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Introduction

- For many female physicians, residency training coincides with their peak child-bearing years.
- Previous work has shown higher rates of infertility among surgeons and surgical trainees, specifically among Otolaryngologists (OHNS).¹
- While there have been a few studies on pregnancy outcomes and the culture surrounding pregnancy in the field of surgery,^{2,3,4} this has not yet been studied among female OHNS to the best of our knowledge.

Objectives

Investigate the relationship between a demanding career and fertility and pregnancy outcomes, and how surgeons, especially Otolaryngologists, compared to non-surgeons.

Methods

- An anonymous REDCap survey was distributed from October 2021 to January 2023 via email to members of the Association of Women Surgeons, the American Medical Women's Association, and Women in Otolaryngology.
- Inclusion criteria: Female at birth, MD or DO, completed or enrolled in ACGME accredited training program and/or are board-certified or board-eligible.
- Participants were subdivided into Surgical Physicians (SP) or Non-Surgical Physicians (NSP).
- Descriptive statistics along with mean and percent differences were calculated and compared using chi-square, student's t-test, and multinomial logistic regression analysis.

Acknowledgments

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Participant Demographics

	Surgical Physicians (SP)	Non-Surgical Physicians (NSP)
Total % (n)	60.6 (285)	39.4 (185)
Specialty		
CT Surgery	0.9 (4)	-
General Surgery	36.0 (170)	-
OBGYN	11.0 (52)	-
OMFS	0.4 (2)	-
Ophthalmology	0.6 (3)	-
Orthopedic Surgery	1.3 (6)	-
Otolaryngology	6.0 (28)	-
Plastics	1.9 (9)	-
Urology	1.1 (5)	-
Vascular Surgery	1.3 (6)	-
Dermatology	-	1.7 (8)
EM	-	4.9 (23)
Family Medicine	-	6.4 (30)
IM	-	12 (58)
Neurology	-	0.6 (3)
Pathology	-	0.2 (1)
Pediatrics	-	8.1 (38)
PM&R	-	0.2 (1)
Psychiatry	-	3.4 (16)
Radiology	-	0.6 (3)
Anesthesia	-	0.9 (4)

Table 1 continued	SP	NSP
Practice Setting		
Hospital	39.1 (170)	47.4 (130)
Academics	42.5 (185)	30.6 (84)
Private Practice	8 (35)	13.1 (36)
Research	6.4 (28)	2.9 (8)
Other	4 (17)	6 (16)
Race		
Caucasian	70.0 (210)	61.0 (114)
Asian/Pacific Islander	15.0 (46)	20.0 (37)
Hispanic/Latino	7.0 (21)	7.0 (13)
Middle Eastern	3.0 (9)	4.3 (8)
African American	2.7 (8)	4.3 (8)
Prefer not to answer	0	2.1 (4)
Other	1.3 (4)	1.6 (3)
Age in years		
20-29	16.5 (47)	28.1 (52)
30-39	51 (146)	66.5 (123)
40-49	21 (59)	4.3 (8)
50-59	6.7 (19)	0.5 (1)
60-69	3.5 (10)	0.5 (1)
70 or above	1.4 (4)	0

Table 1: The most represented specialty was General Surgery, followed by Internal Medicine. Most participants were between 30-39 years of age, practiced in a hospital or academic setting and identified as Caucasian.

Top 5 Pregnancy Complications

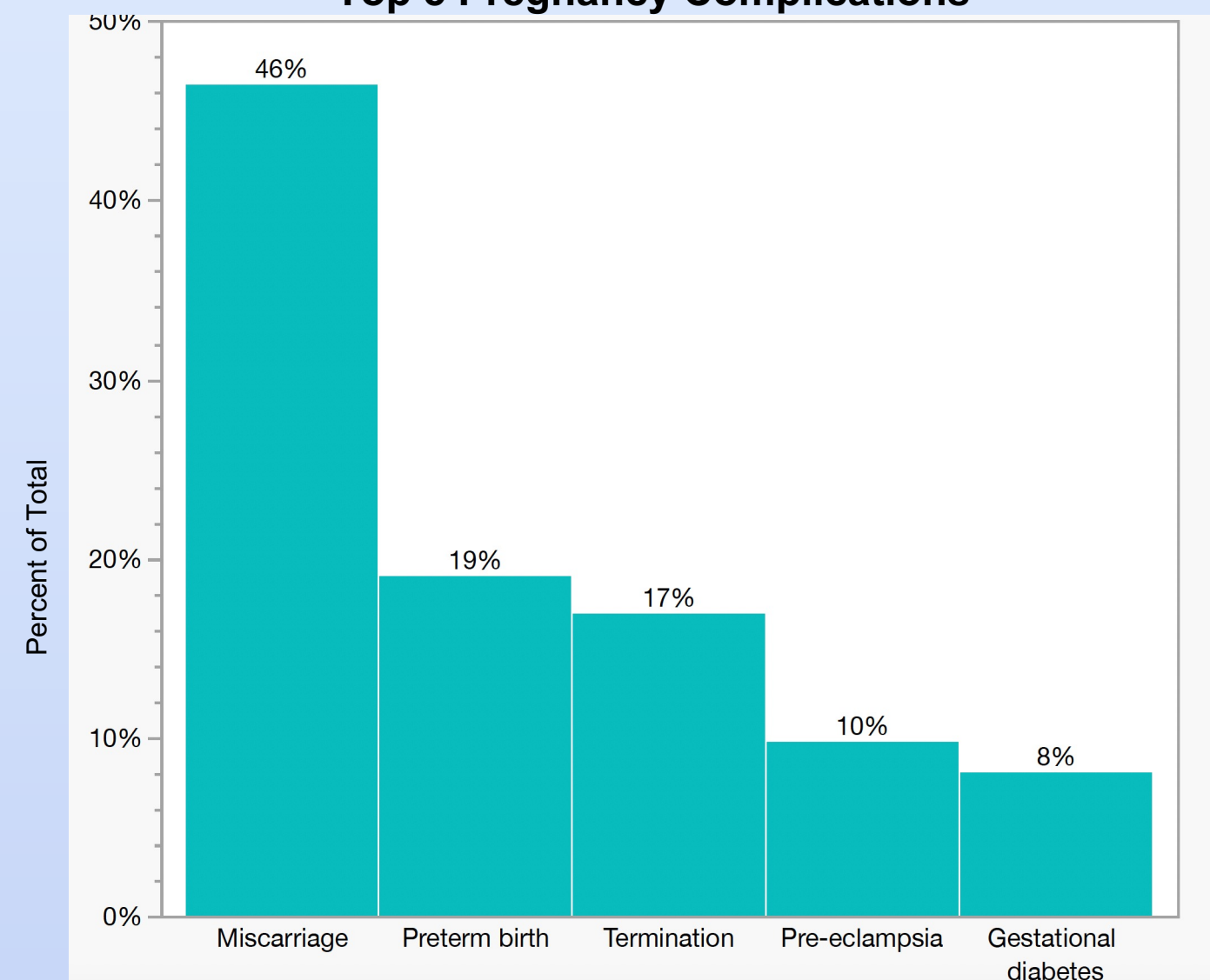


Figure 1: The most common reported pregnancy complication among physicians overall was miscarriage, followed by preterm birth.

Results

Infertility, Complications, and Pregnancy Statistics

Survey Question	OHNS (n=28)	Other Surgical Specialties (n=257)	SP (n=285)	NSP (n=185)	Overall (n=470)
Percent diagnosed with Infertility	21.4	18.7	18.9**	10.8**	15.7
Percent who sought interventions to get pregnant	25.9	17.7	18.5**	8.7**	14.6
Average Complication per Participant (in number of pregnancies)	1.8	1.9	1.9**	1.4**	1.7
Age when first attempting pregnancy (in years)	30.9	32.0	31.9**	30.2**	31.3
Percent who first attempted pregnancy at age 35 or older	0	25.0	23.0	5.9	17.2
Length of maternity leave (In Weeks)	8.9	8.8	8.8	9.7	9.1
Participants who felt they had adequate time to breastfeed	46.7	53.4	52.5	45.0	50.0
Participants who felt they had adequate maternity leave time	33.3	41.0	40.0	46.7	42.2
Participants felt they had adequate breastfeeding accommodations	46.7	44.7	44.9	36.7	42.1
Rate of pregnancies working over 13 hours daily & daily on their feet, respectively (in percentages)	23.4; 3.4	33.2; 17.0	32.1; 15.5	17.8; 3.5	27.1; 11.4

Table 2: SPs were twice as likely than NSPs to report a diagnosis of infertility (OR:1.93, 95% CI: 1.12 - 3.34) and more likely to seek infertility treatments, (OR:2.40, 95% CI:1.32-4.35), as well as had more complications during pregnancy (MD: 0.58, 95% CI: 0.02-1.14) and had a greater percentage of participants who first attempted pregnancy at age 35 or older (PD: 17%, 95% CI:8.0-25.0%). **p<0.05, OR: Odds Ratio, MD: Mean difference, PD: Percent difference.

A lower percentage of OHNS felt that their maternity leave and time to breastfeed was adequate compared to other SPs, but a higher percentage of OHNS reported they had adequate breastfeeding accommodations. OHNS were less likely than other SPs to work over 13 hours daily on their feet during pregnancy.

Reasons for Stopping Breastfeeding

Reason For Stopping Breastfeeding	Percentage of Participants
I stopped when I wanted to	29.0
My work schedule made it difficult	28.0
I struggled with it (e.g., poor latching, etc.)	15.0
I did not have the proper accommodations at work	11.0
Other	9.0
I did not want to anymore	6.0
Mom/baby preferred formula	3.0

Table 3: Though most participants reported stopping when they wanted to, the second most cited reason stopping breastfeeding was a difficult work schedule.

Reasons for Avoiding Pregnancy

Reason for Avoiding Pregnancy	Percentage of Participants
I do not want children right now, but I may in the future	30.0
I feel it would negatively affect my career	21.0
Relationship Status	19.0
Financial Security	15.0
I feel that I would be judged/discriminated against at work	8.0
I do not want children	4.0
Other	4.0

Table 4: Although most participants reported wanting children later as their reason for avoiding pregnancy, the second most cited reason was due to concerns about their careers.

Discussion

- Our results suggest that SPs are more likely to become pregnant at a later age, report infertility and seek treatment for it, experience pregnancy complications, and work longer hours during pregnancy than NSPs.
- OHNS specifically reported a higher rate of infertility compared to other SPs, and a lower percentage of them felt their maternity leave was adequate.
- A lower percent of SPs felt they had enough time for maternity leave, and breastfeeding compared to NSPs.

Conclusions

- There is an association between complications around pregnancy and the demanding schedule of a surgical career.
- Our survey results suggest there is much more that can be done to support female surgeons and physicians in general regarding maternity leave and breastfeeding time and accommodations.

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