BMC Pregnancy and Childbirth

RESEARCH

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Induction of labour outcomes in a tertiary hospital: the **G**hanaian **c**ervix and **m**isoprostol 25ug (GCAM-25 STUDY)—a cross-sectional study

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Abstract

Background Induction of labour is an indispensable obstetric procedure, although associated with some complications. The World Health Organization recommends the use of low dose misoprostol to reduce adverse induction outcomes like uterine hyperstimulation and rupture. With the current availability of 25ug misoprostol tablets in Ghana, this study assesses the effectiveness and safety of 25ug intravaginal misoprostol among women with low risk postdate pregnancies (between 41 weeks and 43 weeks) induced at the premier tertiary healthcare facility in the country.

Methods A cross-sectional study of low risk postdate pregnant women scheduled for induction of labour at Korle- Bu Teaching Hospital between 21st July 2022 and 30th April 2023. The primary outcome was the mode of delivery following induction of labour. The secondary outcomes included: induction to delivery interval, maternal complications, fetal complications and the predictors of successful vaginal delivery.

Results Among 168 women analysed, 138/168 participants (82.1%) had vaginal delivery and 30/168 participants (17.9%) had caesarean section. The commonest indication for caesarean section was failure to progress, accounting for 40% of cases. The proportion of postdate women that had vaginal delivery within 24 h of induction was 117/168 (69.6%) with a CI of 62.1–76.5. The mean induction to vaginal delivery time was 17.39 (± 7.31) hours. There were no cases of uterine rupture, hyperstimulation, maternal mortality or still births recorded during the study. Fetal heart rate abnormalities occurred in 8.9% of participants, meconium staining of liquor occurred in twenty-five participants (14.9%). Eleven babies (6.5%) had low APGAR score (< 7) at five minutes and seventeen babies (10.1%) required NICU admission. Parity was the only significant predictor of vaginal delivery. (OR 3.14, 95% CI:1.38–7.13)

Conclusion The 25ug misoprostol induction protocol is effective and safe for the Ghanaian population with low risk postdate pregnancy.

Keywords Induction of labour, Misoprostol, Ghana

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Background

Induction of labour is defined as the artificial initiation of labour before its spontaneous onset for the purpose of delivery of the feto- placental unit [1]. It is an important and common obstetric intervention, although not devoid of complications.

Adverse maternal outcomes associated with the induction process include increased risk of caesarean delivery, uterine hyperstimulation, maternal infections, postpartum haemorrhage (PPH), uterine rupture and perineal trauma. Fetal complications include fetal distress, low APGAR score, increased Neonatal intensive care unit (NICU) admission and neonatal infections [2–6].

In Ghana, there is limited research on induction of labour, especially with the use of 25ug misoprostol, which was unavailable prior to 2021.The few studies previously done in Ghana have used 50ug misoprostol [7, 8]. At Korle- Bu Teaching Hospital (KBTH), about two decades ago, induction of labour was done with 50ug misoprostol given 4 hourly for four doses. In the past decade, a protocol revision of the frequency of dosing from four to six hours has been done. This change was necessitated by the increasing frequency of life-threatening complications like uterine rupture [9]. The 50ug was obtained by dividing a 200ug tablet of misoprostol into four parts and a quarter administered. The possibility of inaccuracies in the doses administered by this method; either an inadequate dose or overdosage, could result in adverse outcomes. These adverse outcomes could be mitigated by the availability of low dose preparations. The World Health Organization (WHO) recommends the use of low dose misoprostol to reduce adverse maternal and fetal outcomes [10] and with the current availability of 25ug misoprostol tablets, the opportunity to explore its use as a safe method of induction is justified. The aim of this study was to assess the effectiveness and safety of 25ug intravaginal misoprostol among women with low risk postdate pregnancies (between 41 weeks and 43 weeks) scheduled for induction at KBTH.

Methodology

Study design and site

This cross-sectional study was part of a bigger unpublished study that assessed induction practices at a tertiary hospital in Ghana [unpublished observation: Mensah T. Dissertation GCPS 2023]. It was conducted between 21st July 2022 and 30th April 2023 at the Maternity unit of the Obstetrics and Gynaecology department of the KBTH, Accra. KBTH is the premier tertiary healthcare facility in Ghana and the third biggest referral centre in Africa. The average annual deliveries in the department is 10,000 [9], with an average monthly induction rate of 13% and a 77% success rate according to the monthly maternal morbidity and mortality statistics.

In the preparation of patients for induction of labour at KBTH, patients are admitted a day prior to the scheduled induction. On admission, an initial evaluation is done to identify if the indication for the induction of labour still exists and is justifiable. An ultrasound scan and Non-Stress Test (NST) are done to assess fetal well-being and any contraindication to induction of labour (e.g. EFW > 4Kg, anhydramnios, non-vertex presentation and abnormal NST) ruled out. The procedure is explained to the patient and an informed consent obtained. Pre-induction cervical assessment is done using digital vaginal examination and the Bishop score (BS) determined and recorded on the morning of the induction of labour. Depending on the favourability of the cervix and the obstetric history, one of the recommended methods of induction is done. Methods of induction at KBTH include medical induction with misoprostol given 6 hourly per vaginam, transcervical catheter induction and amniotomy.

The study site, prior to 2021, used 50 ug of misoprostol for induction. This was obtained by dividing a 200ug tablet of misoprostol into four parts and a quarter inserted into the posterior fornix 6 hourly. Since 2021, 25ug misoprostol tablets have become readily available and is also in use at the study site. This is given 6 hourly per vaginam as recommended by the FIGO guidelines [11]. After induction of labour is started, the patient is monitored on the induction chart, which includes monitoring of maternal vitals and hourly fetal heart rate (FHR). Subsequent doses of misoprostol are given in the absence of effective contractions (3–4 contractions lasting more than 40 s) and patients transferred to the labour ward when in active phase of labour defined as 4 cm cervical dilatation and above. In active phase, augmentation with oxytocin infusion is done when there are inadequate contractions and is started no earlier than four hours after the last dose of misoprostol. The augmentation protocol involves an infusion of 5iu of oxytocin in 500mls of normal saline, set up at 15dpm and increased every 30 min by 15dpm until adequate contractions are achieved. If after 4 doses of misoprostol, there is no progress in labour, the option of repeating the induction process after a 24-hour rest exists, after consideration of the clinical circumstances and patient preference. Cardiotocography (CTG) is done whenever there are FHR concerns with intermittent auscultation and also during labour augmentation. Successful induction of labour at the study site is defined as having a vaginal delivery after induction. Failure is defined as inability to achieve vaginal delivery. This includes failure to achieve effective uterine contractions; failure to achieve active labour; or any indication resulting in a caesarean section.

The study population were pregnant women with low risk postdate pregnancies (gestational age between

41weeks and 43 weeks) admitted to the unit for a scheduled induction of labour. The operational definition for low risk was no maternal medical condition; no previous caesarean section and no fetal risk (intrauterine growth restriction or congenital anomalies).

Eligibility criteria

The inclusion criteria included women with a singleton pregnancy between 41 weeks and 43 weeks gestation; a cephalic presentation; intact membranes at the start of induction; willingness to undergo medical induction with misoprostol and consent to partake in the study. The exclusion criteria included allergy to misoprostol; intrauterine fetal demise (IUFD); grandmultiparity and an abnormal NST.

Pregnant women who were admitted for a scheduled induction of labour and met the inclusion criteria were identified a day prior to the induction and recruited sequentially.

Sample size calculation

The study was a subsection of a bigger unpublished study with the aim of comparing transvaginal sonographic cervical assessment and the BS in the prediction of successful labour induction among women with low risk postdate pregnancies [unpublished observation: Mensah T. Dissertation GCPS 2023]. Using the sample size formula for determining adequate sensitivity or specificity for diagnostic tests [12], the sample size was calculated.

Sample size based on sensitivity: $\mathbf{N(sN) = \{Z^2_{1-\alpha/2} \times Sn \times (1\text{-}Sn)\} / \{L^2 \times P^{\alpha}\}}$.

Sample size based on specificity: $\mathbf{N(sP) = \{Z^2_{1-\alpha/2} \times Sp \times (1\text{-}Sp)\} / \{L^2 \times P^{\beta}\}}$.

where

N = number of patients (participants).

N(sN) = minimum sample size based on sensitivity.

N(sP) = minimum sample size based on specificity.

$Z_{1-\alpha/2}$ = 1.96 (standard normal deviate value that divides the central 95% of z distribution from 5% in the tails).

Sn = reported sensitivity (58% = 0.58) [13].

Sp = reported specificity (77%. = 0.77) [13].

L = precision desired on either side of sensitivity/specificity (10% = 0.1).

P^{α} = Prevalence of successful induction (59.2% = 0.592) [13].

P^{β} = Prevalence of failure of induction (40.8% = 0.408) [13].

Inputting the above into the sample size formula:

N(sN) = 158

N(sP) = 167

A sample size of 167 was estimated as the minimum requirement with respect to both sensitivity and specificity. After considering a 10% mark up for loss to follow up and incomplete data, we had a final sample size of **N = 184.**

Study procedure

A questionnaire was administered by two trained research assistants, who are support staff of the maternal fetal medicine unit of the department and have been involved as research assistants in the department over the past 5 years. Data items covered included demographic characteristics and obstetric history.

Induction of labour was done using 25ug of misoprostol (brand: Misoclear; manufactured by Marie Stopes) given intravaginally every six hours for a maximum of four doses by the managing team as per the institutional protocol. Prior to the start of the induction, maternal vitals, abdominal examination and fetal heart rate were assessed and recorded. The misoprostol was inserted and the patient monitored on the KBTH induction of labour chart. Hourly monitoring of FHR was done with Doptone. Before the next dose of misoprostol, uterine contractions were assessed. This was done by a midwife, every 6 h, approximately 30 min before the time for insertion of the next dose of misoprostol. If effective contractions were present, the next dose of misoprostol was not given. At active phase of labour (at least 4 cm cervical dilatation), patient was moved to the labour ward and monitored on the partograph as per the hospital's labour management protocol.

All important labour events were recorded on a data abstraction form by the research assistants. This included: the time of first insertion of misoprostol; time of active labour (at least 4 cm cervical dilatation); time of second stage; time of delivery; number of doses of misoprostol given; the need for augmentation and the maximum dose of oxytocin used; maximum number of contractions and duration; non reassuring fetal heart changes (bradycardia, persistent tachycardia, late deceleration); time of rupture of membranes during labour; newborn sex; birth weight; APGAR score; mode of delivery; NICU admission; maternal outcomes (antepartum haemorrhage (APH), uterine rupture, PPH, chorioamnionitis) and reasons for failure of induction.

The Primary outcome of the study was the mode of delivery following induction of labour. The secondary outcomes included: induction to delivery interval, maternal complications (uterine hyperstimulation, uterine rupture, APH, PPH, chorioamnionitis), fetal complications (low APGAR, NICU admission, abnormal FHR) and the predictors of successful vaginal delivery.

Definition of terms for the study:

- Bradycardia: fetal heart rate < 110bpm [14].
- Tachycardia: fetal heart rate > 160bpm [14].

- Uterine hyperstimulation: increase in uterine activity associated with FHR changes [15].
- Active labour: cervical dilatation of 4 cm and above [16].
- Chorioamnionitis/ infection: temperature > 38 Celsius with either uterine tenderness or offensive liquor or purulent cervical discharge [17].

(Fever is a known side effect of misoprostol especially when used after high doses, as in the management of PPH. This fever may be associated with shivering and usually occurs within the first 2 h post treatment and is usually self-limiting [18]. Isolated maternal fever was therefore not used as a criterion for suspected chorioamnionitis)

Ethical and legal considerations

Ethical clearance was sought and granted by the Korle-Bu Teaching Hospital Scientific and Technical Committee / Institutional Review Board. The reference number is KBTH-STC/IRB/00036/2022. In addition, a written informed consent was obtained from all the study participants.

Data analysis

Data analyses were done using STATA 17. Descriptive statistics were presented in charts and tables. Categorical variables were expressed as frequencies, proportions and percentages. Multivariate logistic regression analysis was used to determine the effect of individual variables on the prediction of successful vaginal delivery. In all statistical analysis, a p-value of < 0.05 at a confidence interval of 95% was considered statistically significant.

Results

A total of 184 women were recruited for the study. There were 721 cases of inductions of labour over the ten-month period. The total deliveries over the same period was 5,807. Induction rate at KBTH was 12.4% (721 inductions /5807 deliveries). The percentage of scheduled induction of labour cases at the department over the study period was 74.2%.

(535/ 721). The rate of postdate pregnancies scheduled for induction was 51.6% (276 postdate / 535 scheduled inductions). A total of Ninety-two (92) cases were excluded from the study. Of these, three [3] declined to participate and eighty-nine (89) women did not meet the inclusion criteria. Figure 1 shows the overview of induction of labour cases and the flowchart of the study process from the initial assessment for eligibility to the final analysis.

Of the 184 women recruited, 168 women (91%) were included in the final analysis. The sixteen cases excluded in the final analysis were on account of protocol deviation (14/16) and lost to follow up (2/16). The mean age of participants was 29.2 ± 5.2 years. The sociodemographic details of participants are shown in Table 1.

Mode of delivery and induction to vaginal delivery interval

Vaginal delivery occurred in 138/168 participants (82.1%): 35.5% were nulliparous (49/138) and 64.5% were parous (89/138). There were 30/168 deliveries (17.9%) by caesarean section. The breakdown of the mode of delivery and the induction to vaginal delivery time interval is shown in Table 2. The commonest indication for caesarean section was failure to progress, accounting for 40% of cases. Figure 2 summarizes the indications for caesarean section.

Of those that had vaginal delivery, 117/138 women (84.8%) had vaginal delivery occurring within 24 h of induction. The proportion of postdate women that had vaginal delivery within 24 h of induction was 117/168 (69.6%) with a CI of 62.1–76.5. The mean induction to active phase time for women that had vaginal delivery was 12.64 (± 6.73) hours. The mean induction to delivery time for women that had vaginal delivery was 17.39 (± 7.31) hours.

Maternal outcomes

There were no cases of uterine hyperstimulation, uterine rupture or maternal mortality during the study. There were 4 cases of APH (2.4%), 2 cases of chorioamnionitis (1.2%) and 7 cases of PPH (4.2%). All 7 cases of PPH were managed conservatively, with one patient requiring blood transfusion. Oxytocin augmentation was required in 62 cases (36.9%), with 79.03% (49/62 cases) ending in vaginal delivery. For the doses of misoprostol received, 86.3% of participants received three or less doses. Table 3 demonstrates the breakdown of the total doses of misoprostol administered and the frequency of vaginal delivery and diagnosis of fetal distress necessitating caesarean section.

(* % of vaginal delivery and fetal distress = column frequency divided by total number of women receiving the particular dose of misoprostol)

Perinatal outcomes

There were no cases of still birth recorded among participants in the study. Majority of babies delivered were male (53%). The mean birth weight in the study was 3.4 kg ± 0.5. FHR abnormalities occurred in 8.9% of participants during the period of labour. Breakdown of the FHR abnormalities were as follows; 9/15 (60%) had bradycardia, 3/15 (20%) had tachycardia and 3/15 (20%) had bradycardia with late decelerations. Meconium staining of liquor was reported in 25 participants (14.9%). One hundred and thirty-six babies (81%), had APGAR score of 8 and above at five minutes. Eleven babies (6.5%) had low APGAR score (< 7) at five minutes. Seventeen babies

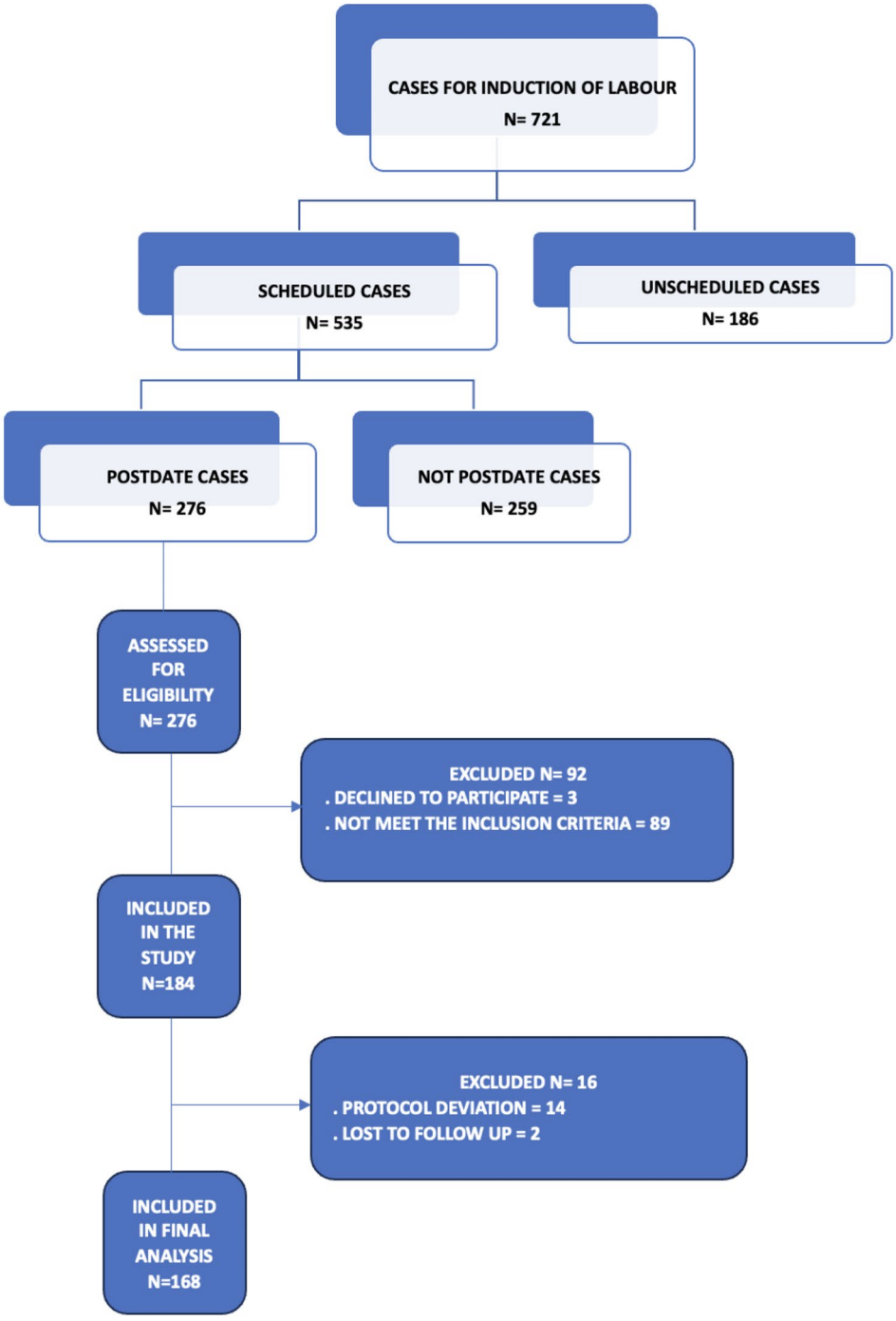

Fig. 1 Overview of Induction of labour cases and flowchart of the study process

(10.1%) required NICU admission, with low APGAR score accounting for the highest indication to NICU (47%). Figure 3 summarizes the indications for NICU admission.

Predictors of successful vaginal delivery

Univariate and multivariate logistic regression analysis were performed on seven parameters to determine factors associated with successful vaginal delivery and successful vaginal delivery within 24 h. The parameters were parity, Bishop score (BS), Bishop score (BS) fetal station, maternal age, Body mass index (BMI), previous history of induction of labour and maternal weight. High parity was the only significant predictor of vaginal delivery. Parous women were 3.14 times more likely than

Table 1 Demographic and obstetric characteristics of participants

Characteristics	Frequency	Percent (%)
Age, in years		
< 35	142	84.5
≥ 35	26	15.5
Marital status		
Single	54	32.1
Married	98	58.3
Cohabiting	16	9.5
Level of education		
No formal education	12	7.1
Primary	56	33.3
Secondary	53	31.5
Tertiary	47	28.0
Occupation		
Professional	45	26.8
Trading	51	30.4
Artisan	51	30.4
Unemployed	21	12.5
Body mass index (BMI)		
Underweight	1	0.6
Normal	51	30.4
Overweight	54	32.1
Obese I	48	28.6
Obese II	14	8.3
Gestational age (In wks. + days)		
Late term (41 + 0–41 + 6)	162	96.4
Post term (42 + 0–43 + 0)	6	3.6
Parity		
Nulliparous (Para 0)	68	40.5
Primiparous (Para 1)	46	27.4
Multiparous (Para 2+)	54	32.1
Bishop Score at induction		
Unfavourable (0–4)	70	41.7
Moderately favourable (5–8)	94	55.9
Favourable (≥ 9)	4	2.4

Table 2 Mode of Delivery and Time of Induction to vaginal delivery

Characteristics	Frequency	Percent (%)
Mode of delivery		
Spontaneous Vaginal birth	135	80.3
Operative vaginal	3	1.8
Caesarean Section	30	17.9
Time of Induction to vaginal delivery		
≤ 12 h	33	23.9
12–24 h	84	60.9
> 24 h	21	15.2

nulliparous women to have a vaginal delivery. (OR 3.14, 95% CI:1.38–7.13; P = **0.006**). (Table 4).

For predicting successful vaginal delivery in 24 h, the univariate analysis identified high parity, high BS and high BS fetal station as the significant predictors of success. Parous women were 2.3 times more likely to have a successful delivery in 24 h. Every unit increase in station was associated with a 1.8 times likelihood of having a successful vaginal delivery in 24 h. Also, every unit increase in BS was associated with a 1.2 times likelihood of having a successful vaginal delivery in 24 h. Maternal age, BMI, previous history of induction and maternal weight did not predict successful vaginal delivery. When the significant variables were included in the multivariable analysis, only parity was a significant predictor of successful vaginal delivery in 24 h. Parous women were 2.1 times more likely to have a successful vaginal delivery in 24 h. (Table 5).

Discussion

The study assessed the effectiveness and safety of 25ug intravaginal misoprostol among women with low risk postdate pregnancies (between 41 weeks and 43 weeks) scheduled for induction at KBTH.

The induction rate in this study was 12.4%. This is higher than what has been reported in literature for Africa. In a study by Vogel et al., that analysed the pattern of induction of labour in Africa and Asia, induction rate determined for Africa was 4.4% [19]. The differences in socio-demographic characteristics or institutional practices between the African countries studied and Ghana, could be the difference in induction rates identified.

The rate of postdate pregnancies in the scheduled inductions over the study period was 51.6%. Two studies conducted in the same facility in the past decade, reported higher rates of postdate in the induced cases; 65.9% [7], 69.7% [9]. The decrease in the rate of postdate cases in the current study could be due to the reduction in postdate referrals to the study site. A current practice over the past 5 years has been to send doctors at residency level from KBTH to the peripheral facilities to manage some of the obstetric cases. Also, the increase in use of early ultrasound to improve the accuracy of estimating gestational age, could have decreased the incidence of postdate pregnancies [20–22].

Vaginal delivery occurred in 82.1% of participants, whilst the caesarean section rate was 17.9%. A previous study on postdates in the same facility as this current study, reported a lower vaginal delivery rate of 74% [7]. Although the study participants in both studies are similar in terms of ethnicity and indication for induction (Ghanaians and postdate pregnancies), Kabore and colleagues used 50ug misoprostol for induction and reported a higher rate of fetal distress necessitating caesarean sections. This could have accounted for the difference in vaginal delivery rates between studies. Whilst fetal distress accounted for about 43% of the caesarean sections in Kabore's study [7], only about 26% of the indications for caesarean sections in the current study was

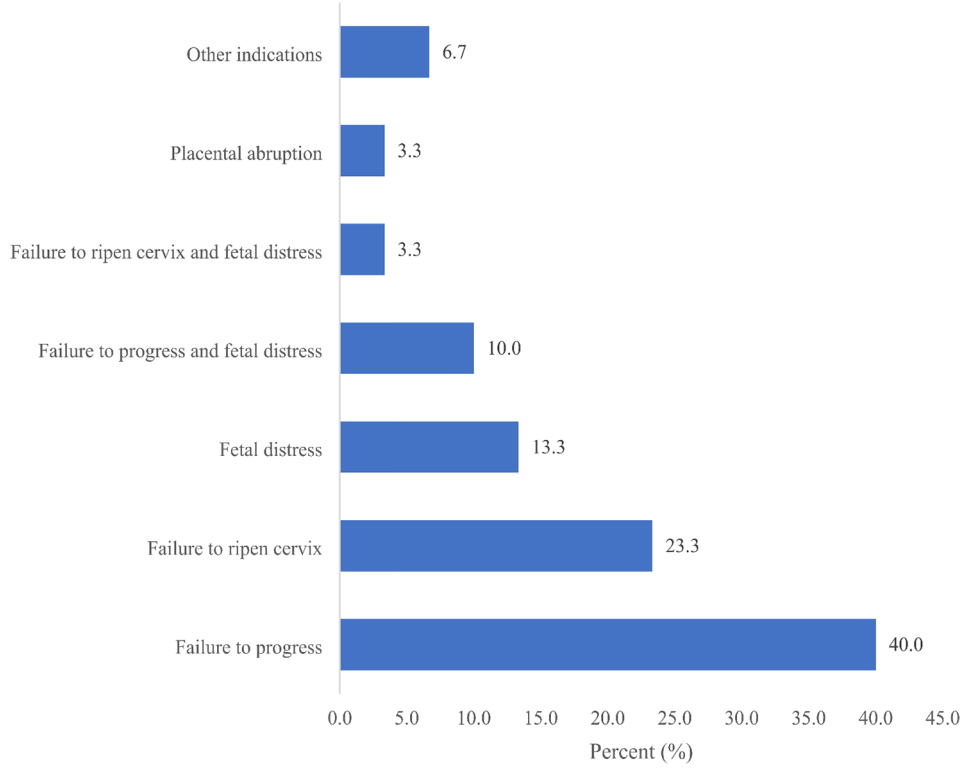

Fig. 2 Indications for caesarean section

Table 3 Number of doses of misoprostol given and frequency of vaginal delivery and fetal distress

Total doses of misoprostol given	Frequency	Percent (%) *N* = 168	Vaginal delivery Frequency (%)*	Fetal distress Frequency (%)*
One	33	19.6	31 (93.9)	0 (0)
Two	73	43.5	65 (89.0)	2 (2.7)
Three	39	23.2	32 (82.1)	3 (7.7)
Four	21	12.5	10 (47.6)	3 (14.3)
≥ Five	2	1.2	0 (0)	0 (0)

due to fetal distress. Sub-analysis of the cases of fetal distress in the current study, identified that 75% of them occurred in women who received three [3] or more doses of misoprostol.

The mean induction to vaginal delivery time was longer in the current study 17.39 ± 7.31 h, compared to other studies conducted in Ghana: 12.72 ± 10.68 h [7], 13.8 ± 7.9 h [23]. These studies used 50ug misoprostol for induction of labour. Whilst about 85% of those that had vaginal delivery, had it occurring within 24 h of induction in the current study, this was slightly lower than the 90% reported by Kabore and colleagues [7]. The higher dose of misoprostol used in those studies could have accounted for the shorter induction to delivery interval.

No cases of uterine rupture were reported in the study. A study conducted in KBTH in the year 2015, reported 5 cases of uterine rupture (2.6%) among cases induced over a six-month period [9]. These cases of uterine rupture occurred in only patients induced with misoprostol. The use of 50ug misoprostol in that study compared to 25ug misoprostol in the current study could have accounted for the difference in results. This finding reinforces the WHO recommendation that low dose misoprostol reduces maternal adverse outcomes like uterine rupture [10].

FHR abnormalities occurred in 8.9% of participants in the current study compared to 42.86% [7]; meconium staining of liquor was reported in 14.9% compared to 38.1% [7]. The high FHR abnormalities (quadrupled) and meconium-stained liquor (doubled) could be explained by the fact that higher doses of misoprostol (50ug) were used for induction [7], compared to the 25ug in the current study.

NICU admission rates was 10%, lower than the 21% reported by Adu-Bonsaffoh et al. [9]. A comparison of the fetal distress rates in these two studies; 26% versus 35% [9], could have accounted for the difference and could have also been secondary to the different doses of misoprostol used. Interestingly, Kabore reported a lower NICU admission rate of 4.3% [7]. This difference could be due to the fewer participants (116) in that study [7]. The highest indication for NICU admission was low APGARS in 47% of babies admitted in the current study. Babies

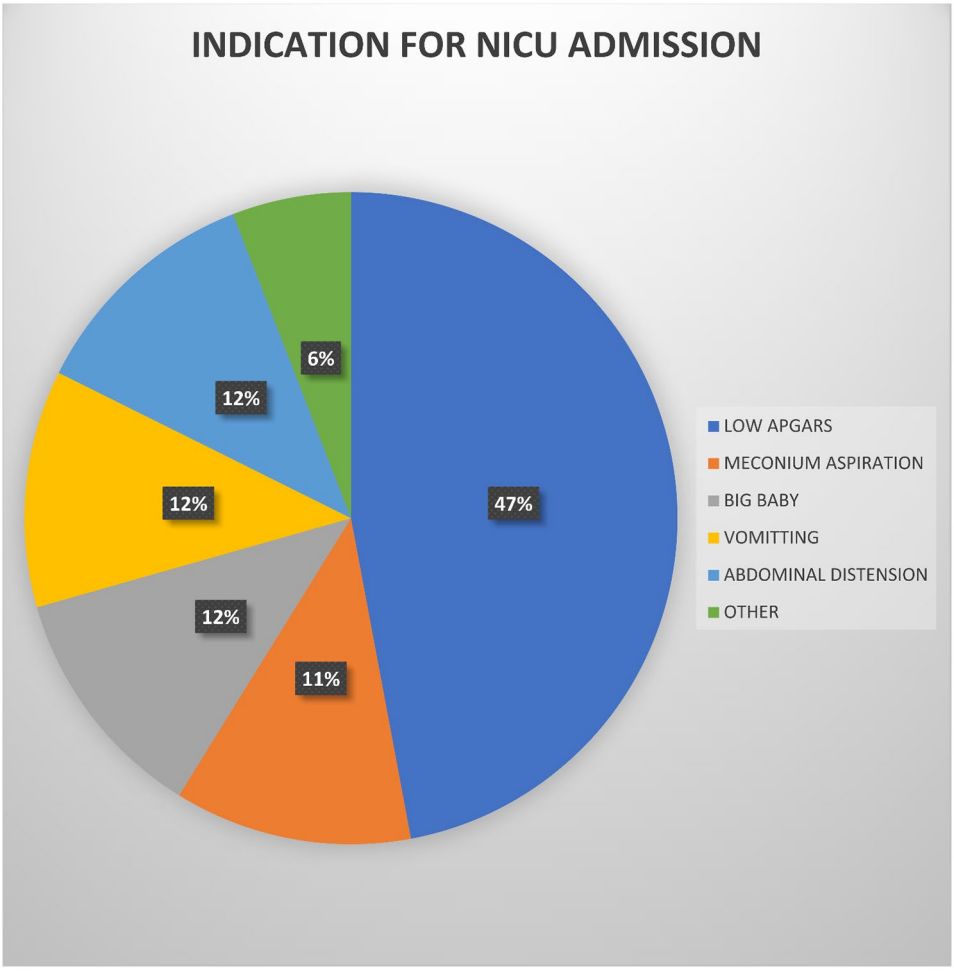

Fig. 3 Indications for NICU admission

Table 4 Determinants of successful vaginal delivery among participants

Variables	Unadjusted	
	OR (95% CI)	*P*-value
Parity		
Nulliparous	Ref	
Parous	3.14 (1.38, 7.13)	**0.006**
Age, in years	0.99 (0.91, 1.06)	0.727
Body mass index (BMI)	1.00 (0.93, 1.08)	0.951
Previous history of Induction	3.80 (0.48, 29.85)	0.204
Bishop Score (BS)	1.20 (0.98, 1.48)	0.077
Bishop Score (Fetal Station)	1.67 (0.98, 2.85)	0.060
Maternal weight	1.01 (0.98, 1.04)	0.545

Table 5 Determinants of successful vaginal delivery within 24 h among participants

Variables	Unadjusted		Adjusted	
	OR (95% CI)	*P*-value	OR (95% CI)	*P*-value
Parity				
Nulliparous	Ref		Ref	
Parous	2.34 (1.20, 4.58)	**0.013**	2.13 (1.07, 4.24)	**0.031**
Bishop Score (BS)	1.23 (1.03,1.46)	**0.022**	1.08 (0.86, 1.34)	0.519
Bishop Score (Fetal Station)	1.80 (1.15, 2.81)	**0.010**	1.54 (0.87, 2.66)	0.126
Age	0.98 (0.92, 1.05)	0.639		
Body mass index (BMI)	0.96 (0.91, 1.02)	0.211		
Previous history of Induction	1.05 (0.35, 3.16)	0.929		
Maternal weight	0.99 (0.97, 1.10)	0.505		

with APGAR score of <7 at 5 min was 6.5%, slightly lower than the 7.2% reported by Adu-Bonsaffoh and colleagues [9].

No case of fresh still birth (FSB) was reported in the current study. However, Adu-Bonsaffoh et al. reported 7 cases of FSB in a retrospective study conducted at the same facility, with 85.7% of the still births occurring in

patients induced with misoprostol [9]. The study population in both studies however differed. The maternal medical conditions like sickle cell disease and preeclampsia which were included in that study, could have accounted for the higher still births.

Although a number of maternal factors have been reported in literature as predictors of successful induction, parity was the only significant predictor of vaginal delivery in our cohort of Ghanaian postdate pregnant women.

The study's strengths include the use of a single induction agent and protocol for all participants, thus standardising the induction process. The study is limited by the use of a single tertiary centre and so findings may not be representative of the country. Nonetheless, KBTH is the biggest referral facility in Ghana, with the attendants coming from a wide catchment area. Second, the study was conducted in low risk women and so findings may not apply to high risk pregnant women.

Conclusion

The 25ug misoprostol is effective in achieving successful vaginal delivery and has a good safety profile when used for induction of labour. It should therefore be considered as a viable protocol for induction of labour among low risk postdate pregnant women in Ghana.

Abbreviations

APH	Antepartum Haemorrhage
BMI	Body mass index
BS	Bishop Score
CTG	Cardiotocography
FHR	Fetal Heart Rate
FSB	Fresh still birth
IUFD	Intrauterine fetal demise
KBTH	Korle- Bu Teaching Hospital
NICU	Neonatal intensive care unit
NST	Non-Stress Test
PPH	Postpartum Haemorrhage
WHO	World Health Organization

Acknowledgements

We are grateful to the staff at the obstetric unit of the KBTH, for their support in ensuring a successful conduct of the study.

Author contributions

T.A.M. contributed to the conception, data acquisition, data analysis and interpretation, drafting and revision of manuscript. K.A.O. contributed to the conception, data interpretation, drafting and revision of manuscript. K.A.B. contributed to the conception, data interpretation, drafting and revision of manuscript. E.K.A. contributed to the drafting and revision of manuscript. All authors reviewed and approved the final manuscript.

Funding

Received no external funding for the work.

Data availability

Datasets used during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

Approval for the study was obtained from the Korle-Bu Teaching Hospital Scientific and Technical Committee / Institutional Review Board. The reference number is KBTH-STC/IRB/00036/2022. An informed consent was obtained from all the study participants.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Received: 7 July 2024 / Accepted: 25 December 2024
Published online: 05 February 2025

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