The benefits of integrating a patient-centered pregnancy support tool in routine prenatal care: Patient perspectives

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BACKGROUND/AIMS

Pregnancy care plans are inherently burdensome and often present challenges to adherence, especially for low-income patients. The CONTINUE study examined the benefits of integrating a patient-centered pregnancy support tool into routine prenatal care. Understanding potential benefits of the tool is especially important among low-income patients, who often have more limited resources, encounter more barriers to care and are less likely to navigate clinical challenges effectively.

METHODS

Design/Participants
This experimental pilot study team developed and distributed a pregnancy support tool (see Figure 1) to 187 prenatal patients at the beginning of their pregnancies (8-12 weeks) by their prenatal healthcare providers in three clinics throughout Chicago. After using the tool for at least 8 weeks, 71 patients who were at least 27 weeks pregnant were interviewed or surveyed to share their experiences with the tool, particularly benefits experienced.

Data Collection
Interview participants were presented with a validated human-centered design-based card sort activity and instructed to sort 18 potential benefits by those they experienced vs. felt neutral about vs. did not experience. Survey participants were presented with 18 electronic survey items and instructed to rate the same benefits in the same way. Response options were collapsed into "Experienced" or "Neutral/Did Not Experience".

Figure 1. Front and Inside of Pregnancy Support Tri-Fold Tool

MAIN FINDINGS

Table 1. Demographics of Sample, Overall and by Income Status.

Variables	Overall (N=71)	Income# Low (N=23)	Income# High (N=48)	Odds Ratio (OR)	P-Value+
Data Type					
Interview	37 (52.11%)	12 (32.43%)	25 (67.57%)	1.00 (0.37, 2.72)	0.9943
Survey	34 (47.89%)	11 (32.35%)	23 (67.65%)	REF	
Age Group					
18-25	12 (18.31%)	8 (61.54%)	5 (38.46%)	REF	
26-35	41 (57.75%)	13 (31.71%)	28 (68.29%)	0.29 (0.08, 1.06)	0.0190^*
36-45	17 (23.94%)	2 (11.76%)	15 (88.24%)	0.08 (0.01, 0.53)*	
Race (N=70)					
Non-White	20 (28.57%)	4 (20.00%)	16 (80.00%)	0.44 (0.13, 1.53)	0.2590^
White	50 (71.43%)	18 (36.00%)	32 (64.00%)	REF	
Ethnicity					
Hisp/Lat/Span	40 (56.34%)	18 (45.00%)	22 (55.00%)	4.25 (1.36, 13.33)	0.0099*
Non-Hisp/Lat/Span	31 (43.66%)	5 (16.13%)	26 (83.87%)	REF	
Prenatal Risk (N=67)					
HR	28 (41.79%)	6 (21.43%)	22 (78.57%)	0.39 (0.13, 1.18)	0.0920
LR	39 (58.21%)	16 (41.03%)	23 (58.97%)	REF	
Parity (N=70)					
First	30 (42.86%)	11 (36.67%)	19 (63.33%)	1.53 (0.55, 4.22)	0.4136
Subsequent	40 (57.14%)	11 (27.50%)	29 (72.50%)	REF	
Language					
English	68 (95.77%)	23 (33.82%)	45 (66.18%)	-	0.5461^
Spanish	3 (4.23%)	0 (0.00%)	3 (100.00%)	-	
Work (N=36)					
Yes	24 (66.67%)	6 (25.00%)	18 (75.00%)	0.33 (0.08, 1.44)	0.1336
No	12 (33.33%)	6 (50.00%)	6 (50.00%)	REF	
Insurance#					
Public	40 (56.34%)	23 (57.50%)	17 (42.50%)	-	<0.0001^
Private	31 (43.66%)	0	31 (100.00%)	-	
Provider Type (Clinic)#					
Midwife (Kedzie)	12 (16.90%)	0 (0.00%)	12 (100.00%)	-	<0.0001^
Nurse (Clark)	17 (23.94%)	0 (0.00%)	17 (100.00%)	-	
OB (IW)	19 (26.76%)	0 (0.00%)	19 (100.00%)	-	
Resident (Clark)	23 (32.39%)	23 (100.00%)	0 (0.00%)	-	

+Generated from Chi square tests or ^Fishers Exact tests (if cell count < 5)
*Statistically significant at p<0.05
#Income variable composed of compositive insurance by provider variable values

Table 2. Benefits of Pregnancy Support Tool Experienced by Patients (N=71).

Potential Benefits	Income Low (N=23)	Income High (N=48)	Odds Ratio (OR)	P-Value+
The pregnancy support tool helped me:				
manage my other life responsibilities.	16 (69.57%)	19 (39.58%)	3.49 (1.21, 10.07)	0.0180*
plan ahead and feel less stressed.	21 (91.30%)	37 (77.08%)	3.12 (0.63, 15.45)	0.1986^
make the financial tradeoffs needed to get through my pregnancy.	7 (30.43%)	6 (12.50%)	3.06 (0.89, 10.51)	0.0675
feel my time was being respected.	16 (69.57%)	21 (43.75%)	2.94 (1.02, 8.44)	0.0416*
feel my financial situation was being considered.	9 (39.13%)	11 (22.92%)	2.16 (0.74, 6.33)	0.1552
see the "Big Picture" and link it to the family budget.	10 (43.48%)	13 (27.08%)	2.07 (0.73, 5.87)	0.1671
navigate insurance more effectively.	7 (30.43%)	9 (18.75%)	1.90 (0.60, 5.97)	0.2701
increase my trust in the care team.	14 (60.87%)	24 (50.00%)	1.56 (0.57, 4.27)	0.3901
ask questions I wouldn't have thought to ask.	14 (60.87%)	24 (50.00%)	1.56 (0.57, 4.27)	0.3901
explain my care plan to others (family, employers, other doctors).	17 (73.91%)	32 (66.67%)	1.42 (0.47, 4.29)	0.5366
attend more appointments.	10 (43.48%)	18 (37.50%)	1.28 (0.47, 3.52)	0.6295
feel confident that I was "doing things right."	16 (69.57%)	31 (64.58%)	1.25 (0.43, 3.64)	0.6779
show up on time.	7 (30.43%)	13 (27.08%)	1.18 (0.39, 3.51)	0.7689
understand how appointments differ.	16 (69.57%)	32 (66.67%)	1.14 (0.39, 3.34)	0.807
feel more in control of my pregnancy.	17 (73.91%)	35 (72.92%)	1.05 (0.34, 3.25)	0.9293
know how to plan for tests.	15 (65.22%)	32 (66.67%)	0.94 (0.33, 2.67)	0.9038
understand what was coming next in my pregnancy care.	20 (86.96%)	43 (89.58%)	0.78 (0.17, 3.57)	0.7082^
be a stronger partner in my care.	11 (47.83%)	27 (56.25%)	0.71 (0.26, 1.93)	0.5054

+Generated from Chi square tests or ^Fisher's Exact Test (if cell counts (<5)
*Statistically significant at p<0.05

STATISTICAL ANALYSIS

All analyses were performed using SAS version 9.4 (SAS Institute, Inc).

In Table 1, patient demographics and care-related variables were described as counts (percentages) among the entire sample (N=71). Insurance and provider type/clinic variables were strategically used to create the Income variable (exposure of interest). Specifically, patients with public insurance who were treated at Clark clinic by Resident providers were categorized as Low-Income. All other patients were categorized into the High-Income group level. Bivariate odds ratios (OR) and associated P-values reflect differences in demographic and care-related variables by Income groups.

In Table 2, logistic regression analyses were conducted to generate OR reflecting the relative odds of experiencing a potential benefit, as self-reported by patients, among low-income women compared to higher income women. Due to the small sample size, associated P-values were performed using Pearson Chi square tests (with Fishers Exact Tests interpreted for cell counts < 5).

RESULTS

Table 2 reveals differences in benefits reported from the tool, revealing the following benefits were *statistically significant more likely to be reported by low-income groups* compared to high income groups:
- Manage my other life responsibilities (OR=3.49[1.21,10.07], p=0.0180)
- Feel my time was being respected (OR=2.94[1.02, 8.44], p=0.0416)

Low-income groups were *more likely* to experience the following benefits compared to high income groups (although not statistically significant):
- Plan ahead and feel less stressed
- Make the financial tradeoffs needed to get through my pregnancy
- Feel my financial situation was being considered
- See the "Big Picture" and link it to the family budget
- Navigate insurance more effectively
- Increase my trust in the care team
- Ask questions I wouldn't have thought to ask
- Explain my care plan to others (family, employers, other doctors)

Low-income groups were *less likely* to experience the following benefits compared to high income groups (although not statistically significant):
- Understand what was coming next in my pregnancy care
- Be a stronger partner in my care

CONCLUSIONS

Introducing a pregnancy support tool into routine OB care can benefit all populations, but specific benefits derived can vary based on income level. Low-income patients were more likely to report that the pregnancy support tool helped them manage their other life responsibilities and feel their time was being respected. Overall, low-income patients were more likely to report benefits from the tool compared to high income patients. While this tool confers benefits among all populations, implementation of this tool may be most beneficial in low-income clinics to help patients navigate the challenges of care-related logistics more effectively and feel more respected in their prenatal care process.

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