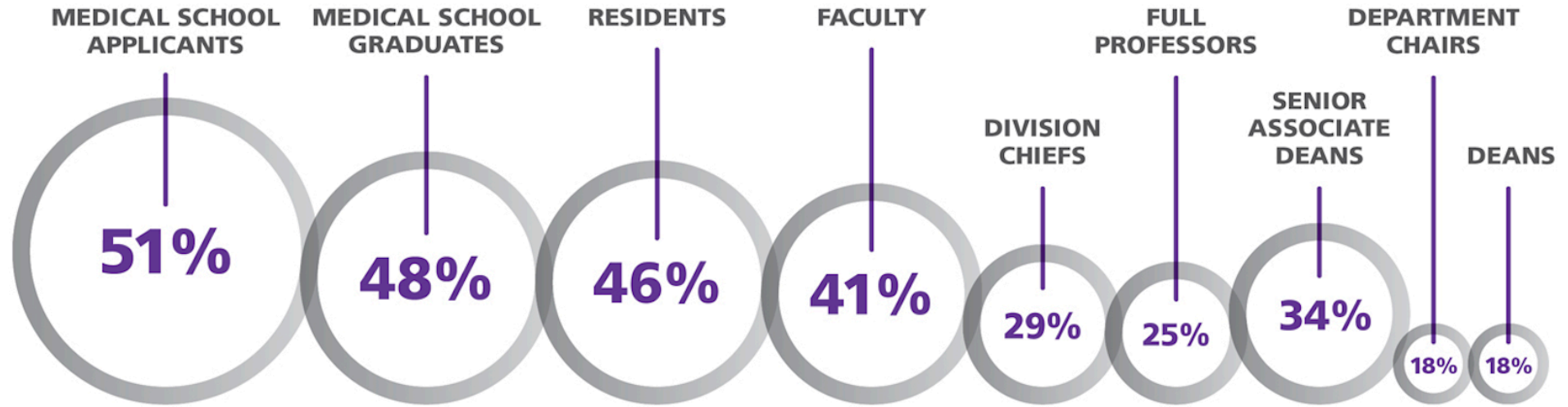


OCCUPATIONAL CHALLENGES DURING PREGNANCY AND THE PERIPARTUM PERIOD FOR WOMEN IN ANESTHESIOLOGY & DENTISTRY

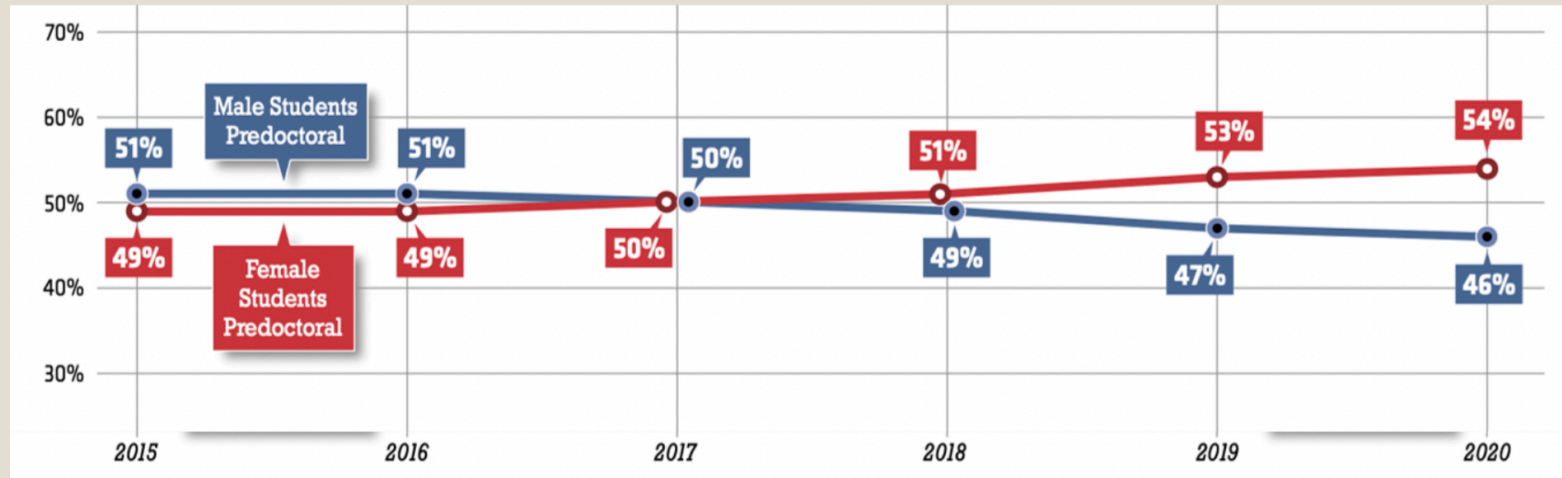
SUMR Scholars: Shivani Iyer DMD Candidate & Riya Patel DMD Candidate
Mentors: Dr. Caiomhe Duffy, Dr. Emily Vail, & Dr. Joan Gluch

Background of Women in Anesthesiology and Dentistry

REPRESENTATION OF WOMEN IN ACADEMIC MEDICINE 2018-2019



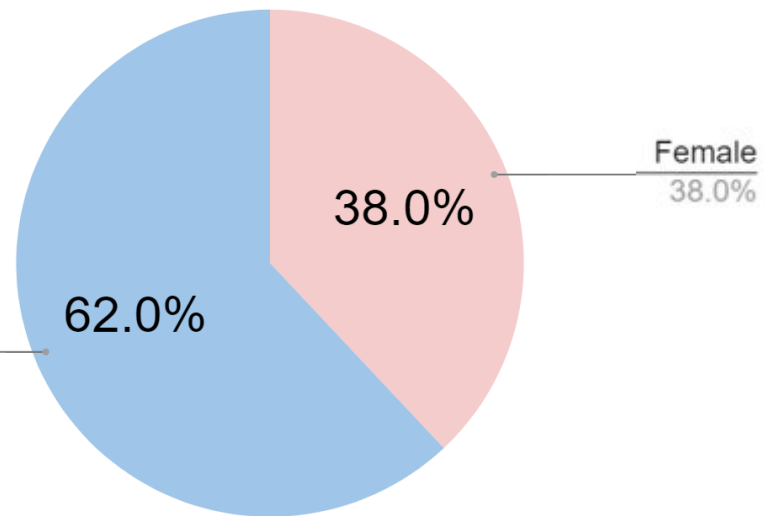
Dentists



ADEA

Anesthesiologists

Anesthesiology Gender Ratio



Kraus et al, 2022



WHY IS THIS
IMPORTANT?

"The historic **lack of parental leave policies** reflects a bygone era when single men who lived at the hospital were the predominant group among medical trainees. That is no longer the case, and our **educational system has failed to keep up with the changing demographics**. By addressing exigencies and complexities to develop robust parental leave policies, we inherently celebrate the gender diversity of our workforce today and acknowledge the negative impact inaction may have on our female trainees"

Webb et al., 2019

Research Aims

1. Characterize women's personal experiences of **pregnancy, childbirth, recovery, and breastfeeding** while working as academic anesthesiologists in the United States
2. Describe the perceived impact of pregnancy and child raising on **academic career advancement** in the field
3. Collate and Summarize current anesthesiology **departmental policies** relating to prepartum/peripartum workplace practices
4. Use findings to develop a **proposal** for national professional society guidelines

Project Overview

01

Systematic Literature Review

02

Survey of Penn School and
Department Leaders

03

Multi-Institutional Cross Sectional
Survey/Semi Structured Interview

04

Draft New Peripartum Guideline
Recommendations

Our Role This Summer

01

Systematic Literature Review

02
Survey of Penn School and
Department Leaders

03

Multi-Institutional Cross Sectional
Survey/Semi Structured Interview

04

Draft New Peripartum Guideline
Recommendations

Overview of Methodology for Literature Review

Step One

- Create a List of MeSH Terms/Boolean Search Operators/Querys
- Identify Useful Databases

Step Two

- Conduct Covidence Screening (Title and Abstract)
- Establish a Decision Tree

Step Three

- Read Articles and Pull out Key Themes/Major Findings
- Organize Articles in Excel

- (Academic medicine) AND (maternity leave)
- (Anesthesiologists) AND (maternal leave) AND (women)
- (anesthesiologist) AND (parenthood)
- ((Anesthesiology Fellowship) AND (Paternal Leave) AND (Program Director) (childbearing) AND (anesthesiologists)
- (parenthood) AND (academic medicine) AND (sexism)
- ((parenthood) AND (academic medicine)) AND (surveys and questionnaires)
- (Child rearing) AND (academic medicine) AND (female)
- ("Anesthesiology"[MAJR] AND "Parental Leave"[MeSH]) AND "Surveys and Questionnaires"[MeSH]
- "Physicians"[MAJR] AND "Parental Leave"[MAJR] AND (guidelines)
- "Physicians"[MAJR] AND (pregnancy) AND (lactation) AND (guidelines)
- "Physicians"[MAJR] AND (pregnancy) AND (job promotion)
- "Physicians"[MAJR] AND (pregnancy) AND (job advancement)
- "Physicians/psychology"[MAJR] AND (mothers) AND (career satisfaction)
- "Physicians"[MAJR] AND (mothers) AND (career policies)
- (Academic medicine) AND (maternity leave) AND (career policies)
- (Female physicians) AND (pregnancy) AND (workplace bias)
- (Female physicians) AND (childcare) AND (workplace bias)
- (Female physicians) AND (parenthood) AND (gender equity)
- (Female physicians) AND (pregnancy) AND (leave of absence)
- (Female physicians) AND (pregnancy) AND (work life balance)
- (Academic medicine) AND (sexism) AND (anesthesiology)
- ((physician) AND (parental leave) AND (female)) AND ((lactation) OR (breastfeeding)) AND ((policies) OR (guidelines)) NOT (nurse)
- ((physician) AND (parental leave) AND (female)) AND (faculty development) AND ((policies) OR (guidelines)) NOT (nurse)
- ((physician) AND (parental leave) AND (female)) AND (policy development)

Using

 PubMed

46

Total Search
 Combinations

Covidence- Title & Abstract Screening

NIH National Library of Medicine
National Center for Biotechnology Information

Log in

PubMed®

(Academic medicine) AND (sexism) AND (anesthesiology) Search

Advanced Create alert Create RSS User Guide

Save Email Send to Sort by: Best match Display options

MY NCBI FILTERS 18 results Page 1 of 2

RESULTS BY YEAR

TEXT AVAILABILITY

Abstract

Free full text

Full text

ARTICLE ATTRIBUTE

Associated data

ARTICLE TYPE

Books and Documents

Clinical Trial

Meta-Analysis

Randomized Controlled Trial

Review

Systematic Review

PUBLICATION DATE

Women Physicians and Promotion in **Academic Medicine**.

1 Richter KP, Clark L, Wick JA, Cruvinel E, Durham D, Shaw P, Shih GH, Befort CA, Simari RD. N Engl J Med. 2020 Nov 26;383(22):2148-2157. doi: 10.1056/NEJMs1916935. PMID: 33252871

Share

BACKGROUND: In 2020, a landmark study showed that women who graduated from U.S. medical schools from 1979 through 1997 were less likely than their male counterparts to be promoted to upper faculty ranks in **academic** medical centers. ... (Funded by the University of Ka ...

Women in anaesthesia: a scoping review.

2 Bosco L, Lorello GR, Flexman AM, Hastie MJ. Br J Anaesth. 2020 Mar;124(3):e134-e147. doi: 10.1016/j.bja.2019.12.021. Epub 2020 Jan 23. PMID: 31983412 Free article. Review.

Share

Despite an increase in the proportion of women anaesthesiologists over time, women remain under-represented in **academic** and leadership positions, honour awards, and **academic** promotion. ... Our review provides an overview of the literature that explores gender issues ...

Current status and solutions for gender equity in anaesthesia research.

3 Flexman AM, Shillcutt SK, Davies S, Lorello GR. Anaesthesia. 2021 Apr;76 Suppl 4:32-38. doi: 10.1111/anae.15361. PMID: 33682100 Free article. Review.

Share

Despite increasing numbers of women entering anaesthesia, they remain persistently under-represented within **academic** anaesthesia and research. Gender discordance is seen across multiple aspects of research, including authorship, editorship, peer review, grant receipt, spea ...

Status of Women in **Academic Anesthesiology**: A 10-Year Update.

4 Bissing MA, Lange EMS, Davila WF, Wong CA, McCarthy RJ, Stock MC, Toledo P. Anesth Analg. 2019 Jan;128(1):137-143. doi: 10.1213/ANE.0000000000003691. PMID: 30096082

Share

BACKGROUND: Gender inequity is still prevalent in today's medical workforce. Previous studies have

Import

Import from file Import history

References can be imported using the EndNote XML format, the PubMed format, or the RIS text format.

Import in to

Screen

Source (optional)

PubMed

Cannot find the source you need? Manage sources

Choose File

No file selected.

Import

Title and abstract screening

Screen references 1 Resolve conflicts 0 Awaiting other reviewer 0 Irrelevant references 88

All Filter Tags Add criteria Add highlights Hide abstracts Display: 25 Most relevant

#190 - Heesen 2021

Labor neuraxial analgesia and breastfeeding: An updated systematic review.

Heesen P, Halpern SH, Beilin Y, Mauri PA, Eidelman LA, Heesen M, Orbach-Zinger S J Clin Anesth Feb 2021;68():110105 United States 2021 Feb DOI: 10.1016/j.jclinane.2020.110105 Ref ID: 33069970

Abstract

INTRODUCTION: There have been numerous reports studying the effect of neuraxial analgesia on breastfeeding success, but the results are inconsistent. METHODS: We performed a literature search in various databases for studies comparing neuraxial analgesia to non-neuraxial or no analgesia. Outcomes were the percentage of women breastfeeding fully or mixed with formula. Where possible, nulliparous parturients were analyzed separately. We conducted an analysis excluding studies of serious and critical risk of bias. Odds ratios and 95% confidence intervals were calculated. RESULTS: We included 15 studies (13 observational studies, 1 secondary analysis of a randomized controlled trial, 1 case-control study) with 16,112 participants. Overall, there were 6 studies that found no difference between groups, 6 studies that showed a significantly lower incidence of breastfeeding in the neuraxial group and 3 studies finding mixed results (at some time-points statistically significant and at some time-point statistically non-significant results). In nulliparous only studies, 2 found no difference between study groups, 1 found a lower breastfeeding rate in the neuraxial group and 3 studies showed mixed results. Excluding studies with a serious and critical risk of bias, 1 study found no difference between study groups, 3 studies found a decrease of breastfeeding rates in the neuraxial group, and 1 study showed mixed results. DISCUSSION: In our review we found a high disparity in results. One reason is probably the high potential of confounding (immediate skin to skin placement, maternity leave etc.). Education programs and breastfeeding support are likely more important in determining long term breastfeeding success.

Note History Duplicate

Decision Tree – Inclusion Criteria

Yes

- Fits search criteria and question
- Not exact fit but possibly relevant
 - Different specialty
 - Different caregiving problem
 - Different country
 - Relevant to survey

Maybe

- Not sure if fits search
- Second reviewer/ opinion required

No

- Does not fit within scope of search criteria/question
- Off Topic Completely
 - Ex. Basic Science
 - Ex. Patient Care
 - Ex. Disease

Literature Review – Dentistry

EBSCO

FULL-TEXT DATABASE

Dentistry & Oral Sciences Source

Dentistry & Oral Sciences Source is the definitive full-text research database for dental practitioners and researchers. It offers top dental and oral sciences journals commonly purchased by dental schools and related institutions.

- Organized Meeting with Dental Librarian Laurel Graham
- **31 Articles About Dentistry**
- Strong Focus on Dental Nursing: Journal – "*Dental Nursing*"

Leon Levy Dental Medicine Library

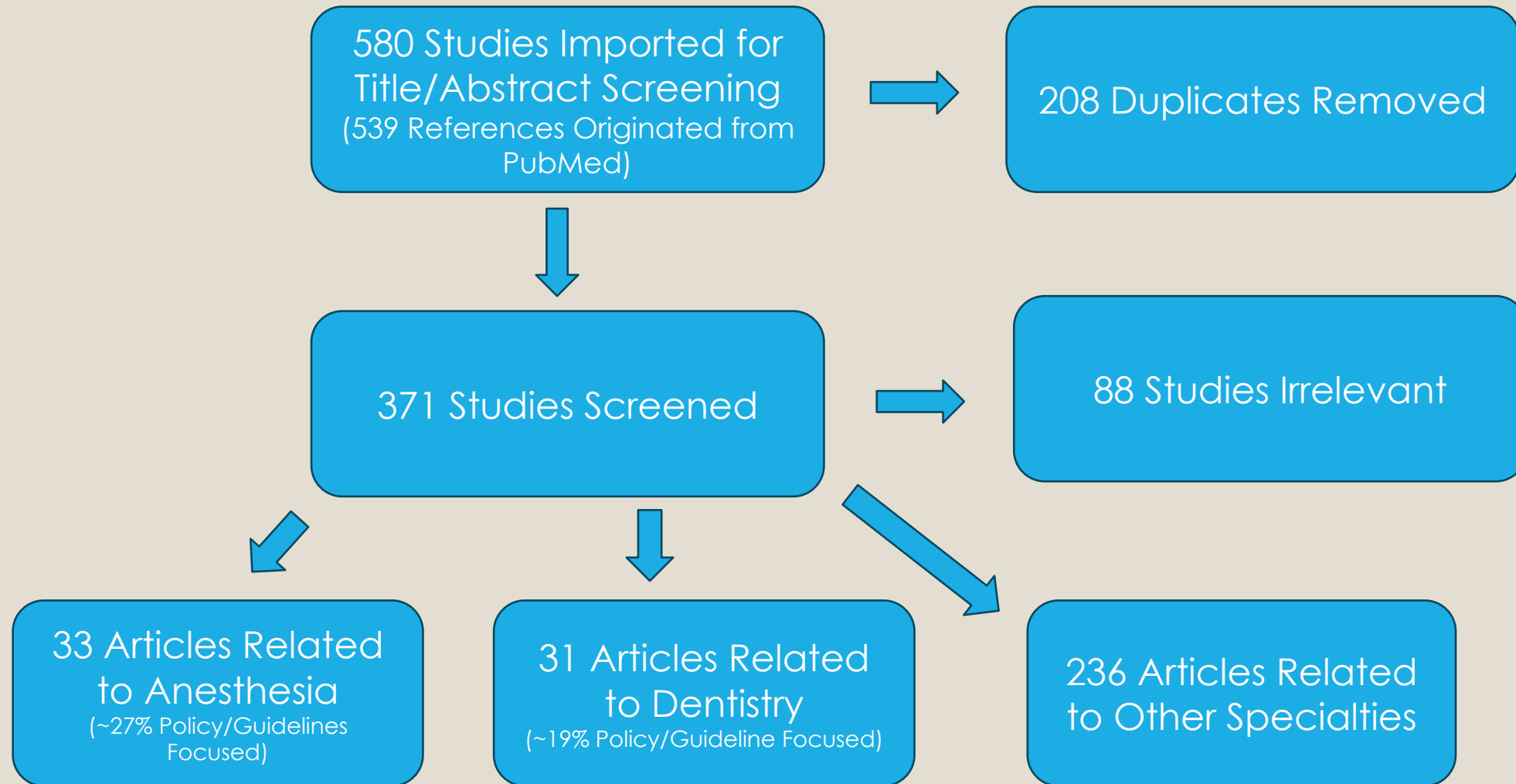
Today's Hours: 9am - 5pm | **LIBRARY HOURS** →

Phone: [215-898-8969](tel:215-898-8969)

Email: dentlib@pobox.upenn.edu

Location: 240 South 40th St.
Philadelphia, PA 19104-6041 | **DIRECTIONS** →

PRISMA

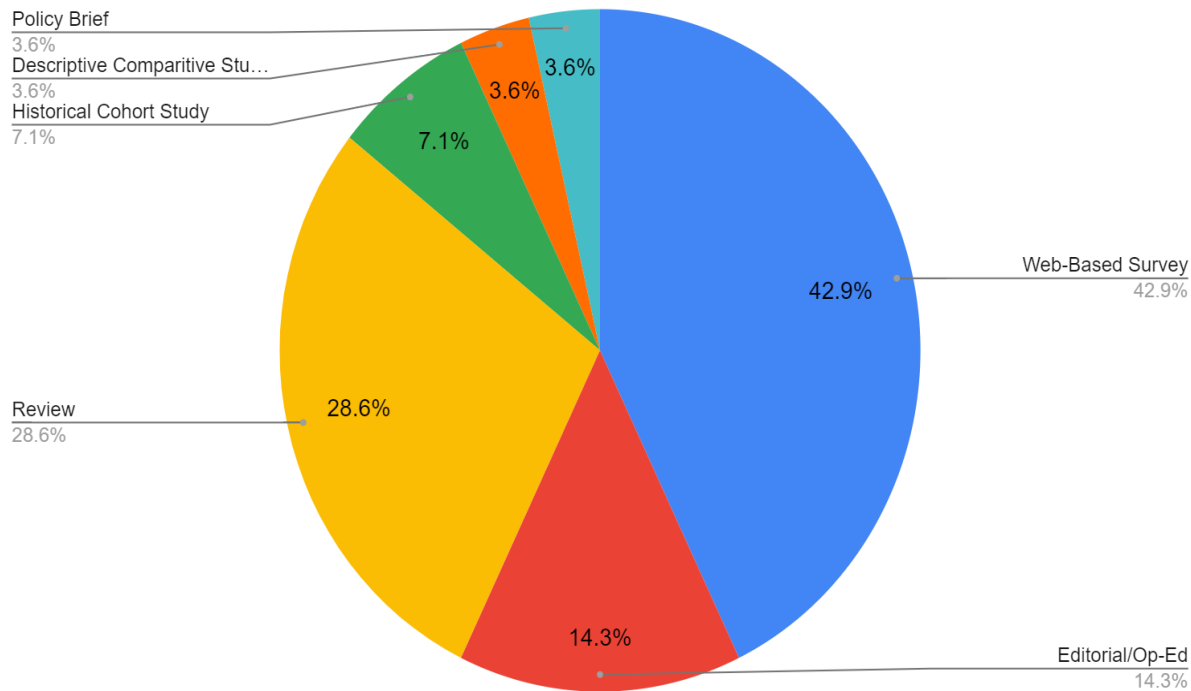


Reviewing Articles & Organizing In Excel

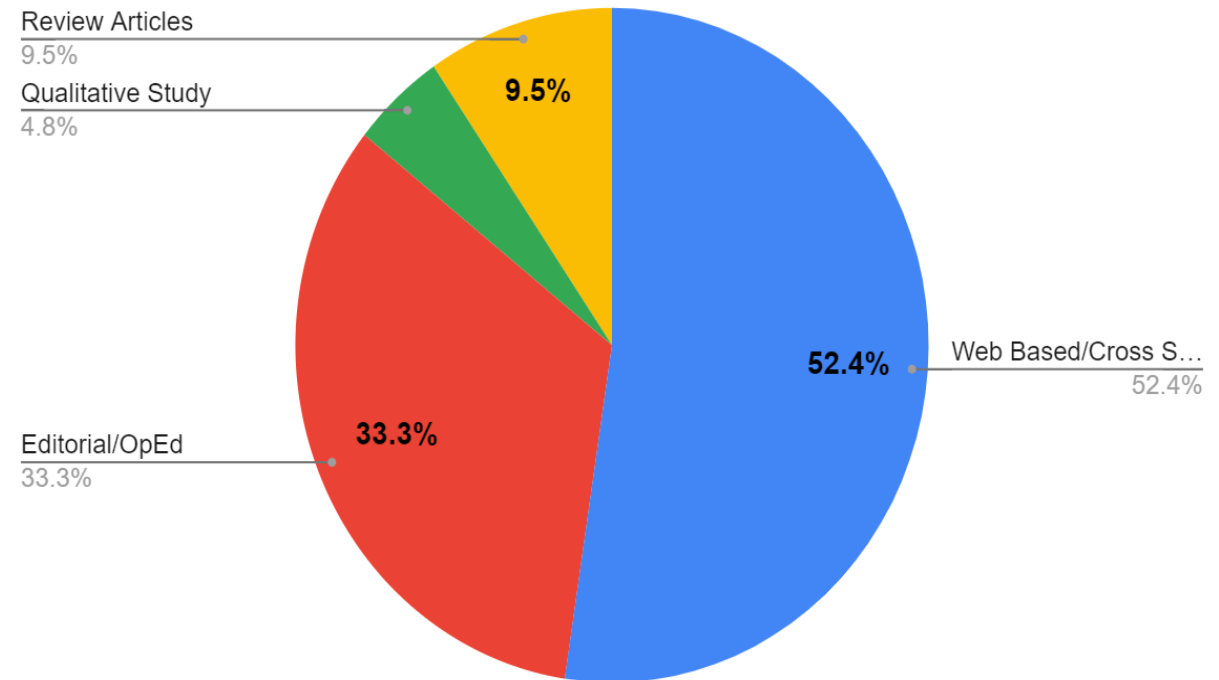
Title	PMID	Type of Study/Article	Year Published	Study Size (n=)	Subject Focused On	Exposure	Nation	Outcome	Relevant for Making Survey Questions	Other
Motherhood and Anesthesiology: A Survey of the American Society of Anesthesiologists	31923001	web-based survey	2020	1827 respondents	residency, faculty training, fellowship	parenthood, pregnancy, residency	United States	"1 in 10 female anesthesiologists recommend against career in anesthesiology due to obstacles with motherhood and job demands"	Yes	
A cross-sectional survey study of United States residency program directors' perceptions of parental leave and pregnancy among anesthesiology trainees	34159567	web-based survey	2021	56 respondents	program directors, residents	pregnancy, parental leave/parental leave policies, career advancement, job performance, gender equity/bias	United States	"Anesthesiology Program directors perceived that becoming a parent negatively affects the work performance of female but not male trainees. These negative perceptions could impact evaluations and future plans of female anesthesiology residents"	Yes	Cited this article (DOI: 10.1016/j.jamcollsurg.2015.12.004) in methods section as a source that was used to help create survey
A Nationwide Cross-Sectional Survey of Anesthesiology Fellowship Program Directors: Attitudes on Parental Leave in Residency and Fellowship Training.	35652001	web-based survey	2022	101 respondents	fellowship directors, residents	parental leave, parental leave policy, career advancement, job performance, gender equity/bias	United States	"Most [anesthesiology] fellowship directors believed that becoming a parent had no impact on fellow performance and professionalism; more respondents perceived a greater <u>negative impact on scholarly activities, standardized test scores, and procedural volume</u> for female trainees than male trainees...fellowship directors perceive that anesthesiology <u>residents who finish training outside the typical graduation cycle are at a disadvantage</u> for fellowship training"	Yes	
Pilot Survey of Female Anesthesiologists' Childbearing and Parental Leave Experiences	31094811	web-based survey	2019	66 Respondents	Attending Anesthesiologists (and their experiences during residency or fellowship)	pregnancy, child birth, recovery, breastfeeding, work accommodations	United States	"While approximately half of respondents reported dissatisfaction with their colleagues' and superiors' handling of their parental leave and/or lactation needs, 98.2% would not counsel a female student against a career in anesthesiology"	Yes (Check Table 2 of Results)	
Gender equity in anesthesia: is it time to rock the boat?	36882715	Editorial Article	2023	N/A	Attending Anesthesiologists (and their experiences during residency or fellowship)	pregnancy, parental leave, breastfeeding, childcare, medical training and practice, career advancement, gender equity/bias	United States	"A current work culture change should be implemented to create a much-needed support-system for mothers, fathers, and breastfeeding anesthesiologists" - article addresses multiple forms of gender bias that women in anesthesiology encounter (outside of bias tied to pregnancy/motherhood)	No	Use of the term "Mother Penalty" in relation to gender biases female anesthesiologists who are mothers often encounter

Distribution of Study Design Across Anesthesiology and Dental Articles:

Distribution of Study Design Across all Anesthesiology Articles



Distribution of Study Design Across all Dentistry Articles





KEY THEMES FROM LITERATURE REVIEW

Major Themes Across All Articles

Maternity/Parental
Leave

Gender Bias/Equity/
Roles

Breastfeeding and
Lactation

Workplace
Accommodations

Policy and
Guidelines (and a
lack thereof)

Career
Advancement
Opportunities

Childcare Options

Job Re-Entry

Work-Life Balance

"The majority (84%) of women anesthesiologists indicated that **extra workload and less personal time were barriers to an academic/leadership career**. The need to spend time outside of professional work to care for family members and the lack of part-time opportunities, were identified as additional barriers by approximately two-thirds of women anesthesiologists. **Lack of comprehensive and affordable childcare** was noted by about half of the women. Considerations related to the partner (**lack of partner support or considerations related to the career development of the partner**) were last on the list of barriers reported by women who declared they were 'in a relationship'"

BJA

British Journal of Anaesthesia, 124 (3): e171–e177 (2020)

doi: [10.1016/j.bja.2020.01.005](https://doi.org/10.1016/j.bja.2020.01.005)

Advance Access Publication Date: 21 January 2020

Clinical Investigation

Women anaesthesiologists' attitudes and reported barriers to career advancement in anaesthesia: a survey of the European Society of Anaesthesiology

Idit Matot^{1,*}, Stefan De Hert², Barak Cohen^{1,3} and Thea Koch⁴

¹Division of Anaesthesia, Intensive Care and Pain Medicine, Tel Aviv Medical Center, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel, ²Department of Anaesthesiology and Perioperative Medicine, Ghent University Hospital, Ghent University, Ghent, Belgium, ³Outcomes Research Consortium, Cleveland Clinic, Cleveland, OH, USA and

⁴Department of Anesthesiology and Intensive Care Medicine, University Hospital Carl Gustav Carus Dresden, Technische Universität, Dresden, Germany

*Corresponding author. E-mail: iditm@tlvmc.gov.il

> [Pediatr Dent](#). 1992 Mar-Apr;14(2):100-4.

The experiences of women pediatric dental residents: a survey

E S Barr ¹, N S Seale, W F Waggoner

"This section elicited many comments concerning the wish to have flexible, pre-established and preannounced **maternity leave policies** that would not impose a hardship on fellow residents"

"When asked whether their programs allowed flexibility for **child care** when the need arose, 34 (16%) agreed that the programs were flexible, and 103 (49%) disagreed or strongly disagreed"

Next Steps

01

Multi-Institutional Cross Sectional
Survey/Semi Structured Interview

02

Draft New Peripartum Guidelines

03

Complete Research for Dental
Policies and Guidelines

04

Write a Peer-Reviewed Publication

Lessons Learned

- Conducting a Literature Review
- Using Search Platforms/Methods
- Examining Policy and Guidelines
- Value of an Interdisciplinary Team



Acknowledgements

- To Our Mentors- Dr. Emily Vail, Dr. Caiomhe Duffy, and Dr. Joan Gluch
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- Head of Dental Library – Laurel Graham
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- Margaret Yang, Dr. Uri Hangorsky, & Penn Dental Medicine



QUESTIONS?