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Screening of gestational carriers in the United States

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Abstract

Objective—To assess medical and psychosocial screening and evaluation received by gestational carriers and compare those using agencies to those not using agencies.

Design—Cross-sectional questionnaire.

Setting—Online.

Patients—204 women who completed a survey on their experiences as gestational carriers in the United States.

Intervention(s)—None.

Main Outcome Measure(s)—Self-reported screening received prior to gestational carrier pregnancies.

Results—Overall, 97.1% of gestational carriers had a complete medical evaluation and 94.6% had an evaluation or counseling by a mental health professional. Most participants indicated that they had been informed of at least some medical risks (92.6%) and psychological considerations (89.7%). Participants most often recalled being informed of the risks of multiple pregnancy (89.2%) and medical procedures and medications (87.2%), but least often recalled being informed about the risks of impact on their own employment (46.6%) and to their own children (61.3%). There were no differences between those who used an agency and those who did not on any outcome measures.

Conclusion—Self-reported screening and evaluation was high, but still not 100% on all measures. Further education of providers regarding guidelines for the screening and evaluation of gestational carriers may be needed.

Keywords

Gestational carrier; screening; infertility; surrogate

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Introduction

The use of gestational carriers (women who carry the embryo of the intended parent(s) (1)) has increased over time in the United States, with gestational carrier cycles representing 2.5% of all assisted reproductive technology cycles in 2013 (2). Like other pregnancies, gestational carrier pregnancies expose women to medical and psychological health risks. Obstetric complications are not well documented, but high rates of multiple pregnancy and preterm delivery have been reported (2). A recent review indicates that gestational carriers and traditional surrogates (women who are inseminated with the intended father's or a donor's sperm, carry the pregnancy, and relinquish the child(ren) to the intended parent(s) at birth (3)) have favorable outcomes on personality tests and most do not have problems relinquishing the children, but the quality of evidence in these studies was reported to be very low (3), thus, additional studies are needed.

There are a variety of legal issues that may be present in gestational carrier arrangements, including those involving coverage of medical bills and custody of the resultant child(ren) (4). Laws regarding gestational carrier contracts vary by state within the United States, from no laws to surrogacy-friendly laws to complete bans (5). Private agencies specializing in the coordination of gestational carrier arrangements, which may be nonprofit or for-profit, may assist with providing or coordinating legal representation and other kinds of support, but there are no federal or state laws regulating agencies or who can own or operate agencies. Private agencies may also assist with matching a potential gestational carrier with the intended parent(s) and coordinating medical care, communication, travel, and compensation (6). Alternatively, potential gestational carriers and intended parents may meet online or in other ways and go on to make arrangements privately. Gestational carriers and intended parents may also already know one another as family members, friends, or acquaintances. Regardless of how the involved parties meet, they may choose to use an agency or create a private agreement with or without legal representation.

In order to "…provide guidelines for screening and testing of genetic parents and gestational carriers to reduce the possibility of complications, and to address the complex medical and psychological issues that confront the gestational carrier and the intended parents," the American Society for Reproductive Medicine (ASRM) and the Society for Assisted Reproductive Technology (SART) released recommendations in 2012 for the use of gestational carriers (7) which were updated in 2015 (8). These recommendations include guidelines for the evaluation of potential gestational carriers based on a variety of physical and mental health factors, guidelines for advising potential gestational carriers about various risks, and a recommendation that compensation to the gestational carrier be noted in a legal contract prior to treatment. Guidance is also provided for the evaluation of the intended parent(s). Previous research has examined agency and clinic compliance with ASRM/SART guidelines for advertising, recruitment, and compensation for egg donors or gestational carriers (9–13). However, there have been no reports on compliance with guidelines for the screening of gestational carriers or whether the use of an agency affects compliance.

The purpose of this study was to compare demographic, behavioral, and screening characteristics of gestational carriers residing in the United States who did and did not use agencies.

Materials and Methods

From November 2015 through February 2016, a cross-sectional study was conducted. Women 18 years of age or older living in the United States who had previously delivered a baby as the result of a gestational carrier or traditional surrogacy arrangement in 2009 or later were eligible to participate. Participants were recruited by posting study announcements in various online groups geared toward gestational carriers, including websites and message boards. Recruitment materials were also sent to staff who maintain email lists for infertility support groups, lawyers, and agencies. These staff then sent out the study announcements to their email lists. Eligible participants were invited to complete an online survey about their experiences and were reimbursed with a $5 Amazon.com gift card for their time. The first screen of the online survey included a consent form. Participants indicated that they understood the consent form by responding to the question, “Do you agree to the above terms? By selecting “Yes” and clicking the “Next” button, you are indicating that you are at least 18 years old, have read and understood this consent form, and agree to participate in this research study.”

The survey included questions about participants’ experiences as gestational carriers or traditional surrogates, medical and mental health screenings, health behaviors and characteristics, use of attorneys and agencies, social support, pregnancy outcomes, compensation and reimbursement, and demographic characteristics. Most participants completed the survey in under 20 minutes. Participants who were gestational carriers or traditional surrogates more than once were asked to respond regarding their most recent arrangement and delivery.

Sample size calculations were conducted using Stata SE Version 14.0 (14) and were based upon a t-test to detect age differences between traditional surrogates (not included in the present analyses) and gestational carriers at the time of last delivery, since one of the original aims of the study was to examine differences between traditional surrogates and gestational carriers. Based upon previous studies (15,16), a mean age of approximately 31 years and a standard deviation of 5.5 were used in the calculations. Multiple potential sample sizes were calculated based on different potential mean ages, ranging from 26 to 33, in the gestational carriers and traditional surrogates, with total sample sizes ranging from 42 to 240 (21 to 120 per group). Due to the lack of research in this area and to account for potential missing data and possible unequal group sizes, the largest N (240) was selected and was increased by 25% for a total target sample of N = 300. Recruitment ended per protocol on February 29, 2016. Traditional surrogates were excluded from these analyses since the ASRM guidance was intended to be applied to gestational carriers. Incomplete surveys were also excluded from these analyses.

The primary exposure of interest was the use of an agency in arranging the gestational carrier agreement. Gestational carriers (n = 204) were asked to indicate how their most

recent agreement was arranged: through an agency (n = 143), privately or independently (n = 57), or other, please specify (n = 4). Those who selected the privately or independently option were considered to not have used an agency while those who selected other were categorized into agency (n = 2) or no agency (n = 2) based upon their text responses.

Outcomes of interest included the receipt of medical and psychosocial screening and evaluation prior to the start of their most recent gestational carrier arrangement. These items were based upon the screening and evaluation items recommended by the ASRM and SART (8). Participants were asked to indicate whether they had each of the following: their own lawyer, received medical screenings, received a psychosocial evaluation, been advised about several medical and psychosocial risks and considerations, support from their partner and family and friends, and discussed medical and lifestyle issues with the intended parent(s). Participants were also asked about their alcohol use and their cigarette, tobacco, and nicotine use in the 6 months prior to their most recent arrangement. Whether each participant had at least one previous term, uncomplicated pregnancy was assessed, as well as the number of live births (categorized as ≤5 live births and >5 live births) and cesarean sections (categorized as ≤3 cesarean sections and >3 cesarean sections) prior to the arrangement.

Differences between gestational carriers using agencies and those not using agencies in age at delivery and number of own children (including biological, adopted, and step-children) were assessed using two sample t-tests with equal variances. Differences between groups for all other demographic and outcome variables were assessed using chi-squared tests and Fisher's exact tests for categorical variables. Statistical significance was assessed at $p < 0.05$. All analyses were conducted using Stata SE Version 14.0 (14). This study was approved by the UTMB Institutional Review Board (#15-0245).

Results

Of the 309 respondents who initiated the survey, 248 met eligibility criteria, and 222 completed the survey. Incomplete surveys (26/248), defined as those who did not respond to any demographic questions, were excluded from analysis. Of the 222 complete responses, 204 (91.9%) were gestational carriers and 18 (8.1%) were traditional surrogates. Traditional surrogates were excluded from these analyses. Among gestational carriers, 145 (71.1%) used an agency while 59 (28.9%) did not use an agency.

The mean age of respondents was 33.0 (standard deviation (SD) 5.3) and the mean number of own children was 2.7 (SD 1.4) (Table 1). Respondents were primarily white (92.6%), non-Hispanic (96.1%), married or living together (87.3%), and employed full-time (55.7%). Few participants had used public assistance in the last year (7.4%). The majority of participants (65.2%) were first time gestational carriers.

Most participants had their own lawyer (92.0%), had a previous term uncomplicated pregnancy (97.6%), received evaluation or counseling by a mental health professional (94.6%), and received a complete medical evaluation (97.1%) (Table 2). Among participants with a male partner, most (85.9%) indicated that the partner had a medical evaluation. Social support was high, with 95.7% indicating that they had support from their partner (if

partnered) and 92.6% indicating that they had support from family or friends. The majority of participants (93.6%) indicated that they did not drink more than 1 drink containing alcohol per day in the 6 months leading up to their arrangement and 100% of the participants indicated that they did not use cigarettes, tobacco, or nicotine.

Most participants reported that they had been advised of at least one medical risk listed (92.6%) and at least one psychosocial risk listed (89.7%) (Table 3). Participants were most likely to report that they had been informed of the risk of multiple pregnancy (89.2%) and least likely to report that they had been informed of the risk of potential impact on employment (46.6%). The majority of respondents indicated that they had discussed with the intended parent(s) prenatal diagnostic testing (91.7%), pregnancy termination (96.1%), and activity regarding travel, exercise, diet, and vitamin supplements (94.6%).

There were few differences between gestational carriers who used agencies and those who did not. Gestational carriers who used agencies were younger (32.5 years vs. 34.3 years) and had fewer of their own children (2.6 vs. 3.1) than those who did not use agencies (Table 1). Those who used an agency were more likely to be first time carriers than those who did not use an agency (69.7% vs. 54.2%). There were no differences between groups on other demographic measures, including relationship status, race, ethnicity, educational attainment, household income, religion, employment status, student status, health insurance, or use of public assistance in the last year.

In addition, there were no differences between gestational carriers who used agencies and those who did not on medical, legal, or social support measures. The majority of participants in each group had their own lawyer (93.0% for those using agencies vs. 89.5% for those not using agencies), received evaluation or counseling by a mental health professional prior to the arrangement (95.8% vs. 91.4%), and received a complete medical evaluation prior to the arrangement (96.6% vs. 98.3%) (Table 2). No differences were observed between groups on alcohol use or cigarette, tobacco, or nicotine use.

Finally, there were no differences between gestational carriers who used an agency and those who did not on psychosocial and counseling measures. The majority of participants indicated being advised of all of the medical risks listed (75.0% for those using agencies vs. 74.6% for those not using agencies) (Table 3), but fewer participants indicated that they had been informed of all of the psychosocial risks and considerations (40.0% vs. 35.6%). Most participants indicated that they had discussed with the intended parent(s) prenatal diagnostic testing (89.7% vs. 96.6%), pregnancy termination (95.1% vs. 98.3%), and lifestyle activities (95.2% vs. 93.2%), such as travel, exercise, diet, and vitamin supplements.

Discussion

The guidelines for screening and evaluation of parties involved in gestational carrier arrangements were developed to provide some consistency for providers and practices. To ensure that negative outcomes for all parties remain infrequent, the guidelines are intended to address a variety of medical and psychological risks inherent in gestational carrier arrangements (8). While overall self-reported screening of gestational carriers in the present

study was high, each measure was below 100%. Almost all participants reported being informed of risks related to procedures and medications, but were less likely to report discussing possible psychosocial consequences. It may be especially troubling that over ten percent of participants reported that they had not been informed of the risk of multiple pregnancy and over one quarter of participants reported that they were not informed of the demands and risks of the medical protocol, coping with the pregnancy, risks of attachment to the child, and risks to their own children and marriage or partnership. This suggests that further education of providers regarding guidelines for the use of gestational carriers may be needed to ensure that potential gestational carriers are adequately informed.

Though the ASRM has stated that gestational carriers should receive fair compensation, there may be ethical dilemmas when there are differences in socioeconomic status between gestational carriers and intended parents or when gestational carriers are economically disadvantaged (17). Overall, the majority of the participants in this study did not appear to be a socioeconomically vulnerable group, though approximately one in four participants reported a household income under $50,000 per year. The respondents were often highly educated, had moderate to high household income, were married or partnered, and few used public assistance. These results may dispel some concerns about the vulnerability or financial coercion of gestational carriers who live in the United States, though further research may be necessary to ensure that financial coercion is not occurring in the recruitment and use of gestational carriers.

This study also compared demographic characteristics and screening among gestational carriers using and not using agencies. While there were no differences in self-reported screening by agency use, there were some demographic differences between gestational carriers using and not using agencies. Whether the differences by agency use in age, number of own children, and being a first time carrier impact medical or psychological outcomes should be investigated, especially in light of a recent review finding a need for more and higher quality research into the outcomes of gestational carrier arrangements (3).

This study has several strengths. We surveyed 204 gestational carriers which exceeds the sample size of most prior social and behavioral studies on gestational carriers. Moreover, we obtained information on the screenings and evaluations they received prior to achieving pregnancy. This was also the first study to examine differences between gestational carriers using and not using agencies.

There are several limitations to this study. The survey relied entirely on participant self-report which is subject to recall bias. Future studies could include chart reviews to validate self-report of participants from each clinic attended throughout the screening process. The study was conducted online which did not allow for the calculation of a response rate since no population denominator was available. The results are not generalizable to all gestational carriers since those not engaging in social media or who did not have email addresses on file with agencies, lawyers, or infertility organizations were not contacted to participate. This may have affected our ability to detect differences between groups.

Gestational carrier arrangements are complicated, requiring the cooperation of multiple parties. As the number of gestational carrier cycles in the United States continues to increase (2), it is essential that potential gestational carriers continue to be screened prior to beginning an arrangement in order to ensure the best possible medical and psychosocial outcomes.

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Table 1

Demographic characteristics of gestational carriers (n = 204) by agency use.

	Total (n =204)	Used an agency (n = 145) n (%)	Did not use an agency (n = 59) n (%)	p-value*
Age at delivery, mean (SD)	33.0 (5.3)	32.5 (5.1)	34.3 (5.7)	0.033
Number of own children, mean (SD)	2.7 (1.4)	2.6 (1.4)	3.1 (1.4)	0.026
Race				0.339
White	187 (92.6)	134 (93.7)	53 (89.8)	
Other	15 (7.4)	9 (6.3)	6 (10.2)	
Ethnicity				0.443
Hispanic	8 (3.9)	7 (4.8)	1 (1.7)	
Non-Hispanic	196 (96.1)	138 (95.2)	58 (98.3)	
Education				0.372
High school diploma or GED	65 (31.9)	43 (29.7)	22 (37.3)	
Associate's degree	59 (28.9)	47 (32.4)	12 (20.3)	
Bachelor's degree	50 (24.5)	34 (23.5)	16 (27.1)	
Graduate or professional degree	30 (14.7)	21 (14.5)	9 (15.3)	
Relationship status				0.251
Married or living together	178 (87.3)	129 (89.0)	49 (83.1)	
Not married or living together	26 (12.8)	16 (11.0)	10 (17.0)	
Household income				0.394
$0–$24,999	8 (3.9)	4 (2.8)	4 (6.8)	
$25,000–$49,999	43 (21.2)	29 (20.1)	14 (23.7)	
$50,000–$74,999	56 (27.6)	39 (27.1)	17 (28.8)	
$75,000–$99,999	38 (18.7)	31 (21.5)	7 (11.9)	
$100,000 and up	58 (28.6)	41 (28.5)	17 (28.8)	
Religion				0.746
Christianity	105 (52.2)	75 (52.8)	30 (50.9)	
Other religion	22 (11.0)	14 (9.9)	8 (13.6)	
No religion	74 (36.8)	53 (37.3)	21 (35.6)	
Employment status				0.157
Employed full-time	113 (55.7)	83 (57.2)	30 (51.7)	
Employed part-time	48 (23.7)	36 (24.8)	12 (20.7)	
Not employed, looking for work	4 (2.0)	1 (0.69)	3 (5.2)	
Not employed, not looking for work	38 (18.7)	25 (17.2)	13 (22.4)	
Student status				0.367
Full-time student	17 (8.4)	14 (9.7)	3 (5.1)	
Part-time student	12 (5.9)	7 (4.9)	5 (8.5)	
Not a student	174 (85.7)	123 (85.4)	51 (86.4)	
Health insurance				0.330

	Total (n =204)	**Used an agency (n = 145) n (%)**	**Did not use an agency (n = 59) n (%)**	**p-value***
Private insurance (employer-based or direct)	191 (94.1)	134 (93.1)	57 (96.6)	
Medicaid or no health insurance	12 (5.9)	10 (6.9)	2 (3.4)	
Public assistance use in last year				1.000
Yes	15 (7.4)	11 (7.6)	4 (6.8)	
No	188 (92.6)	133 (92.4)	55 (93.2)	
First time carrier				0.036
Yes	133 (65.2)	101 (69.7)	32 (54.2)	
No	71 (34.8)	44 (30.3)	27 (45.8)	

* P-values calculated based on chi-squared or Fisher's exact tests for categorical variables and two sample t-tests with equal variances for continuous variables.

Table 2

Medical, legal, and social support factors by agency use for gestational carriers.

	Total (n =204)	Used an agency (n = 145) n (%)	Did not use an agency (n = 59) n (%)	p-value*
Had own lawyer				0.406
Yes	184 (92.0)	133 (93.0)	51 (89.5)	
No	16 (8.0)	10 (7.0)	6 (10.5)	
Previous term uncomplicated pregnancy				1.000
Yes	199 (97.6)	141 (97.2)	58 (98.3)	
No	5 (2.5)	4 (2.8)	1 (1.7)	
More than five live births before arrangement				0.448
Yes	13 (6.4)	8 (5.6)	5 (8.5)	
No	189 (93.6)	135 (94.4)	54 (91.5)	
More than three cesareans before arrangement				0.502
Yes	2 (1.0)	1 (0.7)	1 (1.7)	
No	199 (99.0)	141 (99.3)	58 (98.3)	
Received evaluation or counseling by a mental health professional before arrangement				0.207
Yes	191 (94.6)	138 (95.8)	53 (91.4)	
No	11 (5.5)	6 (4.2)	5 (8.6)	
Received complete medical evaluation before arrangement				0.675
Yes	198 (97.1)	140 (96.6)	58 (98.3)	
No	6 (2.9)	5 (3.5)	1 (1.7)	
Received sexually transmitted infection testing before arrangement				1.000
Yes	194 (95.1)	138 (95.2)	56 (94.9)	
No	10 (4.9)	7 (4.8)	3 (5.1)	
Received blood type and Rh factor testing before arrangement				0.810
Yes	178 (87.3)	126 (86.9)	52 (88.1)	
No	26 (12.8)	19 (13.1)	7 (11.9)	
Received Pap smear before arrangement				0.211
Yes	190 (93.1)	133 (91.7)	57 (96.6)	
No	14 (6.9)	12 (8.3)	2 (3.4)	
Received titers for rubella and varicella before arrangement				0.653
Yes	123 (60.3)	86 (59.3)	37 (62.7)	
No	81 (39.7)	59 (40.7)	22 (37.3)	
Received urine drug screen before arrangement				0.750
Yes	181 (88.7)	128 (88.3)	53 (89.8)	
No	23 (11.3)	17 (11.7)	6 (10.2)	

	Total (n =204)	Used an agency (n = 145) n (%)	Did not use an agency (n = 59) n (%)	p-value*
Received any medical screenings before arrangement				1.000
Yes	200 (98.0)	143 (98.6)	58 (98.3)	
No	4 (2.0)	2 (1.4)	1 (1.7)	
Male partner medical evaluation				0.423
Yes	152 (85.9)	110 (84.6)	42 (89.4)	
No	25 (14.1)	20 (15.4)	5 (10.6)	
Had support from partner (if partnered)				0.669
Yes, had support	176 (95.7)	126 (95.5)	50 (96.2)	
No, some support, not adequate	6 (3.3)	5 (3.8)	1 (1.9)	
No, no support	2 (1.1)	1 (0.8)	1 (1.9)	
Had support from family/friends				1.000
Yes, had support	188 (92.6)	133 (92.4)	55 (93.2)	
No, some support, not adequate	9 (4.4)	7 (4.9)	2 (3.4)	
No, no support	6 (3.0)	4 (2.8)	2 (3.4)	
Alcohol use >1 drink per day				0.528
Yes	13 (6.4)	8 (5.5)	5 (8.5)	
No	191 (93.6)	137 (94.5)	54 (91.5)	
Any cigarette, tobacco, or nicotine use				--not calculated
Yes	0 (0.0)	0 (0.0)	0 (0.0)	
No	204 (100.0)	145 (100.0)	59 (100.0)	

*P-values calculated based on chi-squared or Fisher's exact tests.

Table 3

Psychosocial and counseling factors by agency use for gestational carriers.

	Total (n =204)	Used an agency (n = 145) n (%)	Did not use an agency (n = 59) n (%)	p-value*
Total number of medical risks participants reported being advised about				0.526
0	15 (7.4)	9 (6.3)	6 (10.2)	
1–4	36 (17.7)	27 (18.8)	9 (15.3)	
5	152 (74.9)	108 (75.0)	44 (74.6)	
Total number of psychosocial risks and considerations participants reported being advised about				0.563
0	21 (10.3)	13 (9.0)	8 (13.6)	
1–10	104 (51.0)	74 (51.0)	30 (50.9)	
11	79 (38.7)	58 (40.0)	21 (35.6)	
Were you advised about:				
Any medical risks				0.332
Yes	188 (92.6)	135 (93.8)	53 (89.8)	
No	15 (7.4)	9 (6.3)	6 (10.2)	
Risk of medical procedures and medications				0.258
Yes	177 (87.2)	128 (88.9)	49 (83.1)	
No	26 (12.8)	16 (11.1)	10 (17.0)	
Risk of multiple pregnancy				0.425
Yes	181 (89.2)	130 (90.3)	51 (86.4)	
No	22 (10.8)	14 (9.7)	8 (13.6)	
Risk of pregnancy complications				0.404
Yes	175 (86.2)	126 (87.5)	49 (83.1)	
No	28 (13.8)	18 (12.5)	10 (17.0)	
Risk of prolonged bed rest				0.762
Yes	161 (79.3)	115 (79.9)	46 (78.0)	
No	42 (20.7)	29 (20.1)	13 (22.0)	
Risk of hospitalization				0.986
Yes	155 (76.4)	110 (76.4)	45 (76.3)	
No	48 (23.7)	34 (23.6)	14 (23.7)	
Any psychosocial risks or considerations				0.328
Yes	183 (89.7)	132 (91.0)	51 (86.4)	
No	21 (10.3)	13 (8.9)	8 (13.6)	
Potential psychological issues and risks				0.453
Yes	159 (77.9)	111 (76.6)	48 (81.4)	
No	45 (22.1)	34 (23.5)	11 (18.6)	
Demands and risks of medical protocol				0.651

	Total (n =204)	**Used an agency (n = 145) n (%)**	**Did not use an agency (n = 59) n (%)**	**p-value***
Yes	137 (67.2)	96 (66.2)	41 (69.5)	
No	67 (32.8)	49 (33.8)	18 (30.5)	
Need for agreement with intended parent(s) regarding medical issues				0.470
Yes	152 (74.5)	106 (73.1)	46 (78.0)	
No	52 (25.5)	39 (26.9)	13 (22.0)	
Role of mental health professional				0.640
Yes	151 (74.0)	106 (72.1)	45 (76.3)	
No	53 (26.0)	39 (26.9)	14 (23.7)	
Managing the relationship with the intended parent(s)				0.291
Yes	134 (65.7)	92 (63.5)	42 (71.2)	
No	70 (34.3)	53 (36.6)	17 (28.8)	
Coping with the pregnancy				0.440
Yes	130 (63.7)	90 (62.1)	40 (67.8)	
No	74 (36.3)	55 (37.9)	19 (32.2)	
Risks of attachment to the child				0.219
Yes	143 (70.1)	98 (67.6)	45 (76.3)	
No	61 (29.9)	47 (32.4)	14 (23.7)	
Risks to own children				0.223
Yes	125 (61.3)	85 (58.6)	40 (67.8)	
No	79 (38.7)	60 (41.4)	19 (32.2)	
Impact on marriage/partnership				0.527
Yes	128 (62.8)	89 (61.4)	39 (66.1)	
No	76 (37.3)	56 (38.6)	20 (33.9)	
Impact on employment				0.648
Yes	95 (46.6)	69 (47.6)	26 (44.1)	
No	109 (53.4)	76 (52.4)	33 (55.9)	
Right to privacy and intended parent right to information				0.733
Yes	135 (66.2)	97 (66.9)	38 (64.4)	
No	69 (33.8)	48 (33.1)	21 (35.6)	
With the intended parent(s), did you discuss:				
Prenatal diagnostic testing				0.103
Yes	187 (91.7)	130 (89.7)	57 (96.6)	
No	17 (8.3)	15 (10.3)	2 (3.4)	
Pregnancy termination				0.442
Yes	195 (96.1)	137 (95.1)	58 (98.3)	
No	8 (3.9)	7 (4.9)	1 (1.7)	
Activity regarding travel, exercise, diet, and vitamin supplements				0.733

	Total (n =204)	**Used an agency (n = 145) n (%)**	**Did not use an agency (n = 59) n (%)**	**p-value***
Yes	193 (94.6)	138 (95.2)	55 (93.2)	
No	11 (5.4)	7 (4.8)	4 (6.8)	

* P-values calculated based on chi-squared or Fisher's exact tests.