

A Prospective Study of Women's Understanding and Satisfaction of Induction of Labor Versus Spontaneous Labor and its Outcomes at the Lautoka Hospital from 1st April to 31st July 2025

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Disclosures

- ▶ No relevant disclosures

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Introduction

WHO defines Induction of labor (IOL) as artificial stimulation of uterus to effect delivery in 24–48 hours (*WHO; 2024*).

Incidence: Global 4–30%, while Fiji reports an incidence of 12–17% (*Marconi et al., 2019/WHO 2011, Zhu et al., Int J Gynaecol Obstet., 2022, Kamuta Latasi M et al., 2018 – unpublished, ReMya et al., BMC Pregnancy Childbirth. 2017; Ngene NC. Case Rep Womens Health. 2019.*

IOL is usually done for maternal & fetal conditions.

Lautoka Hospital

- Is a divisional hospital and serves the Western Division in the Fiji Islands.
- 3568 deliveries in 2024 (Annual Report)
- Methods of IOL: Foleys, Misoprostol, artificial rupture of membranes (ARM) + Syntocinon.

Rationale for the Study

- IOL is often an essential and significant intervention required in some pregnancies.
- There have been no studies conducted in Fiji and the Pacific, on women's understanding and satisfaction of IOL versus Spontaneous Labor (SL).

Aim

To conduct a prospective study on women's understanding/satisfaction as well as outcomes, of induction of labor and compare the satisfaction of those who come into spontaneous labor at Lautoka Hospital Over a Four Months Period in 2025.

Objectives

1. To determine the **patient's understanding and satisfaction** of IOL.
2. To compare the satisfaction of the **labor experience** of women undergoing IOL versus those who come into spontaneous labor.
3. To assess the **outcomes** of labor in women undergoing IOL. (C/section rates and Neonatal Intensive Care Unit (NICU) admissions).

Literature Review

Understanding	Satisfaction	Labour Outcomes	Pre-induction Tools / Counselling
Kelly et al. (2024) Quality of information influenced women's understanding; poor communication reduced autonomy.	Hildingsson et al. (2013) 70% of women did not favour induction, particularly first-time mothers.	Adler et al. (2020) IOL associated with lower satisfaction and increased intervention; CS rates were almost 4× higher than spontaneous labour.	Pohatu et al. (2024) Improved pre-induction counselling greatly enhanced women's satisfaction.
Davies et al. (2024) Antenatal education improved understanding, confidence in decision-making and satisfaction.	Winer et al. (2005) Satisfaction was lower with IOL (70%) compared with spontaneous labour (80%); poor information and longer labour were key factors.	Kim et al. (2018) IOL was associated with a significantly higher rate of NICU admission compared with spontaneous labour.	→ Supports development of structured pre-induction information tools/pamphlets.

► Methodology

- Study Design
Prospective mixed-method, questionnaire-based study



Data Collection
Questionnaires + Interviews



Data Analysis
Quantitative → Excel & MedCalc 2×2 contingency tables

Qualitative → Thematic analysis



Statistical Significance
 $p < 0.05$

Inclusion Criteria

-Term singleton pregnancy

-Induced or spontaneous labour

-Informed consent

Exclusion Criteria

-Complicated pregnancy

-Severe maternal/fetal compromise

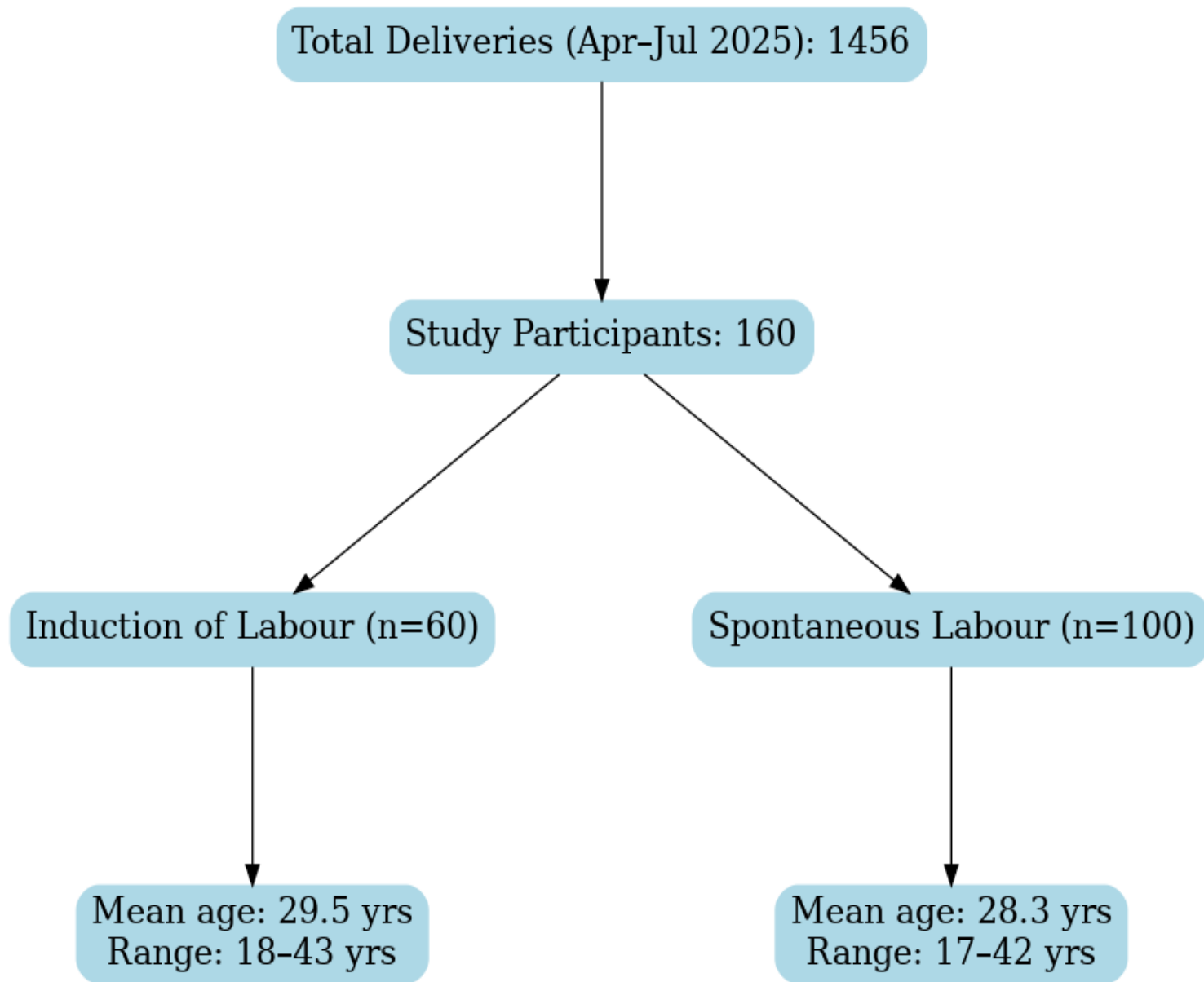
-Precipitous labour

Ethical Considerations

Ethics approval was sought from:

- CHHREC of the Fiji National University (FNU)
- Head of O&G Department Lautoka Hospital
- Medical Superintendent & CEO Lautoka Hospital

RESULTS AND DISCUSSION



Socio-demographic characteristics of women undergoing IOL vs Spontaneous Labor

Variable	IOL n (%)	Spontaneous Labor n (%)	Odds Ratio	95% CI	P-value
Age Range					
Age<20	4 (6.70%)	9 (9%)	0.7222	0.2124 to 2.4560	P=0.6023
20-29	27 (45%)	52 (52%)			
30-39	24 (40%)	34 (34%)	0.6834	0.3581 to 1.3045	P=1.3045
>40	5 (8.30%)	5 (5%)	0.5789	0.1604 to 2.0892	P=0.4039
Ethnicity					
I-Taukei	46 (76.67%)	90 (90%)			
FOID	14 (23.33%)	10 (10%)	2.7391	1.1295 to 6.6426	P=0.0258
Parity					
Primipara	23 (38.33%)	33 (33%)	1.2621	0.6479 to 2.4585	P=0.4939
Multip	37 (61.67%)	67 (67%)			

Socio-demographic characteristics of women undergoing IOL vs Spontaneous Labor – Cont'd

Variable	IOL n (%)	Spontaneous labor n (%)	Odds Ratio	95% CI	P-value
Level of Education					
Primary	1 (1.67%)	2 (2%)	0.8305	0.0737 to 9.3597	P=0.8805
Secondary	41 (68.33%)	67 (67%)	1.0628	0.5356 to 2.1091	P=0.8616
Tertiary	18 (30%)	30(30%)	1	0.4974 to 2.0106	P=1.0000
Vocational	0	1 (1%)			
Employment					
Employed	16 (26.67%)	26 (26%)	1.035	0.5008 to 2.1391	P=0.9261
Unemployed	44 (73.33%)	74 (74%)			
Residence					
Lautoka area	21 (35%)	54 (54%)			
Subdivision	39 (65%)	46 (46%)	2.1801	1.1264 to 4.2197	P=0.0207

Age of Gestation (AOG) of IOL vs Spontaneous labor women

AOG	IOL (n=60)	Spontaneous Labor (n=100)	Total	Odds Ratio	95% CI	P-value
37-40weeks	38 (63.3%)	73 (73.0%)	111			
≥40w1d	22 (36.7%)	27 (27.0%)	49	1.57	0.83-2.97	0.17
Total	60	100	160			

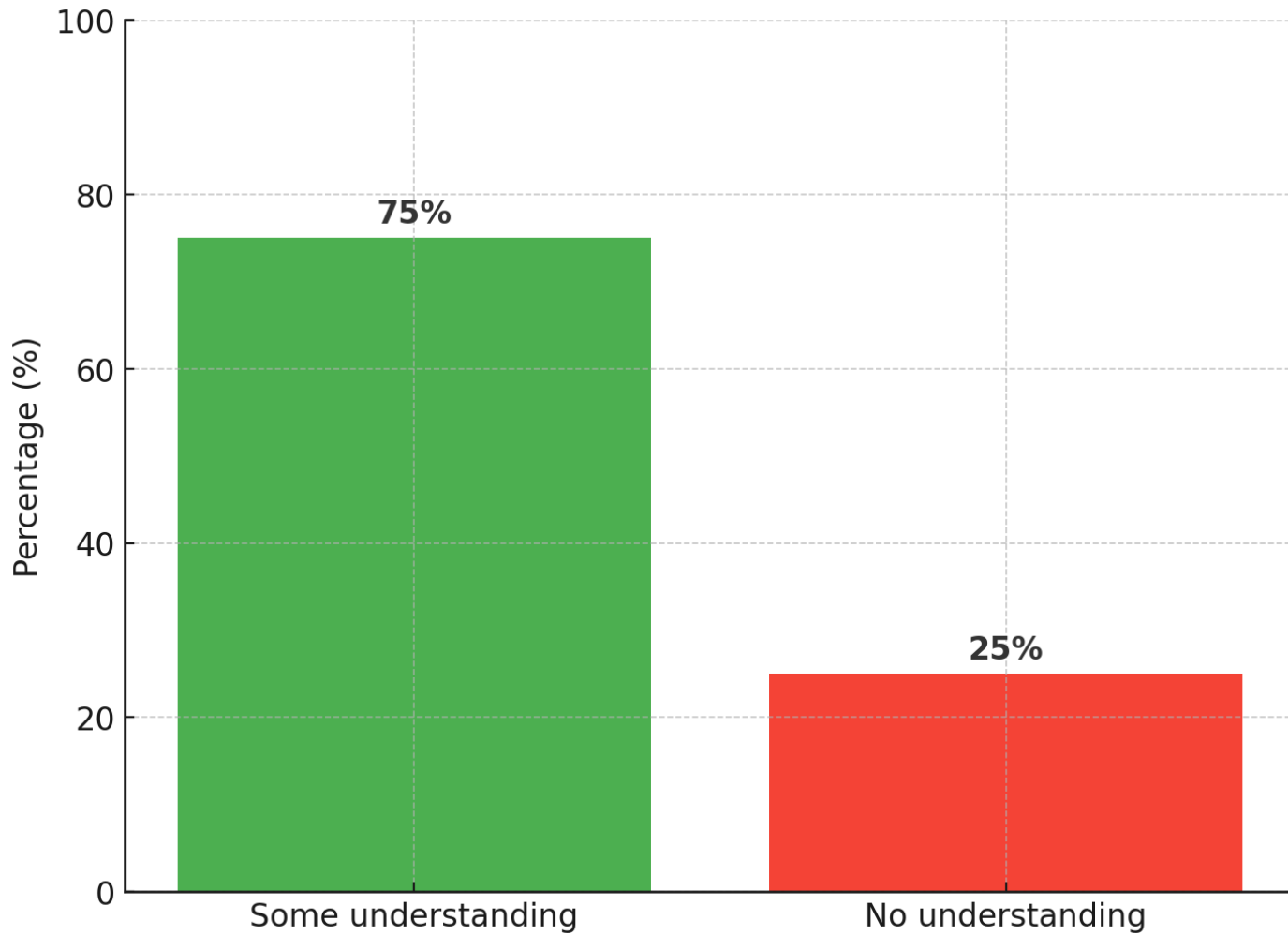
“Hildingsson et al, Acta Obstet Gynecol Scand. 2013; Shetty et al, BMC Pregnancy Childbirth. 2023; King’s College Hospital NHS, London: KCH; 2023.”

Women's Understanding of Induction of Labour (IOL) (n = 60)

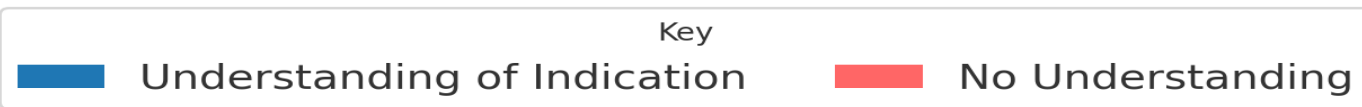
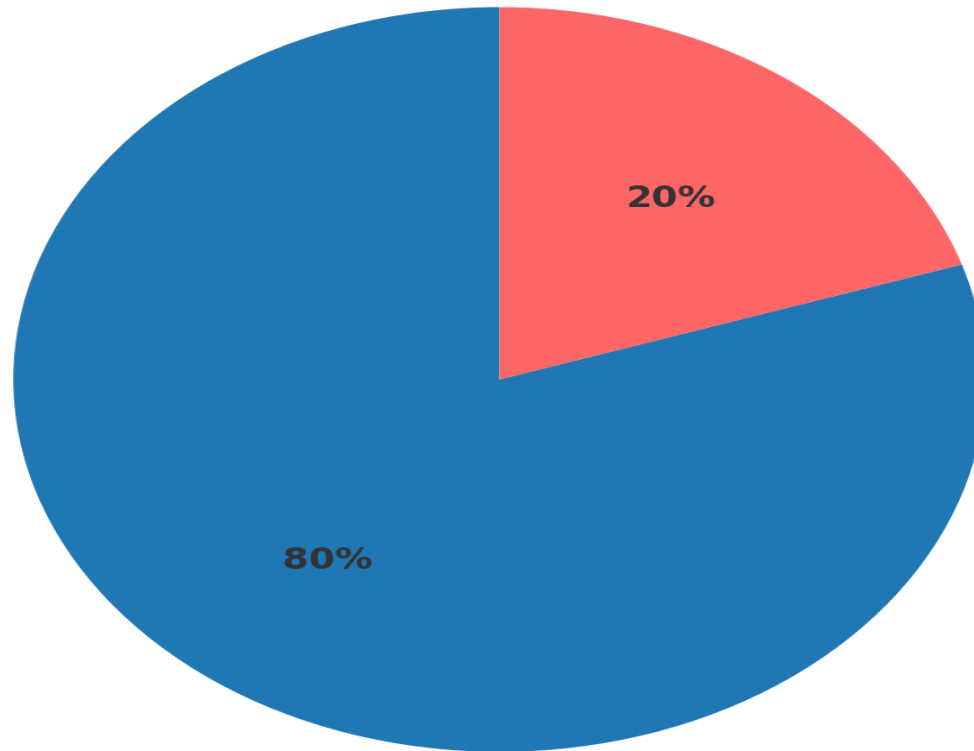
Theme / Category	Number (n)	%	Patients' Words & Description
IOL to start and accelerate the labor process. (Some understanding)	45	75%	"They give medicine to start the pains." "Starts labor pain" or "brings on pain." "Artificially triggering labor pain." "To make the baby deliver faster" or "to make pain come on faster." "Helps open the passage and get pains," "Rupturing the water bag."
No understanding of IOL	15	25%	"Never heard of it" "Did not know what it means", "I don't know what induction is."

Ref: "Kelly S. et al, Women Birth. 2024; Sessions R. et al, University of Central Lancashire. 2025; Von Dadelszen et al, Front Glob Womens Health. 2022".

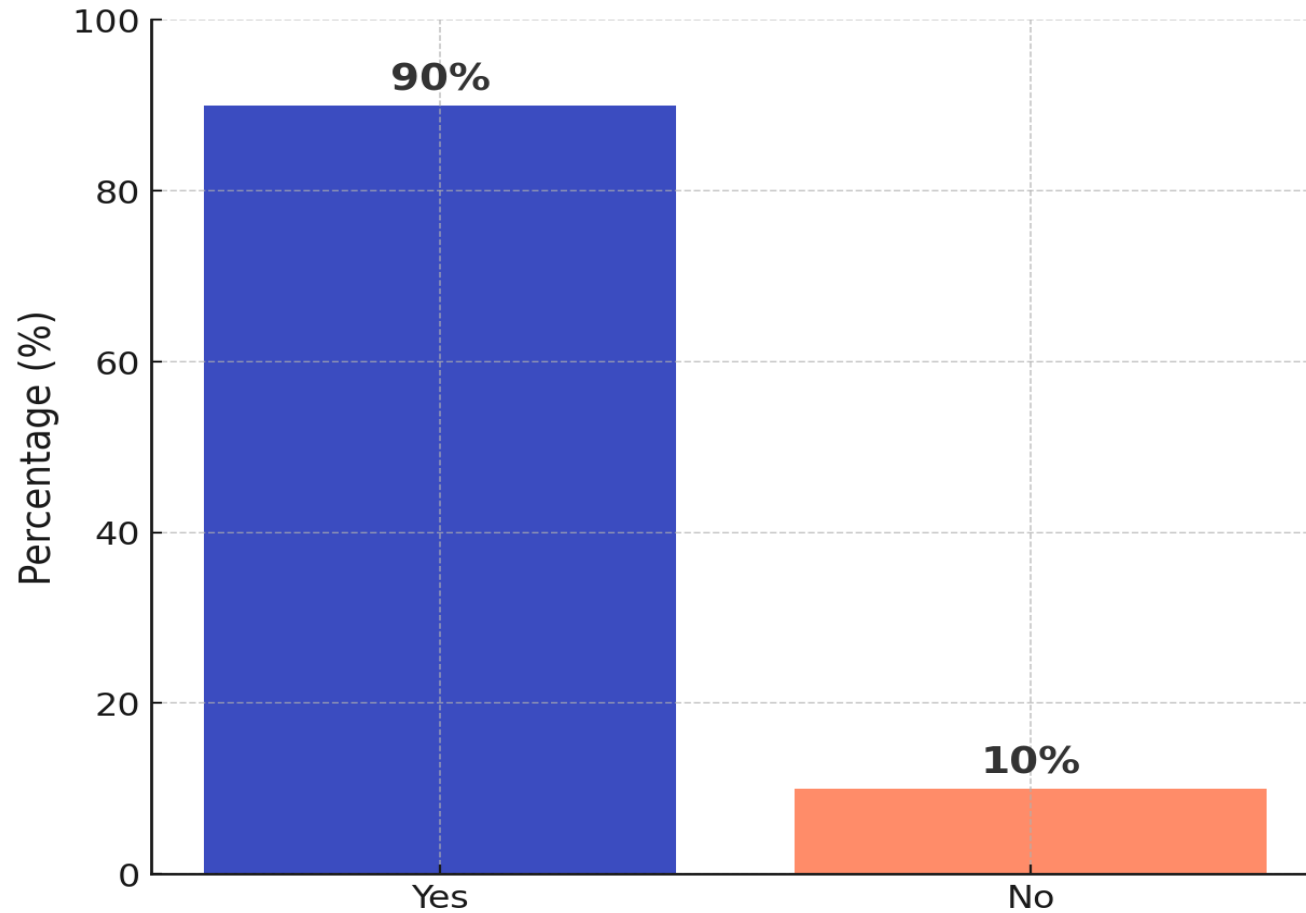
Understanding of Type of IOL



Understanding of Indication of IOL



Understanding of IOL counselling



“Kelly S. et al., Women Birth. 2024; Sessions R. et al., University of Central Lancashire; 2025.; von Dadelszen et al., Front Glob Womens Health. 2022”.

Women's experiences and satisfaction on the number of IOL used

# of IOL Methods Used	Percentage	Types Used	Comments (Patients' Words)
1 method	82%	Misoprostol or Foley's catheter or ARM with syntocinon	"A different kind of pain," "Uncomfortable," "Manageable."
2 methods	13%	Combination of two (e.g., Misoprostol + Foley's, Foley's + ARM/syntocinon.)	"Too long," "Exhausting," "More painful."
3 methods	5%	Misoprostol + Foley's catheter + ARM with syntocinon	"Hard to cope," "But is worth the pain", "Tiring but relieved baby was born."

Ref: "Henderson & Redshaw et al., *Acta Obstet Gynecol Scand.* 2013; Adler et al. *BMC Pregnancy Childbirth.* 2020; Coates et al. *BMC Pregnancy Childbirth.* 2019".

Labor Satisfaction

Group	IOL	Spont Labor	Odds Ratio	95% CI	P-value
Very satisfied/ Satisfied	26 (43.3%)	89 (89%)	0.04	0.042 -0.212	<0.0001
Very dissatisfied/ Dissatisfied	21 (35%)	3 (3%)			
Neutral	13 (21.7%)	8 (8%)			

Ref: "Winer N et al., Eur J Obstet Gynecol Reprod Biol. 2005".

Women's experience of labor in the IOL vs Spontaneous Labor group

Thematic Analysis	IOL	Spontaneous Labor	Odds Ratio	95% CI	P- value
Painful/ Distressing	41.67%	22%	4.96	2.47 – 9.98	< 0.0001
Positive Experience	58.33%	78%	0.20	0.10 – 0.40	< 0.0001

Ref: “Winer N et al. Eur J Obstet Gynecol Reprod Biol. 2005”.

Women's description of experience of labor

	IOL (Patients' Words)	Spontaneous labor (Patients' Words)
Painful, distressing/ difficult experiences	"Pain is different from any other pain", "Too long, I felt drained", "Pain is out of this world", "It was too long, I felt drained", "I did not want induction, I wanted C/section."	"First experience, worried." "So tired after waiting at home" "It was too painful, not a good experience" "Never want to get pregnant again", "Pain is like taking my soul".
Positive or Tolerable Experiences	"Worth the pain", "Lifetime experience", "Helped open passage", "Worth the pain", "Thankful to midwife", Relieved baby was born".	"I knew this was good pain, as I will see baby soon", "It's happy pain" "Have to endure the pain for baby's sake", "Relieved baby was out".

Use of Analgesia in Labor in IOL vs Spontaneous Labor

Category	IOL	Spontaneous labor	OR	95% CI	P- value
Received analgesia (pethidine)	5%	3%	1.70	0.33 -8.72	0.67
Did not receive Analgesia pethidine	95%	97%			

Ref: "Wilson & MacArthur, Midwifery, 2020; Hawkins, Clin Obstet Gynecol.2017, Bazzano et al., BMC Pregnancy Childbirth. 2021; Shah et al, Int J Gynaecol Obstet. 2022".

Outcomes: Mode of Delivery

Category	IOL	Spontaneous Labor	Total	Odds Ratio	95% CI	P- value
NVD	44 (73.33%)	96(96%)	140			
C/Section	16 (26.67%)	4 (4%)	20	8.72	2.7-27.6	<0.0001
Total	60	100	160			

Ref: “Adler K. et al., BMC Pregnancy Childbirth. 2020”.

Outcomes: NICU admission

Category	IOL	Spontaneous Labor	Total	Odds Ratio	95% CI	P- value
NICU	9(15%)	5(5%)	14	3.35	1.07-10.5	<0.048
Rooming in	51(85%)	95(95%)	146			

Ref: “Kim et al., Obstet Gynecol Sci. 2018, Laikemariam et al, . PLoS One. 2023”.

Conclusion

- ❖ Majority of the women had some **understanding** of IOL as well as its indication however 20-25% of women had no understanding.
- ❖ Women undergoing IOL reported significantly **lower satisfaction** rates compared to those with spontaneous labour.
- ❖ Women undergoing IOL had significantly higher negative **experience** of their **labour** than those who had spontaneous labour

Conclusion

- ❖ The overall use of **analgesia** amongst both IOL and SL group was extremely low despite reported high levels of distressing pain.
- ❖ Women undergoing IOL had a significantly higher risk of having a C/section and NICU admissions compared to those undergoing SL.
- ❖ A **pre-induction counselling checklist and patient pamphlet** is currently being developed to improve understanding, quality of counselling and address IOL management overall.

Recommendation

- **Standardize counselling** with a checklist to close patient's knowledge gaps.
- **Provide patient-friendly pamphlets.**
- **Improve pain relief** (pharmacological & non-pharmacological).
- **Promote shared decision-making** with cultural sensitivity.
- Further studies are needed to assess whether women's requirements for analgesia align with what is currently provided, to be readily available.

Limitations and Strengths

Limitations:

- **Convenience sampling** → may introduce selection bias.
- **Counselling variability** → information differed between clinicians, affecting consistency.

Strengths:

- **Prospective design**
- **Direct patient perspectives are captured.**
- **Comparative approach:** Allowed comparison of **IOL vs spontaneous labour** in the same setting.

Induction of Labor (IOL) Counselling Checklist

▶ **Patient Information**

▶ **Name:**

▶ **NHN (National Health Number):**

▶ **Gravida/Para:**

▶ **Date of Counselling:** ____ / ____ /

▶ **Time:** ____: ____

▶ **1. Patient Understanding**

▶ **Explain what induction of labor (IOL) is**

“IOL is when we help your body start labor artificially rather than waiting for it to happen naturally. This may involve medications or other methods to soften the cervix and start contractions.”

▶ **Discuss reason(s) for induction**

Explain why induction is recommended for this pregnancy, e.g., post-term (beyond 41–42 weeks), high blood pressure, diabetes, growth issues for the baby, or rupture of membranes.

Example: “We are recommending induction because your pregnancy is beyond 40 weeks, and we want to ensure your baby is safe.”

▶ **Check prior knowledge and address misconceptions**

Ask: “Have you heard about induction before? What do you know about it?”

Clarify myths, e.g., it will not necessarily cause a cesarean.

▶ **Explain induction methods in simple terms**

- Misoprostol: medicine to soften the cervix

- Foley catheter: a small balloon placed to open the cervix

- Oxytocin: drip to start contractions

Emphasize that method depends on individual needs and sometimes more than one method is used.

► **2. Risks and Benefits**

► **Discuss benefits**

“Induction can help you deliver safely, reduce risks to you and your baby, and prevent post-term complications.”

► **Discuss potential risks**

Possible risks include failed induction leading to cesarean, stronger contractions than natural labor, risk of infection, or fetal distress. Explain that the team monitors mother and baby closely to reduce risks.

► **Explain multiple induction methods if needed**

“Sometimes one method is not enough, so we may use a combination of medications or procedures. This may take longer but helps labor progress safely.”

► **Explain delivery possibilities**

“Most women deliver vaginally, but sometimes a cesarean may be needed if labor does not progress or if the baby shows signs of distress.”

► **3. Labour Experience and Pain**

► **Explain expected pain intensity**

“Induction can cause stronger or different pain than natural labor, which may be uncomfortable.”

► **Discuss pain relief options**

“You may receive medications like pethidine, but we do not have epidural anesthesia. You can also try breathing techniques, position changes, and support from staff.”

► **Explain method-specific discomfort**

“The Foley catheter may feel uncomfortable, and contractions with medicine may be stronger than normal.”

► **Encourage patient to communicate**

“Please tell us if the pain becomes too much so we can help you cope.”

► **4. Process of Induction**

► **Explain step-by-step procedure**

“First, we will soften your cervix. Then, contractions will be started. You will be monitored continuously for your and baby’s safety.”

► **Discuss potential delays or multiple methods**

“If labor does not start with the first method, we may try another. This can take hours or a day.”

► **Explain timing of medications**

“It’s important that medications are given on schedule for effectiveness.”

► **Clarify possible interventions**

“If labor stalls or baby is in distress, we may need to do a cesarean for safety.”

► **5. Emotional Support**

► **Discuss common feelings**

“It’s normal to feel anxious, scared, or excited. You are not alone.”

► **Identify support persons**

Ask who they want with them: partner, family member, or friend.

► **Explain staff availability**

“Staff will be with you to support, guide, and reassure you throughout labor.”

► **6. Decision-Making and Consent**

- **Reinforce shared decision-making**
"You will be involved in every decision. We will explain options and listen to your preferences."
- **Explain consent process and allow questions**
"You will be asked to sign consent forms. Please ask any questions and take time to understand."
- **Clarify patient autonomy**
"You can ask to delay procedures if safe, or refuse if you understand the risks."

► **7. Neonatal Outcomes**

- **Discuss likely outcomes**
"Most babies are born healthy and stay with their mother after delivery."
- **Explain NICU possibility**
"Some babies may need observation in the NICU due to breathing issues, meconium, or other concerns, but this is uncommon."
- **Reassure monitoring and care**
"The team will monitor your baby continuously to ensure safety."

► **8. Post-Induction and Recovery**

- **Explain post-delivery recovery**
"You may feel tired and sore. Foley catheter or stitches may cause discomfort."
- **Discuss emotional support**
"It's normal to feel overwhelmed. Staff and family can support you."
- **Coping strategies**
"Breathing, rest, support from partner, and asking staff for help can improve your experience."

► **9. Practical Considerations**

- **Hospital stay, hydration, mobility**
"You can walk, drink fluids, and move as tolerated to help labor progress."
- **Facilities**
"Washroom access, call button, and privacy will be available. Let us know if you face difficulty."
- **Provide written information**
"Here is a leaflet summarizing this discussion. Keep it to refer to later."
- **10. Patient Feedback and Confirmation**
- **Ask patient to repeat key points**
"Can you explain back what you understand about induction, risks, and pain relief?"
- **Answer remaining questions**
"Do you have any other questions or concerns before we begin?"

► **Patient Declaration**

- I confirm that I have received counselling about induction of labor, understand the process, benefits, risks, and alternatives, and have had the opportunity to ask questions.
- **Signature of Patient:** _____
- **Name of Staff Providing Counselling:** _____
- **Signature of Staff:** _____
- **Date:** ____ / ____ / ____
- **Time:** ____ : ____

Acknowledgments

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- ▶ Heartfelt thanks to my **supervisors, mentors & hospital leadership** for their support.
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VINAKA!