

Abstract

In times of crisis, many nurses are required to complete mandatory overtime in order to assure that there are enough nurses for the correct nurse-to-patient ratio. This can lead to a significant increase in burnout for nurses who might already be experiencing fatigue related to their position (Dyrbye, West, Johnson, & Cipriano, 2020). The purpose of this research is to evaluate current evidence on whether nurses who are required to participate in mandatory overtime are as successful and functional in patient care as the nurses who are not required.

Introduction

With pandemics such as COVID-19, mandatory overtime is often expected of nurses and other members of the healthcare team. Participating in mandatory shifts in addition to already scheduled shifts causes a great deal of fatigue and burnout for nurses. While fatigue increases for nursing staff, the likelihood that errors will occur increases and places patients at risk (“Celebrating Mandatory”, 2015). As of 2016, medical errors were the third leading cause of death in the United States (“In Support of”, 2017). It is vital to provide insight into mandatory overtime and how it places both the nurse and patient at risk for injury. By reviewing and consolidating research related to overtime and how it affects nurses, we expect to discover a correlation between mandatory overtime, nursing fatigue, and patient safety risks. This research will present an understanding of how enforcing mandatory overtime for healthcare staff will decrease their performance at work and place themselves and their patients at high risk for injury.

Methods

To get a better understanding of how mandatory overtime truly impacts a nurse’s ability to function properly as a nurse, comparisons were made between multiple scholarly sources. This includes, but is not limited to, journal articles, scholarly websites, etc. Within the chosen works, research and their overall findings were compared, as well as their tables and graphs. This was done to get the most accurate evaluation of the proposed PICO question. When comparing research, it was brought to light that in many cases there is at least some level of question of successful and functional care for patients when it involved a nurse that was participating in mandatory overtime, compared to a nurse that was not. This can be seen in a great deal of the chosen research, such as in an article from the Texas Nurses Association, discussing mandatory overtime related to the 2020 COVID-19 pandemic, and due to the severity of the situation, regulations that prevented too much overtime were essentially thrown out the door by government leaders. The article then discusses way to prevent medical errors such as getting penly of rest, exercise and nourishment, as well as be supportive to one another (Sathasivan, 2020).

Overview of Published Literature on Nurse Overtime: Study Definitions and Methodologies

Source	Overtime Definition	Methodology
Bae, 2012	Paid and unpaid mandatory, paid and unpaid voluntary, paid and unpaid on call, an excess of 40 hours per week in principal position	Cross-sectional survey
Bae, 2013	Paid and unpaid mandatory, paid and unpaid voluntary, paid and unpaid on call, an excess of 40 hours per week in principal position	Cross-sectional survey
Bae & Brewer, 2010	Mandatory/unscheduled overtime, voluntary overtime, paid on call, hours per week of 41-60 and ≥61	Secondary analysis of cross-sectional survey data
Bae & Yoon, 2014	In excess of 40 hours hours worked per week and in excess of 60 hours in principal position	Quasi-experimental
Beckers et al., 2008	Hours per week in excess of regularly scheduled/contracted hours	Questionnaire
Berney et al., 2005	Hours per week in excess of 40 hours	Secondary analysis of institutional cost reports
Geiger-Brown et al., 2011	Hours per day in excess of 9-11 and ≥12; hours per week of 41-49 and ≥50	Longitudinal survey with random selection
Griffiths et al., 2014	Shift length of 8.1-10, 10.1-11.9, 12-13, >13 hours	Cross-sectional survey
Olds & Clarke, 2010	Mandatory overtime, paid overtime, and unpaid overtime	Secondary analysis of anonymous questionnaire, random selection
Rogers et al., 2004	Hours worked that exceeded scheduled hours, scheduled overtime hours	Prospective survey
Stimpfel et al., 2015	Shift length of 8, 10, 12, or “other” hours; mandatory and voluntary overtime hours (not quantified) worked per week in principal position	Secondary analysis of cross-sectional survey data

Table 1: An outline of major and past and current research literature that focuses on the development and risks of mandatory overtime in nursing

Odds of Nurse Injuries by Nurse Overtime Regulations and Nurse Overtime

	Needlesticks	Strains or Sprains	Cuts or Lacerations	Bruises or Contusions	Verbal Abuse	Any Nurse Injuries
Nurse overtime regulations (Ref: w/o regulation)	2.10 (0.72-6.07)	1.42 (0.67-2.99)	2.07 (0.74-5.77)	1.26 (0.59-2.70)	1.86 (0.84-4.13)	2.00 (0.78-5.17)
<b>Nurse Overtime (Ref: w/o overtime)</b>						
Mandatory overtime (paid and unpaid)	1.95 (0.55-6.96)	1.62 (0.62-4.19)	1.90 (0.59-6.10)	1.08 (0.43-2.70)	<b>4.45** (1.51-13.06)</b>	2.06 (0.59-7.12)
Voluntary overtime (paid and unpaid)	1.37 (0.49-3.84)	1.89 (0.91-3.93)	1.30 (0.52-3.23)	0.98 (0.43-2.26)	1.91 (0.85-4.28)	1.43 (0.47-4.38)
On-call (paid and unpaid)	0.82 (0.29-2.35)	1.14 (0.54-2.38)	0.92 (0.34-2.49)	1.58 (0.71-3.52)	1.16 (0.53-2.56)	<b>3.93** (1.47-10.50)</b>
Total work hours (Ref: Nurses working ≤ 40 hours per week)	1.71 (0.56-5.22)	0.76 (0.28-2.11)	1.70 (0.48-6.02)	1.37 (0.49-3.87)	0.57 (0.19-1.75)	1.46 (0.37-5.75)
N	173	172	173	173	172	171

NOTE: \*\*p<0.01 is in boldface. Odds ratios (95% of confidence interval) presented. Work settings, workload, and nurse educational level were controlled.

Table 2: Comparison of types of nurse overtime to average nurse injuries

Odds of Adverse Patient Events by Nurse Overtime Regulations and Nurse Overtime

	Medication Errors	Patient Falls	Pressure Ulcers	Nosocomial Infection	Failure to Rescue	Any Adverse Patient Events
Nurse overtime regulations (Ref: w/o regulation)	1.57 (0.73-3.38)	<b>2.66** (1.09-6.50)</b>	<b>4.32** (1.70-11.00)</b>	<b>4.91** (1.99-12.12)</b>	2.45 (0.63-9.51)	1.91 (0.80-4.55)
<b>Nurse Overtime (Ref: w/o overtime)</b>						
Mandatory overtime (paid and unpaid)	0.81 (0.32-2.04)	1.10 (0.34-3.60)	1.84 (0.56-6.05)	2.05 (0.72-5.81)	0.94 (0.20-4.31)	1.40 (0.41-4.78)
Voluntary overtime (paid and unpaid)	0.90 (0.41-1.98)	<b>3.36** (1.35-8.34)</b>	<b>3.50** (1.42-8.66)</b>	1.61 (0.67-3.90)	2.01 (0.60-6.75)	1.17 (0.47-2.91)
On-call (paid and unpaid)	0.82 (0.38-1.76)	0.74 (0.31-1.80)	0.42 (0.17-1.03)	<b>0.24** (0.10-0.57)</b>	1.10 (0.35-3.44)	0.73 (0.32-1.68)
Total work hours (Ref: Nurses working ≤ 40 hours per week)	<b>3.71** (1.16-11.84)</b>	1.22 (0.40-3.69)	<b>0.23* (0.07-0.79)</b>	<b>3.38* (1.04-11.03)</b>	1.96 (0.48-7.89)	<b>14.36* (1.20-171.9)</b>
N	165	167	168	164	165	159

NOTE: \*p<0.05 and \*\*p<0.01 are in boldface. Odds ratios (95% of confidence interval) presented. Work settings, workload, and nurse educational level were controlled.

Table 3: Comparison of types of nurse overtime to the impact that overtime has on adverse patient events

Overview of State Nursing Overtime Regulations (as of 2015)\*

State	Mandatory Overtime	Shift Length and Respite Requirements	Year Passed
Alaska	Illegal	14 consecutive hours	2010
California	Illegal, right to refusal without retaliation	12 hours in any 24-hour period	2001
Connecticut	Illegal	Extension required beyond scheduled shift length prohibited except for emergency or completion of procedures	2004
Illinois	Illegal	Shift extension capped at 4 hours even for emergencies, 8-hour required rest following any 12-hour shift	2005
Maine	Illegal, right to refusal without retaliation	10 consecutive rest hours after working any overtime	2001
Maryland	Illegal	Require extension beyond scheduled shift in a predetermined schedule prohibited unless emergency or critical skill needed	2002
Massachusetts	Illegal	12 consecutive hours in any 24-hour period	2012
Minnesota	Illegal, right to refusal without retaliation	12 consecutive hours	2002
Missouri	Illegal for licensed practical nurses only	None	2006
New Hampshire	Illegal, right to refusal without retaliation	12 consecutive hours	2008
New Jersey	Illegal	Hours per week cannot exceed 40	2002
New York	Illegal	None	2008
Oregon	Illegal	12 consecutive hours, hours per week cannot exceed 48, shift extension capped at 4 hours even for emergencies	2001
Pennsylvania	Illegal	Extension beyond scheduled shift prohibited except for emergency	2008
Rhode Island	Illegal	12 consecutive hours	2008
Texas	Illegal, right to refusal without retaliation	None	2007
Washington	Illegal, right to refusal without retaliation	None	2002
West Virginia	Illegal, right to refusal without retaliation	16 consecutive hours, 8 consecutive hours rest required after any 12-hour shift	2004

\* Emergency situation exceptions apply.

SOURCE: Adapted from J. Haebler, American Nurses Association, personal communication, July 13, 2016.

Table 4: An outline of states overtime requirements for nurses and when the state’s regulations were passed into law

Evaluation & Analysis

When comparing the literature and research on mandatory overtime for nurses, a great deal expressed valid concerns of the level of functionality that the overworked and tired nurse has. There are many research studies that show there is great risk that can be associated with nurses working overtime shifts. Shown in table 1 are many key examples of crucial published literature that outline many of the issues that are associated with mandatory overtime in nursing (Wheatley, 2017). Tables 2 and 3 show examples of one of these past sources that outline many key comparisons of nurse overtime to the average nurse injuries as well as the different types of overtime that a nurse can take practice in, and in turn result in some level of adverse patient event (Bea, S.-H, 2013). The common theme among most of the literature is mandatory overtime leads to major adverse concerns such as:

- poor patient outcomes
- patient mortality
- verbal abuse
- nosocomial infections (Wheatley, 2017; Bea, S.-H, 2013; Stimpfel et al., 2019)

Mandatory overtime forces nurses to have to work when they are exhausted and put the nurse and patient at risk of a cognitive failure happening, and in turn resulting in a major medical error (Rhéaume, 2018). Nurses and patients alike unnecessarily get injured with the practice of overtime, which has led to many states enforcing overtime regulations, which can be seen in table 4 (Wheatley, 2017). There are some perks to mandatory overtime, such as pay, helping your fellow colleagues, and helping to develop skills, but it comes at a great risk to the wellbeing of the nurse and patient’s health and overall satisfaction of care (Lobo, 2018).

Conclusion & Implications for Future Research

The research examined for this study clearly outlines how mandatory overtime negatively impacts both the nurse’s and the patient’s safety. Nurse injury and medical errors increase due to fatigue and burnout (Dyrbye et al., 2020). For many states, mandatory overtime is now illegal. However, for many nurses, it may seem that overtime is their responsibility to their patients to assure the correct nurse-to-patient ratio. For this reason, further research should be conducted to discover the number of nurses who agree to overtime although it negatively impacts them or their health.

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