



Longitudinal study evaluating postpartum recovery after scheduled cesarean delivery

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BACKGROUND

- Recovery after cesarean delivery is complex
- Patient centered outcomes should be used to measure postpartum recovery
- The Obstetric Quality of Recovery score (ObsQoR-10) has been validated in parturients in immediate postpartum period
- Our study aimed to describe short-term and intermediate recovery following scheduled cesarean delivery utilizing ObsQoR-10 and outpatient recovery measure (5-level 5-dimensional EuroQol questionnaire; EQ-5D)

METHODS

- Single center, prospective longitudinal study.
- Enrolled healthy women scheduled for cesarean delivery
- Exclusion Criteria: GA <32 weeks, neonatal demise, NICU admission, non-English speaking, received general anesthesia
- Women completed baseline surveys on day of delivery and then at several timepoints after delivery (See Table 1) up to 3 months postpartum
- Data were collected by REDCap and Qualtrics
- ObsQoR10: Items 1-4 negative items (i.e. lower score, worse outcome)

TABLE 1: TIMELINE OF PATIENT SURVEYS

	ObsQoR-10	EQD-5	Global VAS	ADL/ IFSAC	Opioid Use/ Pain Score	EPDS	Other
Baseline		X	X	X			
24 hours	X		X				
48 hours	X		X				
1 week	X		X		X		
3 weeks		X	X		X		
6 weeks		X	X	X	X	X	Modified Recovery Questionnaire
3 months		X	X		X		

FIGURE 1: SAMPLE SURVEYS

ObsQoR-11 Questionnaire Study ID: _____
24 Hour Questionnaire Date: _____ Time: _____
How have you been feeling in the last 24 hours?

	😊					😊					😊
	No / Minimal	Moderate						Most severe			
	0	1	2	3	4	5	6	7	8	9	10
1	I have had moderate pain	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2	I have had nausea or vomiting	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3	I have been feeling dizzy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4	I have had shivering	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

	😊					😊					😊
	Strongly disagree							Strongly Agree			
	0	1	2	3	4	5	6	7	8	9	10
5	I have been comfortable	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6	I am able to mobilise independently	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7	I can hold baby without assistance	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8	I can feed/nurse my baby without assistance	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9	I can look after my personal hygiene/toilet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10	I feel in control	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

No pain
0 1 2 3 4 5 6 7 8 9 10
AT REST

Moderate pain
0 1 2 3 4 5 6 7 8 9 10
ON MOVING

Unbearable pain

EQ-5D

Please select the ONE box that best describes your health TODAY.

PAIN / DISCOMFORT

I have no pain or discomfort ☐

I have slight pain or discomfort ☐

I have moderate pain or discomfort ☐

I have severe pain or discomfort ☐

I have extreme pain or discomfort ☐

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EQ-5D

Please indicate on the scale how your health is TODAY.

YOUR HEALTH TODAY =

The best health you can imagine

100
90
80
70
60
50
40
30
20
10
0
The worst health you can imagine

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RESULTS

- We enrolled 66 patients and 64 were included in the analysis
- Survey response rates were high for all timepoints (Figure 2)
- Mean±SD ObsQoR10 scores were 75±15 at 24 hours, 85±10 at 48 hours, and 81±28 at 1 week (Table 2)
- Global health assessment had improved over baseline at 3, 6, and 12 weeks postpartum
- The EQ-5D composite scores improved at 6 weeks and 3 months over baseline with usual activities and pain/discomfort showing significant improvement over time (Table 3)
- Resumption of activities of daily living had not returned to baseline at 6 weeks postpartum

FIGURE 2: ENROLLMENT & SURVEY RESPONSE RATES

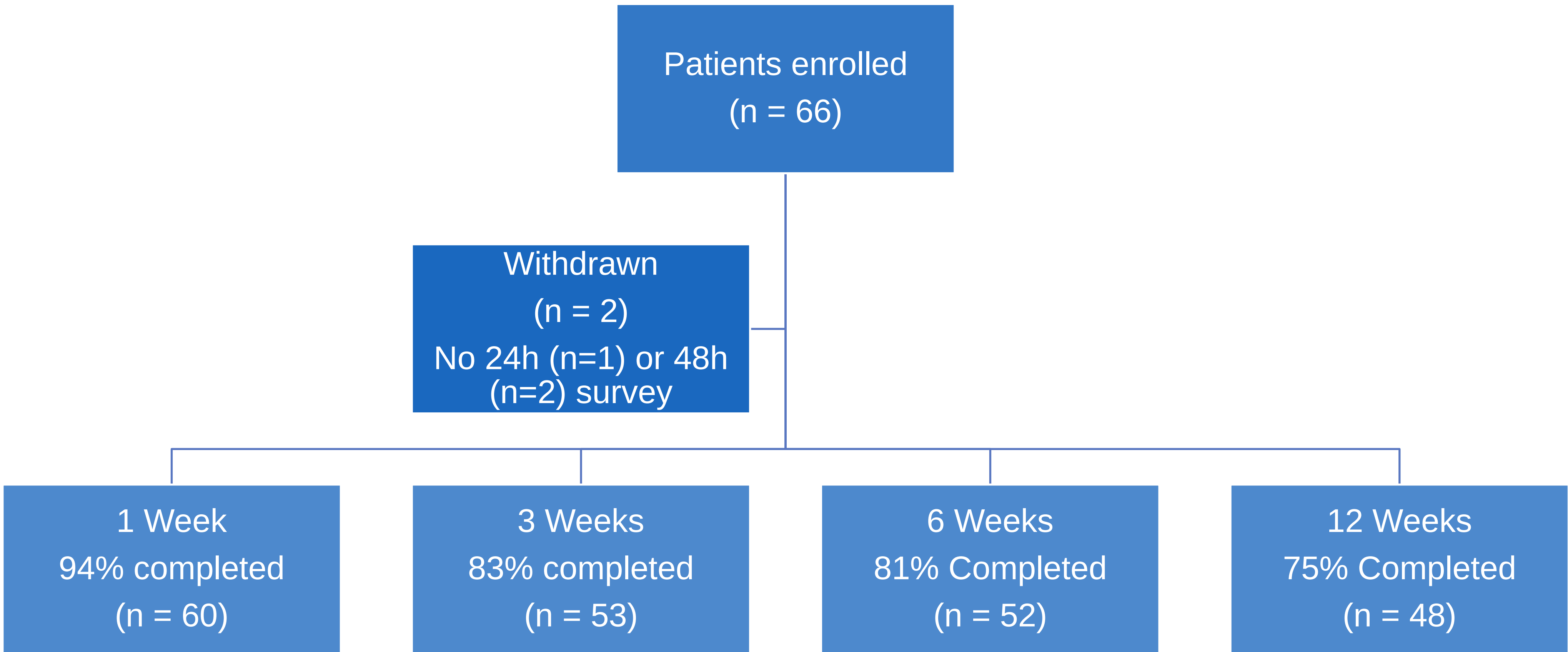


TABLE 2

ObsQoR10 breakdown at each time point (w/ longitudinal comparisons for each patient using paired data)

	24 h	48h	1 week	P values *
1. Pain	5.44±1.92	5.48±1.97	7.04±1.99	<0.001
2. Nausea or vomiting	7.98±2.79	9.65±1.12	9.96±0.26	<0.001
3. Dizziness	8.11±2.48	9.57±1.03	9.72±0.92	<0.001
4. Shivering	8.51±2.24	9.78±0.73	9.58±1.02	<0.001
5. Comfortable	6.52±1.83	6.87±1.82	7.18±1.82	0.073
6. Mobilize Independently	6.46±2.71	8.10±1.86	8.95±1.73	<0.001
7. Hold baby w/o assistance	8.90±2.19	9.08±1.76	9.82±0.43	0.001
8. Feed baby w/o assistance	8.05±2.71	8.81±2.02	9.40±1.29	<0.001
9. Personal hygiene/toilet	7.13±3.07	9.06±1.55	9.75±0.85	<0.001
10. Feel in control	7.67±2.51	8.48±2.36	8.49±2.11	0.002
Total	74.78±15.05	84.94±10.38	81.33±27.82	0.003

TABLE 3

Longitudinal comparison of EuroQol 5-dimensional 5-level individual component and composite scores following delivery

	Baseline	3 weeks	6 weeks	3 months	P values
Mobility	1.16±0.45	NA	1.12±0.48	1.02±0.15	0.713
Self care	1.05±0.21	1.06±0.31	1.04±0.28	1±0	0.731
Usual activity	1.25±0.51	1.46±0.64	1.25±0.52	1.04±0.20	0.001
Pain/discomfort	1.56±0.74	1.69±0.58	1.37±0.60	1.11±0.37	<0.001
Anxiety/depression	1.46±0.69	1.37±0.60	1.31±0.58	1.43±0.74	0.425
Total Score:	6.48±1.79	NA	4.94±2.92	4.17±2.61	<0.001

Lower scores represent better recovery; Values presented are Mean±SD



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MEDICINE

Patients after cesarean have recovery of pain/discomfort, performance of usual activities, and overall quality over baseline at 6 weeks and 3 months.

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DISCUSSION

- Our study outlined characteristics of recovery during hospitalization and after discharge to home for up to 3 months after scheduled cesarean delivery.
- SMS surveys result in high response rates in postpartum patients
- This data can be used to inform patients about anticipated trajectory of key postpartum recovery domains up to 12 weeks postpartum
- Patients showed improvement of many areas of recovery over baseline immediately prior to delivery
- Additional research is needed to determine if inpatient recovery measures can predict long-term recovery and outcomes.
- Further work is needed to determine generalizability in socioeconomically, racially, and ethnically diverse populations.

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