



Association of health literacy with patient decision quality regarding mode of delivery after cesarean



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Objective

- To assess the association of health literacy with patient decision quality regarding mode of delivery after cesarean.

Study Design

- Secondary analysis of a multicenter randomized trial of pregnant people with one prior cesarean and no prior VBAC between 2016-2019.
- Randomized at <25 weeks' gestation: usual care vs tablet-based decision support tool focused on TOLAC choice before deciding on a mode of delivery.
- Primary outcome: decision quality (measured using validated scales that assess knowledge, decisional conflict, shared decision-making, decision self-efficacy, and decision satisfaction, administered by phone at 34-37 weeks' gestation).
- Primary predictor: health literacy (evaluated at baseline using the *Newest Vital Sign (NVS)* tool).
- To assess the association of limited health literacy (defined as NVS score $\leq 4/6$) with decision quality, we calculated mean scores for each scale by level of health literacy (limited vs adequate) and estimated adjusted mean differences (aMD) using linear regression.
- Model covariates were selected by backwards stepwise regression.

Results

- 1455 participants (n=396 limited- and n=1059 adequate-health literacy) were included
- Limited health literacy was associated with significantly lower knowledge scores (3.9 vs 5.4; aMD -0.8, 95% CI [-1.0, -0.5], $p<0.001$)
- Decision quality measures of decisional conflict, shared decision-making, decision self-efficacy, and decision satisfaction were similar between those with limited and adequate health literacy ($p>0.05$).

Conclusion

- Participants with limited health literacy reported similar levels of decision quality compared to participants with adequate health literacy but had lower knowledge scores.
- Future efforts should be directed towards understanding how best to support informed and values concordant decision making for people with limited health literacy.

Limited health literacy, among pregnant people considering TOLAC, was characterized by lower measures of knowledge about TOLAC but similar measures of decision quality.



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Table 1. Baseline participant characteristics presented by level of health literacy			
Characteristics	Limited health literacy (n=396)	Adequate health literacy (n=1059)	p-value
Age, mean (SD), y	31.9 (5.1)	34.9 (4.0)	<0.001
Race or ethnic group			<0.001
African American or Black	66 (57.4%)	49 (42.6%)	
Asian or Pacific Islander	57 (26.4%)	159 (73.6%)	
Caucasian, White or European American	83 (10.4%)	716 (89.6%)	
Latina, Latin American, or Hispanic	164 (68.3%)	76 (31.7%)	
Multi- or bi-racial/ethnic	14 (29.2%)	34 (70.8%)	
Other	12 (32.4%)	25 (67.6%)	
Non-English Primary Language	164 (66.1%)	84 (33.9%)	<0.001
Opted for Spanish language interview	91 (88.4%)	12 (11.7%)	<0.001
Educational attainment			<0.001
Less than a high school degree	38 (97.4%)	1 (2.6%)	
High school graduate, GED or equivalent	88 (87.1%)	13 (12.9%)	
Some college, junior college, vocational school	87 (51.8%)	81 (48.2%)	
College graduate (BA, BS)	118 (21.5%)	432 (78.6%)	
Professional or graduate degree	65 (10.9%)	532 (89.1%)	
Relationship status			<0.001
Married or living with partner	331 (24.3%)	1032 (75.7%)	
Partnered, not living together	30 (63.8%)	17 (36.2%)	
Single/not significantly involved	35 (77.8%)	10 (22.2%)	
Yearly household income			<0.001
Under \$25,000	84 (84.0%)	16 (16.0%)	
\$25,000 - \$50,000	99 (76.2%)	31 (23.9%)	
\$50,001 - \$100,000	70 (35.5%)	127 (64.5%)	
\$100,001 - \$200,000	67 (15.1%)	378 (84.9%)	
Over \$200,000	38 (7.3%)	484 (92.7%)	
Don't know	32 (68.1%)	15 (31.9%)	
Decline to answer	6 (46.2%)	7 (53.9%)	
Insurance			<0.001
Private insurance	194 (16.5%)	985 (83.6%)	
Public insurance	200 (75.5%)	65 (24.5%)	
Other, specify	2 (20.0%)	8 (80.0%)	
Pre-pregnancy BMI, median (IQR), kg/m²	27.4 (23.4, 32.0)	24.4 (21.7, 28.1)	<0.001
Prior vaginal delivery	43 (50.6%)	42 (49.4%)	<0.001

Table 2. Participant-Reported Decision Quality Outcomes				
Outcomes	Mean (SD) [No.]		Adjusted mean difference (95% CI)	p-value
	Limited health literacy (n=396)	Adequate health literacy (n=1059)		
Knowledge	3.87 (1.83) [345]	5.41 (1.49) [1001]	-0.76 (-1.02, -0.50)	<0.001
Decisional conflict	17.70 (12.11) [339]	17.16 (13.83) [997]	0.04 (-1.88, 1.96)	0.971
Uncertainty subscale	22.08 (18.00) [343]	25.71 (22.89) [1001]	1.44 (-2.05, 4.94)	0.418
Informed subscale	15.50 (12.75) [344]	12.98 (12.89) [1000]	0.22 (-1.97, 2.40)	0.846
Values clarity subscale	18.37 (14.09) [342]	16.81 (16.14) [1000]	0.94 (-1.56, 3.45)	0.460
Support subscale	15.37 (15.00) [341]	12.19 (15.61) [1001]	1.91 (-0.32, 4.14)	0.093
Effective decision subscale	23.16 (19.14) [340]	23.76 (20.97) [999]	0.24 (-2.79, 3.26)	0.879
Shared decision-making	76.86 (14.26) [338]	73.88 (15.69) [987]	1.51 (-0.78, 3.81)	0.196
Decision self-efficacy	91.09 (11.54) [338]	90.39 (12.34) [993]	0.37 (-1.42, 2.16)	0.685
Decision satisfaction	4.72 (0.51) [344]	4.61 (0.58) [999]	0.42 (-0.04, 0.13)	0.328