

NEONATAL NURSE PRACTITIONER  
SHIFT LENGTH PERCEPTION: A  
QUANTITATIVE AND QUALITATIVE  
STUDY

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DISCLOSURE

- The authors received a grant from the Florida Association of Neonatal Nurse Practitioner for this research study.
- Jacqui Hoffman is a member-at-large with FANNP
- Tracey R. Bell and Meredith L. Farmer are both members-at-large for the of the National Association of Neonatal-Advanced Practice Council

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OBJECTIVES

- Identify the background and rationale for studying shift lengths
- Describe the grant objectives and study design
- Discuss the quantitative findings on perception and outcomes



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BACKGROUND

- Research addressing sleep deprivation, fatigue and safety is based on evidence from aviation, long-haul truck drivers and other disciplines in healthcare
- Being awake for at least 15 hours is the same as someone with a blood alcohol level (BAC) of 0.05%; awake at least 24 hours BAC 0.10% (CDC, 2017)
- Fatigue affects communication during handoffs
- No evidence regarding NNPs
  - Few NNPs get guaranteed protected downtime during prolonged shifts




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WORKFORCE SURVEY

- NNP Work Shifts
  - 24-hour shifts - 41%
  - Rotating shifts - 37%
  - Day shift - 16%
- 24-Hour Shift Preference - 39%
- Overtime Worked - 63% of NNPs
- No protected downtime - More than 77%

WORKFORCE SURVEY



NNP WORK AND SHIFT PREFERENCE

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STUDY PURPOSE

- Address gaps in knowledge on challenges faced by NNPs in relation to shift length and fatigue and how this affects their clinical practice
- 3 aims
  - Describe the overall state of knowledge regarding national organization recommendations for NNPs working in Levels 2-4 NICUs
  - Evaluate NNPs' perceptions of prolonged shifts including shift fatigue experiences
  - Describe recommendations from practicing NNPs on methods to ensure patients and personal safety

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METHODS

- IRB Approval – University of Pittsburgh
- Mixed method, cross-sectional design
- Recruitment: Convenience sample of all NCC board certified NNPs
  - Postcard mailed with QR code
  - QR code also posted on various national neonatal social media sites
- Survey administered via Qualtrics
  - Quantitative questions
    - Closed-ended questions to collect numerical data for demographic and practice data
  - Qualitative questions
    - Open-ended questions to explore perceptions of shift length and fatigue

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RESULTS -  
DEMOGRAPHICS

AGE	
< 30 YEARS	N=8 (2.1%)
31-40 YEARS	N= 101 (27%)
41-50 YEARS	N= 133 (35.6%)
51-60 YEARS	N= 83 (22.2%)
61-70 YEARS	N= 43 (11.5%)
> 70 YEARS	N=6 (1.6%)
YEARS OF EXPERIENCE	
< 5 YEARS	N= 77 (20.6%)
5-10 YEARS	N= 88 (23.5%)
11-15 YEARS	N=66 (17.7%)
16-20 YEARS	N= 49 (13.1%)
> 20 YEARS	N= 94 (25.1%)
LEVEL OF NICU	
LEVEL I	N= 3 (1%)
LEVEL II	N=44 (12%)
LEVEL III	N=88 (24%)
LEVEL IV	N=122 (33%)
FACULTY	N=4 (1%)
OTHER	N= 3 (1%)

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RESULTS – SHIFT PREFERENCE

374 Responses

Shift	Count
24 hours	190
12 hour days	112
10 hour days	36
16 hour nights	13
Other	9
12 hour nights	8
8 hour days	6

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RESULTS – FATIGUE AND SAFETY

Felt unsafe driving home after working more than 16 hours, 49% of respondents - **YES**

Worked more than 16 hours and felt unable to perform their expected job duties- 60% of respondents - **NO**

Strongly agreed that unit census and/or acuity contributes to fatigue during shifts - **85%**

Should neonatal APPs should continue working 24-hour shifts, **51% - Strongly Agree; 5% Strongly Disagree**

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DISCUSSION

- 73% participants aware of NANN shift length position statement
- Critical need for objective research
  - Survey participants favor 24-hour shifts
  - Perception of fatigue impacting driving
  - Perception of fatigue not affecting work ability
- Fatigue and safety multifactorial

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RECOMMENDATIONS

- Analysis of correlations
- Future research
- Innovative staffing models/strategies
- Sleep Hygiene education
  - Work/Life Balance
  - Mental Well Being
- Advocacy

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