, who served as her primary caregiver and surrogate decision-maker throughout her care, reported that the patient appeared calmer and more comfortable when familiar people were present, and the environment was kept quiet and reassuring. She expressed appreciation for the multidisciplinary approach adopted by the clinical team for a safe vaginal birth to be achieved without the need for Caesarean section. She also appreciated the team's clear communication, involvement in the decision-making process, and continued support during the postpartum period, including counselling on long-acting reversible contraception and arrangements for ongoing psychiatric and community follow-up.