



Quality of recovery after unplanned and planned cesarean deliveries: an application of ObsQoR-10 tool



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Introduction

- **Enhanced Recovery after Cesarean Delivery (ERAC)** promotes the use of patient centered outcomes to define goals of care.
- **ObsQoR-10** is a validated quality-of-life assessment tool that includes multiple dimensions that are relevant in the recovery of women giving birth.
- Unplanned cesarean delivery (CD) may be associated with worse maternal recovery, longer postpartum hospital stay and higher opioid requirements after surgery when compared to elective CD (1).

Study objective: To compare ObsQoR-10 scores between Planned (PCD) and Unplanned Cesarean Deliveries (UPCD) at 24,48 hr and 7 days postpartum

Methods

Research Ethics Board approval and patient’s written informed consent

Study design: Prospective observational

Population: women undergoing PCD or UPCD in our institution during Sept-Dec 2021

Exclusion Criteria: ASA >3, language barrier, chronic pain or opioid use, classical vertical incision or cesarean-hysterectomy

Data collected: ObsQoR-10 scores at 24, 48 hours and 7 days after CD; patient’s perception of being ready for discharge at 24 and 48 hrs; patient demographics, parity, gestational age, comorbidity, CD category, anesthetic technique, length of surgery, blood loss, NICU requirement, intraoperative events (pain/discomfort, nausea, vomiting, shivering)

Primary Outcome: ObsQoR-10 score at 24 hr

Sample Size: 56 patients per group (n=112), aiming to find a 15% difference in the primary outcome

Statistics: Univariate comparisons of demographics between groups were made.

Multivariable linear regression and Multiple logistics regression adjusted for GA and Parity

Obstetric Quality of Recovery-10 (ObsQoR-10®) Scoring Tool

Instructions: Below is a list of problems that women can experience after childbirth. Please read each problem carefully and indicate how much you have been bothered by that problem in the in the **past 24 hours**:

Questions 1 – 4
Please score the **severity** of the below symptoms in the past 24 hours: (Please choose one score (0-10) for each symptom)

		 Worst Imaginable							 Moderate				 None
		10	9	8	7	6	5	4	3	2	1	0	
1	Pain												
2	Nausea or vomiting												
3	Dizziness												
4	Shivering												

Investigators: Please convert the scores for Questions 1 - 4 (so 0=10, 1=9, 2=8, 3=7, 4=6, 5=5, 6=4, 7=3, 8=2, 9=1 and 10=0)

For terms and conditions of use of ObsQoR-10®, please contact Dr. Pervez Sultan (p.sultan@icloud.com)

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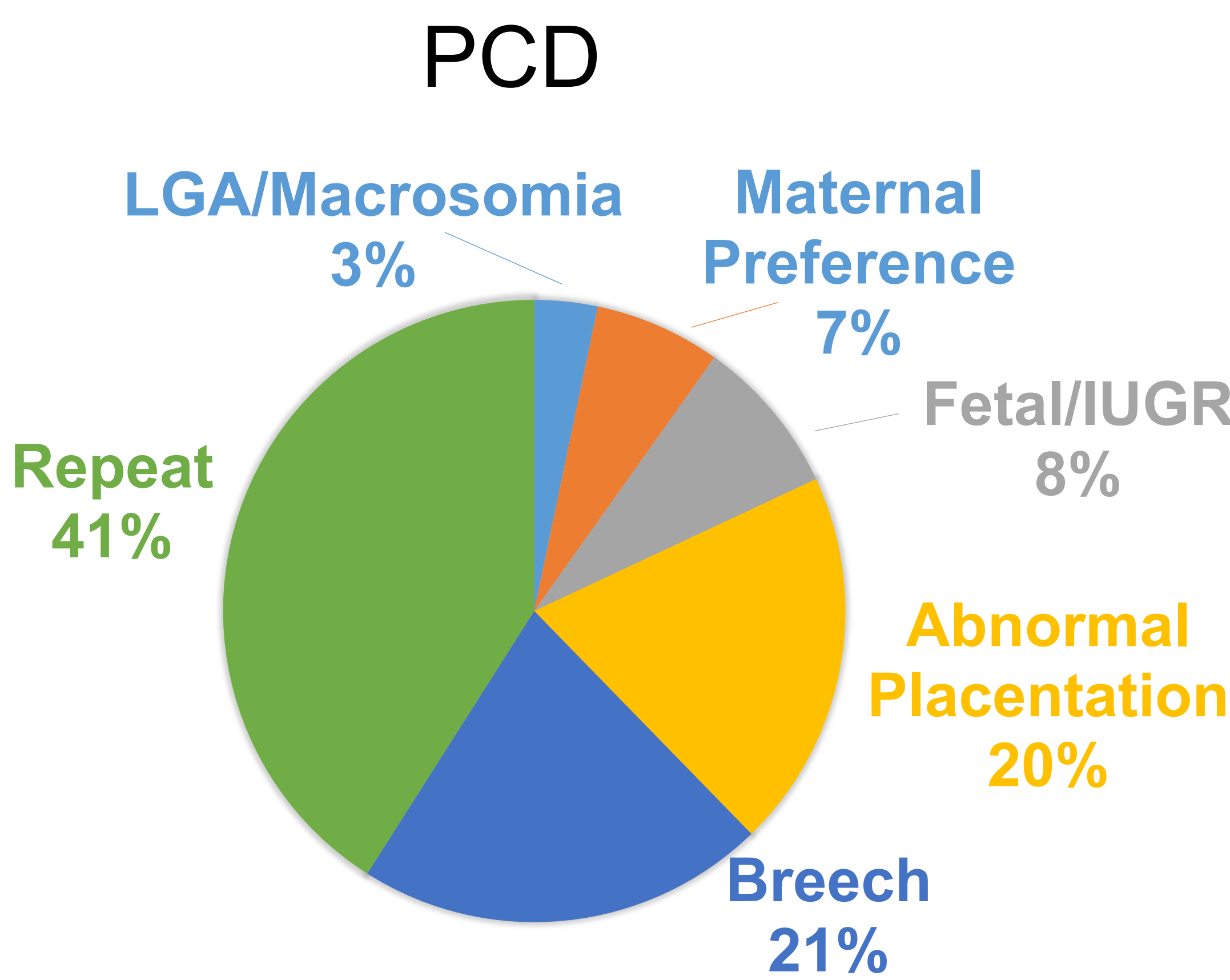
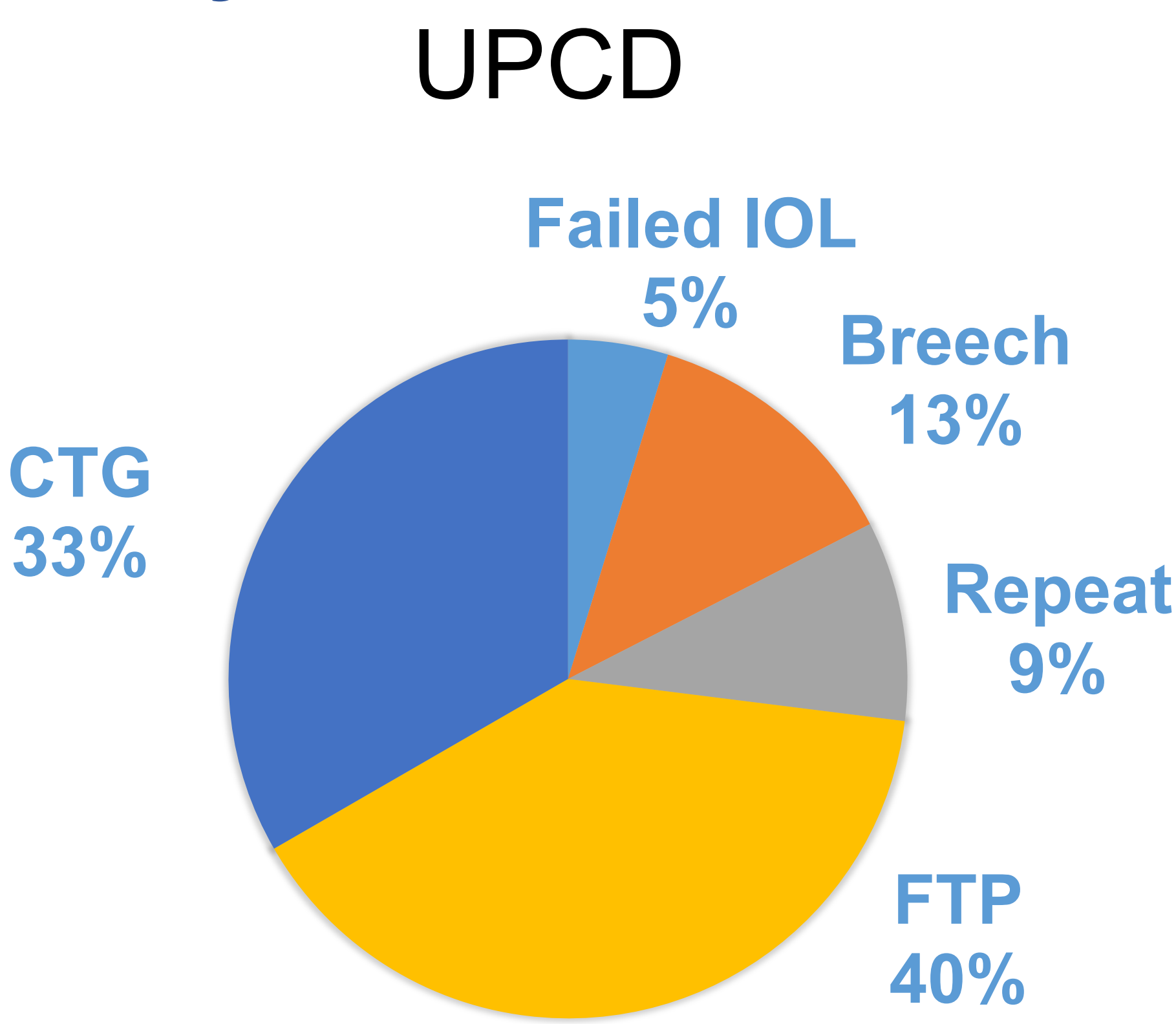
Questions 5-10
Please score the following aspects of your recovery in the past 24 hours: (Please circle one score for each item)

		 No / Never							 Sometimes / with help				 Yes / Always
5	I have been comfortable	0	1	2	3	4	5	6	7	8	9	10	
6	I am able to mobilise independently	0	1	2	3	4	5	6	7	8	9	10	
7	I can hold a baby without assistance	0	1	2	3	4	5	6	7	8	9	10	
8	I can feed / nurse my baby without assistance	0	1	2	3	4	5	6	7	8	9	10	
9	I can look after my personal hygiene / toilet	0	1	2	3	4	5	6	7	8	9	10	
10	I feel in control	0	1	2	3	4	5	6	7	8	9	10	

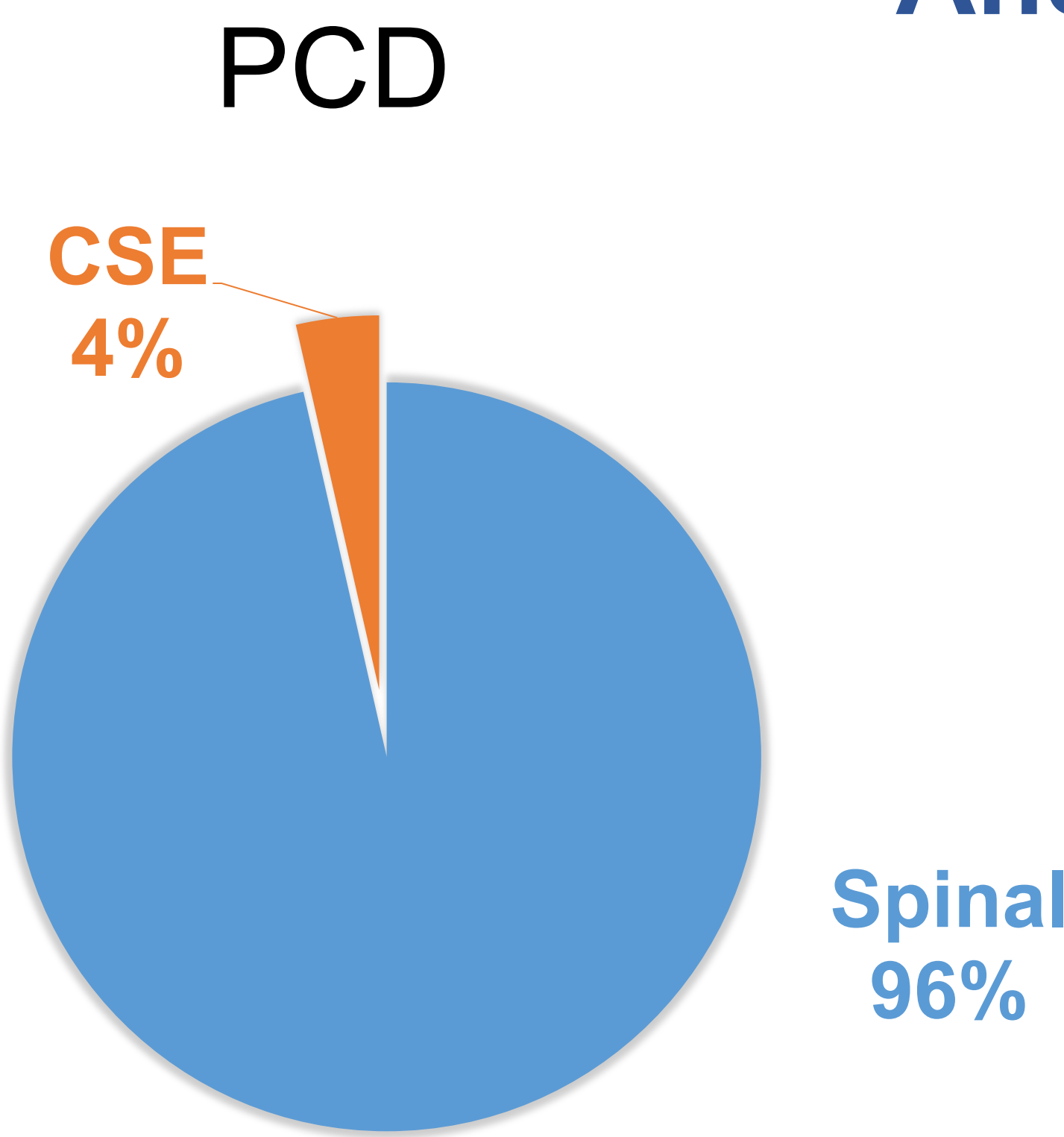
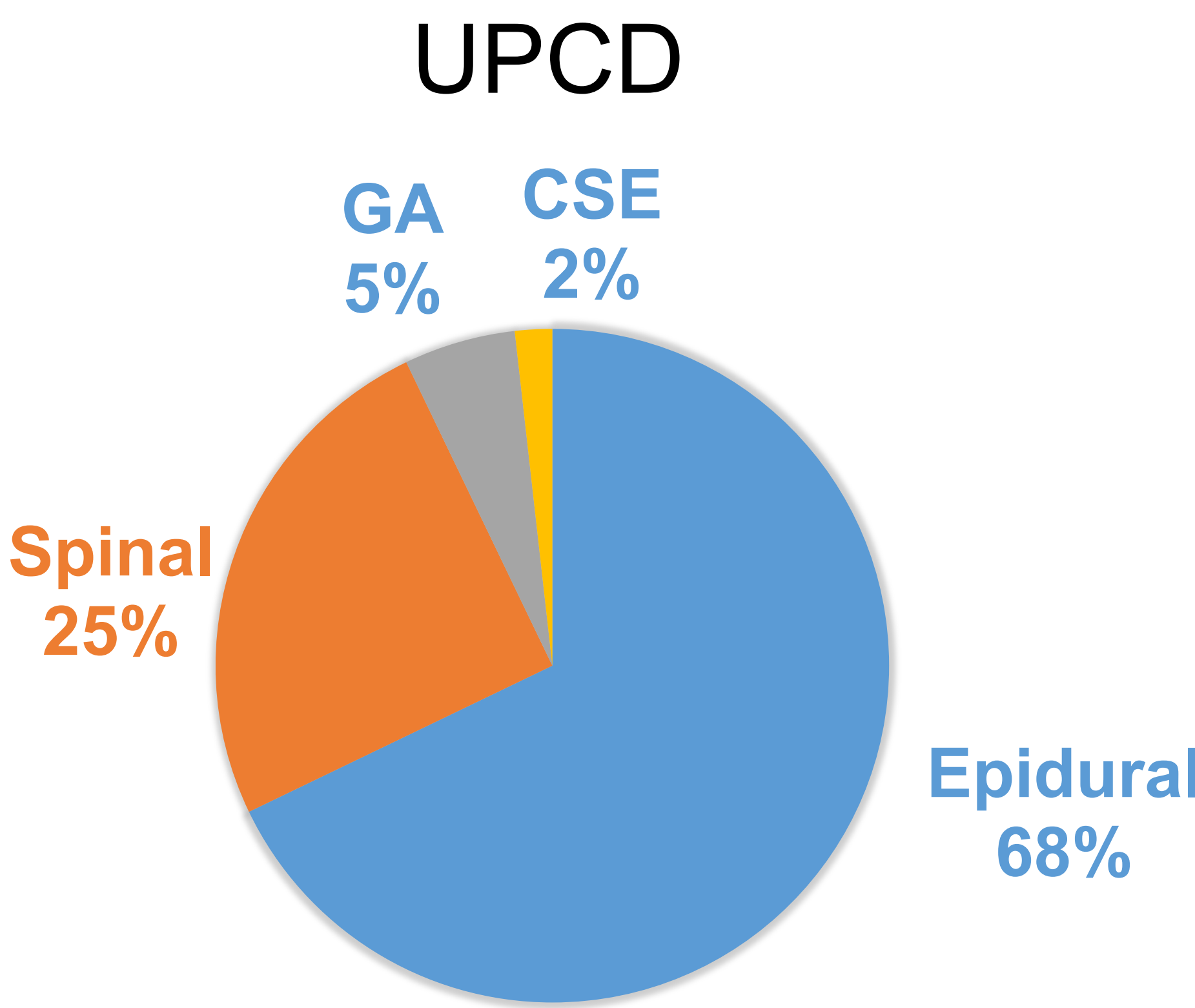
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Results

Indications for Cesarean Delivery



Anesthetic technique



Comparison of Demographics and Comorbidities between two Groups			
Demographics	PCD	UPCD	p-values
# patients	56	56	
Maternal age , mean (sd)	35.3 (4.0)	34.0 (4.3)	0.1
BMI , mean (sd)	30.8 (6.1)	31.5 (5.0)	0.53
Parity (Primiparity)	39.29 (22/56)	69.64 (39/56)	0.001
Gestational age (weeks), median (IQR)	38.4 (37.9, 38.9)	39.0 (38.0, 40.6)	0.001
Respiratory	10.71 (6/56)	3.57 (2/56)	0.27
Cardiovascular	10.71 (6/56)	12.5 (7/56)	0.77
Neurological	1.79 (1/56)	0 (0/56)	0.99
Endocrine	21.43 (12/56)	8.93 (5/56)	0.06
Hematological	5.36 (3/56)	5.36 (3/56)	0.99
Musculoskeletal	1.79 (1/56)	0 (0/56)	0.99
Psychiatric	12.5 (7/56)	8.93 (5/56)	0.54
Others	8.93 (5/56)	7.14 (4/56)	0.99

Intraoperative Events — Surgical Characteristics			
Characteristics	PCS	UPCS	p-values
Duration of surgery (mins), mean(sd)	96.9 (23.2)	96.6 (28.1)	0.93
Blood loss (ml), median (IQR)	700 (600, 725)	700 (600, 800)	0.21
Intraoperative events: %(n/N) Nausea/vomiting	28.57 (16/56)	26.42 (14/53)	0.8
Pain/discomfort during surgery	7.14 (4/56)	7.55 (4/53)	0.99
Shivering	30.36 (17/56)	45.28 (24/53)	0.11
PPH	8.93 (5/56)	7.14 (4/56)	0.99
Length of hospital stay (nights): %(n/N)			0.36
3-4 nights	1.79 (1/56)	7.14 (4/56)	
1-2 nights	98.21 (55/56)	92.86 (52/56)	



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Results

- No significant differences in overall ObsQoR-10 scores between PCD and UPCD
- Significant difference in shivering and ability to look after personal hygiene at 24 hrs
- No differences in pain scores, morphine consumption and readiness for discharge at 24 and 48 hrs
- Less than 50% patients in both groups felt ready to be discharged at 24 hours

Demographics	PCD	UPCD	P-values*	Adj Diff (95%CI) mean/median PCD v/s UPCD
# Patients	56	56		
QoR-10 at 24 hours, mean (sd)	75.6 (12.8)	71.8 (16.2)	0.17	2.38 (-3.43,8.19)
QoR-10 at 48 hours, mean (sd)	79.9 (13.7)	80.6 (9.2)	0.8	-1.61(-7.69,4.46)
QoR-10 at 1 wk, mean (sd)	86.3 (11.3)	86.0 (9.5)	0.92	-1.28 (-6.55,3.98)
Pain at 24h, median (IQR)	5(4,6)	5 (3,6.5)	0.21	0(-0.92,0.92)
				Adj OR (95% CI) PCD v/s UPCD
Ready to discharge at 24 hrs %(n/N)	41.07 (23/56)	39.29 (22/56)	0.84	0.83 (0.36,1.90)
Ready to discharge at 48 hrs %(n/N)	96.67 (29/30)	88.57 (31/35)	0.36	3.25 (0.33,32.5)
Morphine Consumption With 48 hours	37.5 (21/56)	39.29 (22/56)	0.84	0.85(0.35,1.91)

QoR-10 Question	PCD	UPCD	p-value
Pain	5(4,6)	5(3.5,7)	0.21
Nausea/Vomiting	9.5(5.5,10)	10(8,10)	0.11
Dizziness	10(8,10)	10(8,10)	0.8
Shivering	10(7,10)	9.5(4,10)	0.047
Comfort	7(5,9)	7(5,8)	0.46
Mobilization	7(6,9)	7.5(5,9)	0.74
Hold baby	10(8,10)	9(7,10)	0.17
Feed baby	9(6,10)	8(6,9)	0.41
Personal Hygiene	8(7,10)	7(5,9)	0.02
Control	8(6,10)	7(5,9)	0.13

Discussion

- This is the first prospective study comparing PCD and UPCD outcomes at 24, 48 hrs and 7 days post operatively using the ObsQoR-10 tool.
- Previous two studies comparing QoR between PCD and UPCD:
 - QoR-10 validation study by Sultan et al (2), compares QoR10 in PCD and UPCD **showed no difference between the groups**.
 - A retrospective study by Bilavdala et al using QoR11(3), **Shown difference between the groups** mainly related to the **shivering and independence-of-care**.
- The absence of differences between groups may be explained by fully optimized evidence based ERAC protocol in our institution for both the PCD and UPCDs
- The higher incidence of shivering in the UPCD may be related to the epidural top-up for surgery
- Over 50% of patients in both groups did not feel ready for hospital discharge at 24h. However, most patients in both groups felt ready for hospital discharged at 48h. This should prove useful information for institutions seeking implementation of early hospital discharge after CD.

References

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3. Bhiladvala, C. *et al.* Factors driving the difference in quality of recovery scores between scheduled and unscheduled Caesarean delivery patients. *Br J Anaesth* **128**, e219–e221 (2022).