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
Dentists

Anesthesiologists

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/Queries
- 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 (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)
Covidence- Title & Abstract Screening

References can be imported using the EndNote XML format, the PubMed format, or the RIS text format.
# Decision Tree – Inclusion Criteria

<table>
<thead>
<tr>
<th>Yes</th>
<th>Maybe</th>
<th>No</th>
</tr>
</thead>
</table>
| • Fits search criteria and question  
• Not exact fit but possibly relevant  
• Different specialty  
• Different caregiving problem  
• Different country  
• Relevant to survey | • Not sure if fits search  
• Second reviewer/opinion required | • Does not fit within scope of search criteria/question  
• Off Topic Completely  
• Ex. Basic Science  
• Ex. Patient Care  
• Ex. Disease |
Organized Meeting with Dental Librarian Laurel Graham
• 31 Articles About Dentistry
• Strong Focus on Dental Nursing: Journal – "Dental Nursing"
580 Studies Imported for Title/Abstract Screening (539 References Originated from PubMed)

208 Duplicates Removed

371 Studies Screened

88 Studies Irrelevant

33 Articles Related to Anesthesia (~27% Policy/Guidelines Focused)

31 Articles Related to Dentistry (~19% Policy/Guideline Focused)

236 Articles Related to Other Specialties
<table>
<thead>
<tr>
<th>Title</th>
<th>PMID</th>
<th>Type of Study/Article</th>
<th>Year Published</th>
<th>Study Size (n=)</th>
<th>Subject Focused On</th>
<th>Exposure</th>
<th>Nation</th>
<th>Outcome</th>
<th>Relevant for Making Survey Questions</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motherhood and Anesthesiology: A Survey of the American Society of</td>
<td>31923001</td>
<td>web-based survey</td>
<td>2020</td>
<td>1827 respondents</td>
<td>residency, faculty training, fellowship</td>
<td>parenthood, pregnancy, residency</td>
<td>United States</td>
<td>“1 in 10 female anesthesiologists recommend against career in anesthesiology due to obstacles with motherhood and job demands”</td>
<td>Yes</td>
<td>Cited this article [DOI: 10.1016/j.annfog.2015.12.004] in methods section as a source that was used to help create survey</td>
</tr>
<tr>
<td>Anesthesiologists’ perceptions of parental leave and pregnancy among</td>
<td>34159567</td>
<td>web-based survey</td>
<td>2021</td>
<td>56 respondents</td>
<td>program directors, residents</td>
<td>pregnancy, parental leave/parental leave policies, career advancement, job performance, gender equity/bias</td>
<td>United States</td>
<td>“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”</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Anesthesiology Fellowship Program Directors: Attitudes on Parental</td>
<td>35652001</td>
<td>web-based survey</td>
<td>2022</td>
<td>101 respondents</td>
<td>fellowship directors, residents</td>
<td>parental leave, parental leave policy, career advancement, job performance, gender equity/bias</td>
<td>United States</td>
<td>Most (anesthesiology) fellowship directors believed that becoming a parent had no impact on fellow performance and professionalism; more respondents perceived a greater negative impact on scholarly activities, standardized test scores, and professional values for female trainees than male trainees. Fellowship directors perceive that anesthesiology residents who finish training outside the typical graduation cycle are at a disadvantage for fellowship training.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Pilot Survey of Female Anesthesiologists’ Childbearing and Parental</td>
<td>31094811</td>
<td>web-based survey</td>
<td>2019</td>
<td>66 Respondents</td>
<td>Attending Anesthesiologists and their experiences during residency or fellowship</td>
<td>pregnancy, child birth, recovery, breastfeeding, work accommodations</td>
<td>United States</td>
<td>“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”</td>
<td>Yes (Check Table 2 of Results)</td>
<td></td>
</tr>
<tr>
<td>Leave Experiences</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender equity in anesthesia: is it time to rock the boat?</td>
<td>36882715</td>
<td>Editorial Article</td>
<td>2023</td>
<td>N/A</td>
<td>Attending Anesthesiologists and their experiences during residency or fellowship</td>
<td>pregnancy, parental leave, breastfeeding, childcare, medical training and practice, career advancement, gender equity/bias</td>
<td>United States</td>
<td>“A current workplace culture change should be implemented to create a much-needed support system for mothers, fathers, and breastfeeding anesthesiologists”</td>
<td>No</td>
<td>Use of the term “Mother Penalty” in relation to gender biases female anesthesiologists who are mothers often encounter</td>
</tr>
</tbody>
</table>
Distribution of Study Design Across Anesthesiology and Dental Articles:

Distribution of Study Design Across all Anesthesiology Articles

- Review: 28.6%
- Policy Brief: 9.5%
- Descriptive Comparative Study: 3.6%
- Historical Cohort Study: 7.1%
- Web-Based Survey: 42.9%
- Editorial/Op-Ed: 14.3%

Distribution of Study Design Across all Dentistry Articles

- Review Articles: 9.5%
- Qualitative Study: 4.8%
- Editorial/OpEd: 33.3%
- Web Based/Cross Sectional: 52.4%
KEY THEMES FROM LITERATURE REVIEW
<table>
<thead>
<tr>
<th>Maternity/Parental Leave</th>
<th>Gender Bias/Equity/Roles</th>
<th>Breastfeeding and Lactation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace Accommodations</td>
<td>Policy and Guidelines (and a lack thereof)</td>
<td>Career Advancement Opportunities</td>
</tr>
<tr>
<td>Childcare Options</td>
<td>Job Re-Entry</td>
<td>Work-Life Balance</td>
</tr>
</tbody>
</table>
"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’"
"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
◦ Bioinformatic Librarian – Neetu Rajpal
◦ Head of Dental Library – Laurel Graham
◦ Joanne Levy, Chichi Nwadiogbu, and the LDI SUMR Program
◦ Margaret Yang, Dr. Uri Hangorsky, & Penn Dental Medicine
QUESTIONS?