

Patient Outreach to Promote Glucose Screening among Diverse Women with Gestational Diabetes: A Factorial Pilot Study

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BACKGROUND

Gestational diabetes (GDM) elevates women’s risk for type 2 diabetes. Clinical guidelines urge screening for diabetes at 4-12 weeks postpartum with an oral glucose tolerance test (OGTT), but rates of screening in the Unites States are low—especially in some racial and ethnic minority groups.

OBJECTIVES

- 1) Descriptively assess women’s **beliefs** about postpartum screening
- 2) Determine whether each component of a multicomponent outreach strategy to promote postpartum screening after GDM is **acceptable** and **feasible**

METHODS

Setting: A large, integrated health system offering standardized GDM care

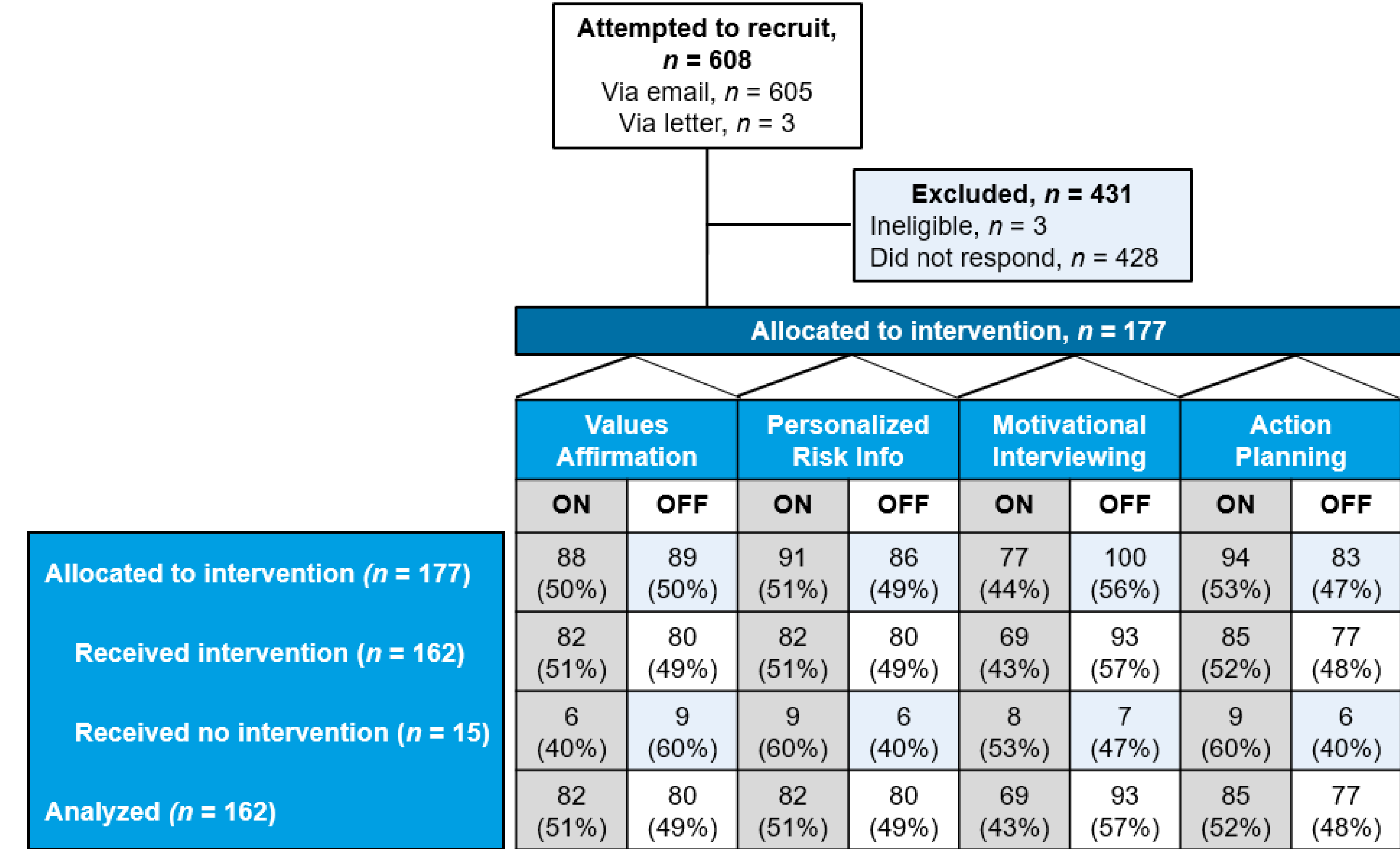
Participants: Unscreened pregnant or postpartum women with GDM

Design: 2⁴ randomized factorial experiment. Participants were randomized to view an online outreach message with up to 4 components:

Component	Description
Values Affirmation	Two sentences prompting reflection on personal values, to decrease perceived threat of health risk information ¹
Personalized Risk Information	Personal risk factors for diabetes automatically populated in the outreach message, e.g., based on age, body mass index, physical activity, & race/ethnicity
Motivational Interviewing	Interactive online tool prompting women to consider pros and cons of screening
Action Planning	Interactive online tool prompting women to problem solve practical barriers to screening

¹Brown et al. *Medical Care* 2019 Jul;57(7). PMID: [31107396](#)

Figure 1. Participant flow



Procedure: Participants completed a 20-minute online survey using REDCap with:

- 1) Initial survey items to assess beliefs about postpartum screening
- 2) The outreach message, containing components per their assigned condition
- 3) Final survey items to assess acceptability and feasibility of the outreach

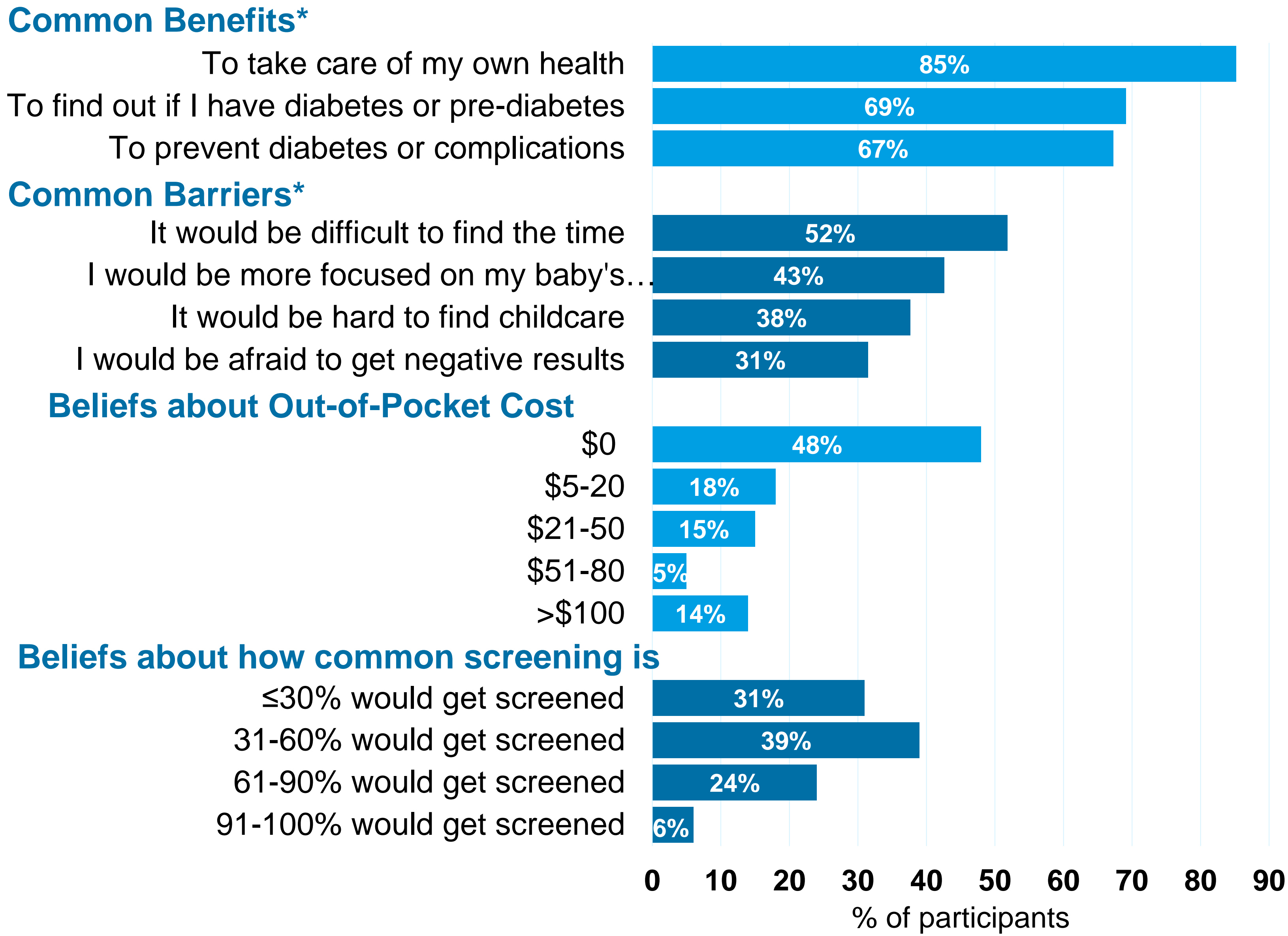
Table 1. Participant characteristics by component

	Values Affirmation		Personalized Risk Info		Motivational Interviewing		Action Planning		All
	ON	OFF	ON	OFF	ON	OFF	ON	OFF	
Age, Mean (SD)	33.4 (5.1)	32.7 (4.8)	33.2 (5.0)	32.9 (4.9)	33.5 (4.8)	32.7 (5.1)	33.1 (5.0)	32.9 (4.9)	33.0 (4.9)
Race/Ethnicity, % (n)									
African American	7.3 (6)	10.0 (8)	4.9 (4)	12.5 (10)	13.0 (9)	5.4 (5)	5.9 (5)	11.7 (9)	8.6 (14)
Asian/Pacific Islander	32.9 (27)	30.0 (24)	39.0 (32)	23.8 (19)	33.3 (23)	30.1 (28)	32.9 (28)	29.9 (23)	31.5 (51)
Hispanic	23.2 (19)	15.0 (12)	14.6 (12)	23.8 (19)	18.8 (13)	19.4 (18)	20.0 (17)	18.2 (14)	19.1 (31)
Multi-racial/ethnic	14.6 (12)	10.0 (8)	14.6 (12)	10.0 (8)	10.1 (7)	14.0 (13)	10.6 (9)	14.3 (11)	12.3 (20)
White	22.0 (18)	33.8 (27)	26.8 (22)	28.8 (23)	24.6 (17)	30.1 (28)	30.6 (26)	24.7 (19)	27.8 (45)
Other	0 (0)	1.3 (1)	0 (0)	1.3 (1)	0 (0)	1.1 (1)	0 (0)	1.3 (1)	0.6 (1)
Education, % (n)									
High school or less	11.0 (9)	17.5 (14)	11.0 (9)	17.5 (14)	18.8 (13)	10.8 (10)	14.1 (12)	14.3 (11)	14.2 (23)
At least some college	89.0 (73)	82.5 (66)	89.0 (73)	82.5 (66)	81.2 (56)	89.2 (83)	85.9 (73)	85.7 (66)	85.8 (139)
Pregnancy Status, % (n)									
Pregnant	39.0 (32)	43.8 (35)	42.7 (35)	40.0 (32)	40.6 (28)	41.9 (39)	45.9 (39)	36.4 (28)	41.4 (67)
Postpartum	61.0 (50)	56.3 (45)	57.3 (47)	60.0 (48)	59.4 (41)	58.1 (54)	54.1 (46)	63.6 (49)	58.6 (95)

RESULTS

Descriptive data

Figure 2. Benefits, barriers, and other beliefs about screening



*Benefits and barriers endorsed by ≥30% of participants

- 86% of participants reported that a healthcare provider had recommended postpartum screening
- Descriptively, intentions to get screened were higher among pregnant than postpartum women (mean [SD]: 4.1 [1.2] vs. 2.3 [1.3] on a 1 to 5 scale; n=149)
- 92% of participants wish to receive health information by email

Pilot test data

Table 2. Acceptability and feasibility by component

	Values Affirmation		Personalized Risk Info		Motivational Interviewing		Action Planning	
	ON	OFF	ON	OFF	ON	OFF	ON	OFF
Acceptability score, Mean (SD) (0-5 scale)	3.9 (0.69)	3.9 (0.67)	3.9 (0.71)	3.9 (0.65)	3.9 (0.73)	3.9 (0.65)	3.9 (0.70)	3.9 (0.66)
Amount of information was “about right”, % (n)	90.1 (73)	91.3 (73)	89.0 (73)	92.4 (73)	91.3 (63)	90.2 (83)	91.7 (77)	89.6 (69)
Read most or all of the information, % (n)	92.7 (76)	93.8 (75)	91.5 (75)	95.0 (76)	92.8 (64)	93.6 (87)	95.3 (81)	90.9 (70)
Engaged in component*, % (n)	n/a	n/a	n/a	n/a	91.3 (63)	n/a	87.1% (74)	n/a

*Answered at least 1 prompt

- As expected, acceptability scores were comparable across conditions in which each component was “on” vs. “off.” Feasibility was strong, with most women engaging with the outreach information in their assigned condition.

CONCLUSIONS

- Descriptively:
 - Women with GDM saw postpartum screening as a way to take care of their health, but practical and psychological barriers were common
 - Nearly one-third of women feared negative results from screening
 - Most women recalled getting provider advice about screening, but over half were unaware that screening is available at \$0 out-of-pocket cost (as a covered benefit under the Affordable Care Act)
- Pilot test results suggest each component of a novel outreach strategy was acceptable to diverse patients and feasible to deliver in a brief, self-directed, online format. Their combined effectiveness in raising rates of completed screening remains to be examined.

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