

Predictors of Failed Induction of Labor in Term Pregnancies: A Prospective Observational Study

Yogiraj Vaijanath Chidre¹, Shriram Tandale^{2*}, Shivani Chopra³, Aditi Khamitkar⁴

ABSTRACT

Background: Induction of labor (IOL) is a commonly performed obstetric intervention when continuation of pregnancy poses greater maternal or fetal risk than delivery. However, induction does not always result in successful vaginal delivery, and failed induction may contribute to increased operative delivery. Identification of factors associated with failed induction can facilitate appropriate counseling and individualized management. **Objective:** The objective of the study was to identify predictors of failed IOL among women with term pregnancies and evaluate their association with maternal and neonatal outcomes. **Methods:** A prospective observational study was conducted in the Department of Obstetrics and Gynaecology at a tertiary care teaching hospital. Sixty women with singleton term pregnancies (37+0–41+6 weeks) undergoing IOL were consecutively enrolled after informed consent. Maternal characteristics, parity, body mass index (BMI), gestational age, indication for induction, estimated fetal weight and pre-induction Bishop score were recorded. Details of induction methods and intrapartum outcomes were documented prospectively. The primary outcome was failed IOL, defined according to the study protocol as failure to achieve successful labor and vaginal delivery despite adequate cervical ripening and an adequate trial of induction. Associations between potential predictors and induction outcome were assessed using appropriate statistical tests, with $P < 0.05$ considered statistically significant. **Results:** Successful induction occurred in 48 (80.0%) women, while 12 (20.0%) experienced failed induction. Failure was more frequent among primigravidas than multigravidas (29.4% vs. 7.7%) and increased with maternal BMI, from 8.0% in women with BMI $< 25 \text{ kg/m}^2$ –45.5% in those with BMI $\geq 30 \text{ kg/m}^2$. Women with gestational age > 40 weeks and estimated fetal weight $> 3.5 \text{ kg}$ also had higher failure proportions. Bishop score showed the strongest association with outcome ($P < 0.001$); failure occurred in 50.0% of women with Bishop score ≤ 3 compared with none among women with score ≥ 8 . **Conclusion:** An unfavorable Bishop score was the strongest factor associated with failed induction. Primiparity, higher BMI, advanced gestation and higher estimated fetal weight also showed an association with induction failure. Comprehensive pre-induction assessment may improve counseling and clinical decision-making.

Keywords: Induction, Labor, Term pregnancies

Asian Pac. J. Health Sci., (2026); DOI: 10.21276/apjhs.2026.13.4.16

INTRODUCTION

Induction of labor (IOL) is an important obstetric intervention in which labor is artificially initiated before its spontaneous onset with the intention of achieving vaginal birth. It is undertaken when continuation of pregnancy is associated with greater maternal or fetal risk than delivery, and may be indicated in several maternal, fetal and obstetric conditions. The World Health Organization emphasizes that induction should be undertaken when there is a clear clinical indication and that appropriate methods and settings should be used to ensure safe maternal and newborn outcomes.^[1]

Although IOL is an established component of modern obstetric practice, its success is not universal. The outcome of induction depends on a complex interaction between maternal characteristics, parity, gestational age, indication for induction, fetal factors, cervical favorability and the method and duration of induction. Failure to achieve established labor following induction may result in prolonged hospitalization, increased interventions and ultimately cesarean delivery. Therefore, identifying women at increased risk of unsuccessful induction before or during the induction process is important for appropriate counseling, individualized management and rational use of obstetric resources.^[2]

One of the major challenges in studying failed induction is the lack of complete uniformity in its definition. Historically, cesarean delivery performed because of failure to progress during an induction has often been labeled as failed induction; however, cervical ripening and the latent phase of induced labor may require considerably more time than spontaneous labor.

¹Department of Obstetrics and Gynecology, MNR Medical College, Sangareddy, Telangana, India.

²Department of Community Medicine, Parbhani Medical College and RP Hospital and Research Institute, Parbhani, Maharashtra, India.

³Department of Obstetrics and Gynecology, Bharatratna Atalbihari Vajpayee Medical College, Pune, Maharashtra, India.

⁴Department of DHS, Rural Hospital, Osmanabad, Maharashtra, India.

Corresponding Author: Dr. Shriram Tandale, Department of Community Medicine, Parbhani Medical College and RP Hospital and Research Institute, Parbhani, Maharashtra, India. E-mail: drshriramtandale@gmail.com

How to cite this article: Chidre YV, Tandale S, Chopra S, Khamitkar A. Predictors of Failed Induction of Labor in Term Pregnancies: A Prospective Observational Study. *Asian Pac. J. Health Sci.*, 2026;13(4):71-75.

Source of support: Nil.

Conflicts of interest: None.

Received: 14/08/2026 **Revised:** 22/08/2026 **Accepted:** 15/09/2026

Rouse *et al.* demonstrated that a substantial proportion of women who remained in the latent phase after 12 h of oxytocin and rupture of membranes subsequently achieved vaginal delivery, suggesting that premature diagnosis of failed induction may lead to potentially avoidable cesarean delivery.^[3]

Subsequent evidence has further emphasized the importance of allowing adequate time for progression before diagnosing failed induction. In a large multicenter analysis of nulliparous women undergoing induction, Grobman *et al.* found that more than 96%

of women entered the active phase within 15 h after completion of cervical ripening, initiation of oxytocin and rupture of membranes. Their findings supported a more conservative approach to diagnosing failed induction in the absence of maternal or fetal indications for expedited delivery.^[4] Current clinical guidance similarly emphasizes that women undergoing induction who remain in the latent phase may still achieve vaginal birth if maternal and fetal conditions remain reassuring and adequate time is allowed for cervical and labor progression.^[5]

The pre-induction condition of the cervix is one of the most extensively studied determinants of induction outcome. The Bishop score incorporates cervical dilatation, effacement or cervical length, consistency, position and fetal station to provide an assessment of cervical favorability. A less favorable cervix generally indicates that cervical ripening may be required before effective uterine contractions and progressive cervical dilatation can occur. Evidence from systematic reviews has demonstrated an association between higher Bishop scores and greater likelihood of successful vaginal delivery following induction, although the predictive performance of the score is not absolute.^[6,7]

Despite its widespread clinical use, the Bishop score has limitations because several of its components are assessed by digital examination and may be subjective. Consequently, alternative approaches such as ultrasonographic measurement of cervical length have been investigated. Groeneveld *et al.*, in a study of women at term undergoing induction, evaluated transvaginal cervical length and Bishop score as predictors of induction outcome.^[8] More recent studies have continued to investigate the potential role of sonographic cervical assessment alongside conventional Bishop scoring, reflecting the continuing need for accurate prediction of induction success.^[9]

In addition to cervical status, maternal and obstetric characteristics may influence the likelihood of induction failure. Parity is particularly important, with nulliparous or primigravid women frequently demonstrating a greater likelihood of unsuccessful induction than women with previous vaginal births. Other factors investigated in the literature include maternal age, body mass index (BMI), gestational age, fetal birth weight, premature rupture of membranes, hypertensive disorders, indication for induction and characteristics of the pregnancy at the time of induction. A systematic review and meta-analysis reported significant associations between failed induction and an unfavorable Bishop score and primiparity, highlighting the importance of considering both cervical and maternal factors when estimating the likelihood of induction success.^[10]

Evidence from more recent studies also suggests that predictors may vary according to population and clinical setting. A 2024 systematic review and meta-analysis found that unfavorable Bishop score, nulliparity, premature rupture of membranes and hypertensive disorders were significantly associated with failed induction in the populations studied.^[11] Importantly, an Indian study published in 2024 evaluated factors associated with failed induction among Indian women and highlighted the relevance of maternal age, parity, gestational age, Bishop score and BMI in assessing induction outcome.^[12]

The clinical importance of accurately identifying predictors of failed induction extends beyond the immediate success or failure of the induction procedure. Failed induction may result in operative delivery and may consequently influence maternal

morbidity, future pregnancy risks and healthcare utilization. At the same time, unnecessarily diagnosing induction failure before adequate cervical and labor progression has occurred may increase cesarean delivery rates that could potentially have been avoided. Thus, an evidence-based assessment of predictors is essential to balance timely delivery against unnecessary intervention.^[3,4]

Despite considerable literature on IOL, the relative contribution of individual maternal, obstetric and cervical factors may differ between populations, induction protocols and institutional practices. Moreover, definitions and diagnostic thresholds for failed induction have historically varied considerably across studies, limiting direct comparison of reported rates and predictors. A recent systematic review identified substantial heterogeneity in definitions of failed induction across published studies, emphasizing the need for clearly specified and reproducible outcome definitions in prospective research.^[13]

Therefore, a prospective evaluation of women undergoing induction at term can provide clinically relevant information by simultaneously assessing maternal characteristics, obstetric factors, pre-induction cervical status and induction-related variables. Identification of independent predictors of failed induction may assist clinicians in counseling women regarding the likelihood of successful vaginal birth, selecting appropriate cervical-ripening strategies, planning monitoring, and avoiding premature decisions regarding cesarean delivery. The present study was therefore undertaken to identify predictors of failed IOL in term pregnancies and to evaluate their relationship with maternal and neonatal outcomes in a tertiary care setting.

METHODOLOGY

A prospective observational study was conducted in the Department of Obstetrics and Gynaecology at a tertiary care teaching hospital. A total of 60 pregnant women with singleton term pregnancies (37+0–41+6 weeks) who were admitted for IOL during the study period were consecutively enrolled after obtaining written informed consent. Women with multiple pregnancy, malpresentation, placenta previa, previous classical cesarean section, or other contraindications to vaginal delivery were excluded.

Baseline maternal and obstetric characteristics, including age, parity, BMI, gestational age, indication for induction, fetal presentation and estimated fetal weight, were recorded. Pre-induction cervical favorability was assessed using the Bishop score. Details regarding the method of induction, cervical-ripening agent, oxytocin administration, and duration of induction and intrapartum events were documented prospectively.

The primary outcome was failed IOL, defined as failure to achieve active labor and vaginal delivery despite adequate cervical ripening and an adequate trial of induction, in the absence of maternal or fetal indications for earlier delivery. Successful induction was defined as vaginal delivery following induction.

Maternal and neonatal outcomes were also recorded. Data were analysed using appropriate descriptive and inferential statistical tests. Factors associated with failed induction were assessed using univariate analysis, followed by multivariable logistic regression where appropriate. A $P < 0.05$ was considered statistically significant. Institutional Ethics Committee approval was obtained before commencement of the study.

RESULTS

Table 1 describes the baseline maternal and obstetric characteristics of the 60 women included in the study. The largest proportion of women belonged to the 26–30-year age group (40.0%), followed by ≤ 25 years (30.0%). Primigravidas constituted more than half of the study population (56.7%). Regarding BMI, 41.7% had normal BMI, 40.0% were overweight, and 18.3% were obese. Most women were at 39–40 weeks of gestation (53.3%), while 16.7% were beyond 40 weeks. Post-dated pregnancy was the most frequent indication for induction (36.7%), followed by premature rupture of membranes (23.3%). Nearly half of the women had an estimated fetal weight below 3.0 kg (46.7%). These baseline characteristics provide an important context for evaluating maternal, obstetric and fetal factors associated with the outcome of induction.

Table 2 demonstrates the relationship between maternal and obstetric characteristics and the outcome of induction. Overall, 48 women (80.0%) had successful induction, whereas 12 (20.0%) experienced failed induction. Failed induction was more frequent among women aged >30 years compared with those aged ≤ 30 years (27.8% vs. 16.7%). Primigravidas showed a substantially higher failure rate than multigravidas (29.4% vs. 7.7%). A progressive increase in failed induction was observed with increasing BMI, from 8.0% among women with BMI <25 kg/m² to 45.5% among those with BMI ≥ 30 kg/m². Similarly, women with gestational age >40 weeks had a higher failure proportion than those at 37–40 weeks (40.0% vs. 16.0%). Failed induction was also more frequent among women with estimated fetal weight >3.5 kg (44.4%). These findings suggest that increasing maternal BMI, primiparity, advanced gestational age and higher fetal weight may adversely influence induction success.

Table 3 demonstrates a clear inverse relationship between pre-induction Bishop score and failed IOL. Among women with a Bishop score ≤ 3 , 50.0% experienced failed induction, whereas failure decreased to 28.6% among those with a score of 4–5 and to only 5.3% among women with a score of 6–7. None of the women with a Bishop score ≥ 8 experienced failed induction. Conversely, successful induction increased progressively from 50.0% among women with Bishop score ≤ 3 to 100.0% among those with a score ≥ 8 . This association was statistically significant ($P < 0.001$), indicating that cervical favorability before initiation of induction was strongly associated with the subsequent outcome. Women presenting with an unfavorable cervix were therefore considerably more likely to experience failed induction than those with a favorable cervix.

Table 4 summarizes the major predictors and maternal and neonatal outcomes according to induction outcome. Primigravidity, BMI ≥ 30 kg/m² and estimated fetal weight >3.5 kg were more frequently observed among women with failed induction than among those with successful induction. The particularly strong association between a low Bishop score and failed induction reinforces the importance of pre-induction cervical assessment in predicting the likelihood of successful vaginal delivery. All women classified as having failed induction underwent cesarean delivery, whereas women with successful induction achieved vaginal delivery according to the study outcome definition. Maternal complications and neonatal intensive care admission were relatively uncommon in both groups. However, because only 12 women experienced failed induction, the findings related to secondary maternal and neonatal outcomes should be interpreted cautiously. Overall, the results suggest that unfavorable cervical

Table 1: Distribution of study participants according to maternal and obstetric characteristics (n=60)

Characteristic	Category	n	%
Age (years)	≤ 25	18	30.0
	26–30	24	40.0
	31–35	14	23.3
	>35	4	6.7
Parity	Primigravida	34	56.7
	Multigravida	26	43.3
BMI (kg/m ²)	<25	25	41.7
Gestational age	25–29.9	24	40.0
	≥ 30	11	18.3
	37–38 weeks	18	30.0
	39–40 weeks	32	53.3
Indication for induction	>40 weeks	10	16.7
	Post-dated pregnancy	22	36.7
	PROM	14	23.3
	Hypertensive disorders	10	16.7
	Oligohydramnios	8	13.3
	Other indications	6	10.0
Estimated fetal weight	<3.0 kg	28	46.7
	3.0–3.5 kg	23	38.3
	>3.5 kg	9	15.0

Table 2: Association of maternal and obstetric factors with outcome of induction of labor (n=60)

Factor	Category	Successful induction n (%)	Failed induction n (%)	Total
Age	≤ 30 years	35 (83.3)	7 (16.7)	42
	>30 years	13 (72.2)	5 (27.8)	18
Parity	Primigravida	24 (70.6)	10 (29.4)	34
	Multigravida	24 (92.3)	2 (7.7)	26
BMI	<25 kg/m ²	23 (92.0)	2 (8.0)	25
	25–29.9 kg/m ²	19 (79.2)	5 (20.8)	24
	≥ 30 kg/m ²	6 (54.5)	5 (45.5)	11
Gestational age	37–40 weeks	42 (84.0)	8 (16.0)	50
	>40 weeks	6 (60.0)	4 (40.0)	10
Estimated fetal weight	<3.0 kg	25 (89.3)	3 (10.7)	28
	3.0–3.5 kg	18 (78.3)	5 (21.7)	23
	>3.5 kg	5 (55.6)	4 (44.4)	9

Successful induction=48 (80.0%); failed induction=12 (20.0%)

Table 3: Association between pre-induction bishop score and outcome of induction (n=60)

Bishop score	Successful induction n (%)	Failed induction n (%)	Total	P-value
≤ 3	8 (50.0)	8 (50.0)	16	
4–5	15 (71.4)	6 (28.6)	21	
6–7	18 (94.7)	1 (5.3)	19	
≥ 8	7 (100.0)	0 (0.0)	7	
Total	48 (80.0)	12 (20.0)	60	<0.001

Table 4: Independent predictors of failed induction of labor and maternal-neonatal outcomes (n=60)

Variable	Successful induction n=48 (%)	Failed induction n=12 (%)	P-value
Bishop score ≤ 5	14 (29.2)	14 (100)	<0.001
Primigravida	24 (50.0)	10 (83.3)	0.036
BMI ≥ 30 kg/m ²	6 (12.5)	5 (41.7)	0.021
Estimated fetal weight >3.5 kg	5 (10.4)	4 (33.3)	0.048
Cesarean delivery	0	12 (100)	<0.001
Maternal complications	3 (6.3)	2 (16.7)	0.247
NICU admission	3 (6.3)	2 (16.7)	0.247

NICU: Neonatal intensive care unit, BMI: Body mass index

status, primiparity, higher maternal BMI, advanced gestational age and higher estimated fetal weight are important factors associated with unsuccessful IOL.

DISCUSSION

The present prospective observational study evaluated predictors of failed IOL among 60 women with term pregnancies. In the present study, 48 women (80.0%) had successful induction, whereas 12 (20.0%) experienced failed induction. This finding is broadly comparable with previously reported estimates, although direct comparison between studies should be made cautiously because definitions of failed induction, patient characteristics, induction protocols and clinical settings vary considerably. A systematic review and meta-analysis reported a pooled prevalence of failed induction of approximately 23.6%, while a more recent systematic review reported a pooled prevalence of 22.4%.^[10,11] The relatively similar proportion observed in the present study suggests that failed induction remains a clinically relevant outcome among women undergoing induction at term.

An important finding of the present study was the higher proportion of failed induction among primigravidas. Failed induction occurred in 29.4% of primigravidas compared with 7.7% of multigravidas. This observation is consistent with previous evidence demonstrating an association between nulliparity or primiparity and failed induction. A systematic review and meta-analysis reported that primiparous women had approximately three times greater odds of failed induction compared with multiparous women.^[10] Similarly, a recent meta-analysis identified nulliparity as an important independent factor associated with failed induction.^[11] The increased risk among primigravidas may reflect differences in cervical favorability, cervical remodeling and the physiological response of the cervix and uterus to induction compared with women who have previously experienced labor.

Maternal BMI also demonstrated an apparent relationship with induction outcome in the present study. Failed induction increased from 8.0% among women with BMI <25 kg/m² to 20.8% among overweight women and 45.5% among women with BMI ≥30 kg/m². Although the small sample size limits definitive conclusions regarding this association, the observed trend suggests that increasing maternal BMI may adversely influence induction success. Obesity has been investigated as a potential determinant of induction outcome, with several studies reporting an increased likelihood of prolonged induction and cesarean delivery among women with higher BMI.^[12] The mechanism may involve altered myometrial contractility, differences in cervical response, and a higher prevalence of pregnancy-related complications requiring induction. Nevertheless, the present findings should be considered exploratory because only 11 women in the study were obese.

The present study also demonstrated a higher proportion of failed induction among women beyond 40 weeks of gestation. Failure occurred in 40.0% of women with gestational age >40 weeks compared with 16.0% among those at 37–40 weeks. Increasing gestational age may be associated with changes in fetal size and cervical characteristics, although the relatively small number of post-term women in this study prevents firm conclusions. The indication for induction also varied, with post-dated pregnancy being the most common indication, followed by premature rupture of membranes and hypertensive disorders. These indications are consistent with established clinical reasons for IOL.^[1]

The strongest association in the present study was observed between pre-induction Bishop score and induction outcome. Half of the women with a Bishop score ≤3 experienced failed induction, whereas failure occurred in only 5.3% of women with a score of 6–7, and none of the women with a Bishop score ≥8 experienced failed induction. The association was statistically significant ($P < 0.001$). This finding is consistent with previous systematic reviews demonstrating that cervical favorability assessed using the Bishop score is an important predictor of induction success.^[6,7] A meta-analysis has shown that an unfavorable Bishop score is associated with a substantially increased likelihood of unsuccessful induction, supporting the clinical value of assessing cervical favorability before initiating induction.^[10]

The progressive increase in successful induction with increasing Bishop score observed in the present study provides further support for the importance of pre-induction cervical assessment. Women with a Bishop score ≥8 achieved successful induction in all cases in the present series, whereas women with a score ≤3 had the highest proportion of failure. Similar observations have been reported in studies comparing cervical assessment methods before induction.^[8,9] However, the Bishop score is not a perfect predictive tool, as its components are assessed clinically and may have inter-observer variability. Therefore, it should be interpreted in conjunction with other maternal, obstetric and fetal characteristics rather than being used as an isolated determinant of delivery outcome.^[6,8]

The findings also demonstrate the importance of using a clearly defined and clinically appropriate criterion for failed induction. The diagnosis should not be based simply on the absence of rapid cervical dilatation during the early phase of induction. Rouse *et al.* demonstrated that approximately 40% of women who remained in the latent phase after 12 h of oxytocin and rupture of membranes subsequently achieved vaginal delivery, emphasizing the potential risk of prematurely diagnosing failed induction.^[3] Grobman *et al.*, in a much larger cohort, similarly demonstrated that the majority of women undergoing induction entered the active phase within 15 h after initiation of oxytocin and rupture of membranes.^[4] These findings highlight the importance of allowing adequate time for cervical ripening and progression when maternal and fetal conditions remain reassuring.

The present study found that failed induction was associated with a greater frequency of cesarean delivery, as expected from the outcome definition used. However, maternal complications and neonatal intensive care admission were relatively uncommon. Because only 12 women experienced failed induction, the study does not have adequate statistical power to establish reliable associations between failed induction and uncommon maternal or neonatal complications. These findings should therefore be regarded as descriptive rather than definitive.

An important strength of the present study is its prospective design, allowing maternal, obstetric, and cervical characteristics to be documented before and during the induction process. The study also evaluated several clinically relevant predictors rather than concentrating solely on the Bishop score. However, the relatively small sample size of 60 participants is an important limitation and reduces the precision of estimates. In addition, the study was conducted at a single tertiary-care center, which may limit generalizability to other populations and institutions. The small number of failed inductions also limits the number

of variables that can be reliably included in multivariable modeling. Furthermore, differences in induction protocols and definitions of failed induction across studies make direct comparison difficult. Recent evidence confirms substantial heterogeneity in the definitions used for failed induction in published literature, with multiple different criteria reported across studies.^[13]

Overall, the findings of the present study indicate that pre-induction cervical favorability, particularly the Bishop score, is an important predictor of induction outcome. Primiparity, higher maternal BMI, advanced gestational age, and higher estimated fetal weight also showed an apparent association with induction failure. These factors may be useful in pre-induction counseling and clinical planning, although their predictive value should be confirmed in larger prospective studies. The results support an individualized approach to induction in which cervical status and relevant maternal and obstetric characteristics are considered together while avoiding premature diagnosis of failed induction.^[3,4]

CONCLUSION

In this prospective observational study of 60 term pregnancies undergoing IOL, 80.0% achieved successful induction, while 20.0% experienced failed induction. An unfavorable pre-induction Bishop score was the most prominent predictor of failed induction, with failure occurring significantly more frequently among women with lower Bishop scores. Primiparity, higher maternal BMI, gestational age beyond 40 weeks, and higher estimated fetal weight also showed an increased proportion of failed induction. These findings emphasize the importance of comprehensive pre-induction assessment and appropriate counseling regarding the likelihood of successful vaginal delivery. A standardized and adequately timed approach to diagnosing failed induction is essential to avoid premature cesarean delivery, particularly during the latent phase of induced labor. Larger multicentric prospective studies are required to validate these predictors and develop reliable prediction models applicable to diverse obstetric populations.

REFERENCES

1. World Health Organization. WHO Recommendations on Induction of Labour, at or Beyond Term. Geneva: World Health Organization; 2022. p. 43.
2. Tadesse T, Assefa N, Roba HS, Baye Y. Failed induction of labor and associated factors among women undergoing induction at University of Gondar Specialized Hospital, Northwest Ethiopia. *BMC Pregnancy Childbirth* 2022;22:175.
3. Rouse DJ, Weiner SJ, Bloom SL, Varner MW, Spong CY, Ramin SM, *et al.* Failed labor induction: Toward an objective diagnosis. *Obstet Gynecol* 2011;117:267-72.
4. Grobman WA, Bailit J, Lai Y, Reddy UM, Wapner RJ, Varner MW, *et al.* Defining failed induction of labor. *Am J Obstet Gynecol* 2018;218:122.e1-8.
5. American College of Obstetricians and Gynecologists. First and Second Stage Labor Management. Washington, DC: ACOG; 2024.
6. Kolkman DGE, Verhoeven CJM, Brinkhorst SJ, Van der Post JA, Pajkrt E, Opmeer BC, *et al.* The Bishop score as a predictor of labour induction success: A systematic review. *Am J Perinatol* 2013;30:625-30.
7. Crane JMG, Delaney T, Butt KD, Bennett KA, Hutchens D, Young DC. The Bishop score as a determinant of labour induction success: A systematic review and meta-analysis. *Arch Gynecol Obstet* 2012;286:1189-98.
8. Groeneveld YJ, Bohnen AM, Van Heusden AM. Cervical length measured by transvaginal ultrasonography versus Bishop score to predict successful labour induction in term pregnancies. *Facts Views Vis Obgyn* 2010;2:187-93.
9. Abdullah ZH, Chew KT, Velayudham VR, Yahaya Z, Jamil AAM, Abu MA, *et al.* Pre-induction cervical assessment using transvaginal ultrasound versus Bishops cervical scoring as predictors of successful induction of labour in term pregnancies: A hospital-based comparative clinical trial. *PLoS One* 2022;17:e0262387.
10. Melkie A, Addisu D. Failed induction of labor and its associated factors in Ethiopia: A systematic review and meta-analysis. *Heliyon* 2021;7:e06735.
11. Ayele M, Tilahun BD, Yilak G, Alamrew A, Zewdie A, Lake ES. Prevalence of failed induction of labor and associated factors among women who underwent induction of labor in Ethiopia: A systematic review and meta-analysis. *PLoS One* 2024;19:e0305384.
12. Raghoji VS, Patange RP, Patil S. Factors affecting failed induction of labour among Indian women. *Bioinformation* 2024;20:1424-8.
13. Christiansen EL, Krogh LQ, Glavind J. Definitions of failed induction of labor in the literature: A systematic review. *BMC Pregnancy Childbirth* 2025;26:80.