Please find below the results of your literature search request.

If you would like the full text of any of the abstracts included, or would like a further search completed on this topic, please let us know.

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Thank you

**Literature search results**

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**Search details**

Nursing – 12 hour shift patterns

**Resources searched**

NHS Evidence; National Library for Health; TRIP Database; Cochrane Library; CINAHL; BNI; EMBASE; HMIC; MEDLINE; PsychINFO; Google Scholar

**Database search terms**

nurs*; “shift pattern*”; shift*; SHIFTWORK; “12 hour*”; 12-hour*; 12-hr*; “12 hr*”; twelve hour*; twelve-hour*; NURSING STAFF, HOSPITAL; exp NURSES; PERSONNEL STAFFING AND SCHEDULING

**Google search string**

**Summary**

Quite a lot of research into this topic. As you requested a broad search without any particular outcome required, I have had to include all of it. *The following summary is based on abstracts:* In terms of nurses’ preferred shift patterns, 12 hours seems to be favoured and the one most worked in NHS hospitals. Working more than 12 hours at a stretch seems to increase the likelihood of patient safety incidents, reduced vigilance, medication errors and administrative failures. However there is mixed evidence for whether the same can be said for 12 hour shifts. When compared with an 8-hour shift there seems to be little difference.

**Guidelines**

**Association of Anaesthetists of GB and Ireland**

Fatigue and anaesthetists (expanded web version) 2005

It is also the view of this Working Party that a 12-hour list is not an acceptable working practice for an individual anaesthetist of any grade without proper relief periods for refreshment and rest during the 12 hours.

During the 12-hour period: meal breaks – minimum one hour; rest period – 3 x 20
Evidence-based reviews

Cochrane Database of Systematic Reviews

Flexible working conditions and their effects on employee health and wellbeing 2010

The objective of this study was to evaluate the effects (benefits and harms) of flexible working interventions on the physical, mental and general health and wellbeing of employees and their families. The findings of this review tentatively suggest that flexible working interventions that increase worker control and choice (such as self-scheduling or gradual/partial retirement) are likely to have a positive effect on health outcomes. In contrast, interventions that were motivated or dictated by organisational interests, such as fixed-term contract and involuntary part-time employment, found equivocal or negative health effects.

Royal College of Nursing

Practice nurses in 2009: Results from the RCN annual employment surveys 2009 and 2003

See p. 50. 41% of nurses in NHS hospitals work 12 hour shifts.

Nurses working 12 hour shifts are more likely to be satisfied with their working hours than those working eight hour shifts.

Full details of nurses’ working patterns (full-time/part-time, shift working and 12 hour shifts) and how they vary by employer group, job title, specialty and pay band, are provided in tables in the appendix.

Clearly, more nurses prefer to work 12 hour shifts, whether it is part-time or full-time to eight hour shifts, with full-time eight hour internal rotating shifts the least popular of all shift patterns.

Spinning plates: establishing a work-life balance - A guide for RCN representatives 2008

It is important that any policy embraces all aspects of working time arrangements including shift patterns. It should go beyond family-friendly employment practices, and include measures that recognise an appropriate balance between work and personal lives for all nurses.

Published research

1. Is It time to pull the plug on 12-hour shifts? Part 3. harm reduction strategies if keeping 12-hour shifts.

Author(s): Geiger-Brown J, Trinkoff AM

Citation: Journal of Nursing Administration, September 2010, vol./is. 40/9(357-9), 0002-0443;1539-0721 (2010 Sep)

Publication Date: September 2010

Abstract: This article is part 3 of the series “Pulling the Plug on 12-Hour Shifts.” In part 1 (March 2010), the authors provided an update on recent evidence that challenges the current scheduling paradigm and supports the lack of safety of long work hours. Part 2 (April 2010) described the barriers to change and challenges for the nurse executive in moving away from the practice of 12-hour shifts. This article presents strategies for mitigating the effects of 12-hour shifts for nurses who continue to work 12-hour shifts despite the potential risks to their health and to patient safety.

Source: MEDLINE

2. Work environments must support staff wellbeing.
Abstract: Comments on nurses' responses to a suggestion that 12 hour shifts could have negative implications for patient care and staff welfare. The advantages and disadvantages of different shift lengths are reviewed, with reference to nurses' personal experiences.

Source: BNI

Full Text: Available in fulltext at Ovid
Available in print at Grantham Hospital Staff Library
Available in print at Lincoln County Hospital Professional Library
Available in print at Pilgrim Hospital Staff Library

3. Is it time to pull the plug on 12-hour shifts?: Part 2. Barriers to change and executive leadership strategies.

Author(s): Lothschuetz Montgomery K, Geiger-Brown J

Citation: Journal of Nursing Administration, April 2010, vol./is. 40/4(147-9), 0002-0443;1539-0721 (2010 Apr)

Publication Date: April 2010

Abstract: This article is part 2 of the series "Pulling the Plug on 12-Hour Shifts." In part 1 (March 2010), the authors provided an update on recent evidence that challenges the current scheduling paradigm that supports the lack of safety of long work hours. Part 2 describes the barriers to change and challenges for the nurse executive in moving away from the practice of 12-hour shifts. This is an executive-level analysis of barriers and recommends strategies for change. Translation of evidence into administrative practice requires examination of external environmental factors, internal system consequences, organizational culture, and measures of executive performance.

Source: MEDLINE

5. Is it time to pull the plug on 12-hour shifts?: Part 1. The evidence.

Author(s): Geiger-Brown J, Trinkoff AM

Citation: Journal of Nursing Administration, March 2010, vol./is. 40/3(100-2), 0002-0443;1539-0721 (2010 Mar)

Publication Date: March 2010

Abstract: Shift durations of 12 hours or more are now ubiquitous in hospitals, with currently working staff nurses reporting satisfaction with this shift length, although others who prefer shorter work hours have generally left hospital nursing. Nurse administrators are beginning to question the wisdom of having nurses work extended hours. Part 1 of this 2-part series, the authors provide an update on recent findings that challenge the current scheduling paradigm that supports unsafe long work hours. Part 2 discusses obstacles that nurse administrators face when they "buck the 12-hour trend" and offers guidance for introducing work schedule changes.

Source: MEDLINE

6. Vice or virtue? The double-edged sword of the 12-hour shift.

Author(s): Ramsay, M

Citation: Mental Health Nursing, 2010, vol./is. 30/1(17), 1353-0283 (2010 Feb/Mar)

Publication Date: 2010

Abstract: Advantages and disadvantages for staff and patient care of 12 hour shifts in psychiatric nursing.
7. Lapses of attention and reaction time in sleep-deprived nurses working successive 12-hour shifts

Author(s): Geiger Brown J., Rogers V., Bausell R., Trinkoff A., Kane R., Scharf S.M.

Citation: Sleep, 2010, vol./is. 33/(A102-A103), 0161-8105 (2010)

Publication Date: 2010

Abstract: Introduction: Sleep deprivation is common among nurses working 12-hour shifts, and has the potential to reduce effectiveness by decreasing vigilance. Little is known about actual neurobehavioral performance of nurses during work. Our aim was to (1) describe sample heterogeneity in lapsing over days, and (2) predict lapses and reaction time based on endogenous and exogenous factors. Methods: Registered nurses working three successive 12-hour shifts (either day or night) were recruited (N = 80). Using the 5-minute Palm PVT, lapses and median reaction time were measured. Exogenous predictors included caffeine use, smoking status, shift worked (either day or night), consecutive day of work (1 thru 3), activity and noise level at work. Endogenous variables included age, depression, fatigue levels (acute, chronic, intershift). Heterogeneity of lapsing over consecutive days was estimated using Poisson latent growth curve analyses. Bivariate correlations were used to assess relationship of predictors to median reaction time, and negative binomial regression was used for prediction of lapses. Results: Total sleep time between 12-hour shifts was short (mean 5.5 hours). Lapses showed an overdispersed Poisson distribution, and ranged from 0 to 48 lapses per PVT test, with half of nurses committing 0-1 lapse, and 10% of nurses lapsing 9 or more times during the testing period. There was a trait-like pattern of lapsing with three latent classes identified based on frequency: rare (54%), moderate (39%) and frequent lapsers (7%) with class bearing little relationship to pattern of lapsing over time. Factors associated with lapses included: sleep prior to shift, caffeine use, and fatigue levels. Median reaction time showed little relationship to predictors. Conclusion: Achieved sleep between 12 hour shifts is too short, and is related to lapses of attention. A small number of nurses with high trait lapsing accounted for a significant number of vigilence failures.

Source: EMBASE

Full Text:
Available in fulltext at National Library of Medicine

8. Napping during night shift: National perspectives of critical care nurse managers

Author(s): McMillan D.E., Edwards M.P., Fallis W.M.

Citation: Sleep, 2010, vol./is. 33/(A370), 0161-8105 (2010)

Publication Date: 2010

Abstract: Introduction: The critical care environment requires nurses to have specialized skills and to engage in rapid decision-making on a 24-hour basis. Nurses working night shifts experience sleep deprivation, sleep disturbance, and fatigue contributing to impaired health, errors and injury. Napping is a known effective strategy to improve work performance, reduce fatigue, and increase vigilance, yet is not well supported in nursing. Perceptions of nurse managers with respect to napping have not been fully explored. Addressing this knowledge gap may help explain the lack of universal adoption of napping by critical care nurses and offer direction for effecting organizational change. Methods: A Canada-wide, web-based survey of nurse manager members was conducted through the Canadian Association of Critical Care Nurses. The 30-item survey contained closed and open-ended questions related to management perceptions of napping practices by staff on the manager's unit, the impact of napping or not napping on nurse and patient safety, and organizational factors associated with napping or not napping. Results: Forty-eight nurse managers from across 9/13 provinces and territories participated in the online survey. The majority of subjects (89%) had over 10 years critical care experience, 56% had six or more years in the role of manager, and 71% worked in a mixed intensive care unit, where staff typically worked 12 hour shifts (83%). Most (96%) were aware nursing staff napped, yet had no designated nap room (83%) or written napping policy (75%). Although only 17%
somewhat or strongly disapproved of nurses napping, 46% felt management colleagues somewhat or strongly disapproved, and 52% felt senior administration somewhat or strongly disapproved of nursing staff napping during breaks on night shift. Tiredness was identified with incidents of patient safety (40%), nurse work injury/near injury (19%), and accidents/near accidents on the drive home (46%). Sleep inertia, safe patient coverage and problems related to a lack of a designated nap room were identified by managers as concerns associated with nurses napping. Conclusion: Nurse managers recognize benefits, barriers and concerns related to napping by critical care nursing staff on night shift breaks. The findings of this study support that comprehensive educational and organizational approaches that address the needs and issues of all key stakeholders are fundamental to facilitating napping as a safe, effective and supported strategy for critical care nurses.

Source: EMBASE

Full Text:
Available in fulltext at National Library of Medicine

9. A study of the relationship between time spent delivering care and task performance in a pediatric intensive care unit

Author(s): Calhoun A., Dauer A., Boone M., Campbell D., Montgomery V.

Citation: Critical Care Medicine, December 2009, vol./is. 37/12 SUPPL.(A340), 0090-3493 (December 2009)

Publication Date: December 2009

Abstract: Introduction: We face a shortage of skilled nursing and, as a result, nurses are working longer hours. The purpose of this study is to characterize the effect of fatigue on the efficiency of nursing task completion in a critical care environment. Hypothesis: Basic nursing tasks will take longer to complete and will have a greater number of omitted steps at the end of a 12 hour shift compared to the beginning. Methods: This is a self-controlled prospective observational study. Subjects were drawn from the nursing staff of a 26 bed pediatric intensive care unit (PICU) and assessed before, 6 hours in, and after a 12 hour shift. Assessments were completed in the context of a Laerdal SimBaby running a septic shock scenario. Trained staff observed subjects recording vital signs, initiating a fluid bolus, initiating a vasoactive infusion, administering an IV medication, and setting up an arterial line. Information recorded included time to task completion and key steps performed within each task. This study was approved by the University of Louisville Institutional Review Board. Results: 28 nurses participated in the study. Subjects averaged 5.5 years of experience and cared for 1.4 patients per shift. Subjects took an average of 17.9 minutes to complete assigned tasks pre-shift, 13.2 minutes at 6 hours, and 12.4 minutes post-shift. This change, an average total decrease of 5.5 minutes, was significant by linear regression (p value of <0.001). Accuracy of task completion did not significantly change between assessment periods. Conclusions: Critical care nurses take significantly less time to complete tasks at the end of their shift than at the beginning. This, coupled with stable accuracy over time, suggests that nursing efficiency increases over a 12 hour shift. This finding contradicts the hypothesis that efficiency diminishes as a function of fatigue. Repeatedly engaging in patient care over the course of a shift may instead enable nurses to function at a more reflexive level. Further studies will be needed to clarify this effect.

Source: EMBASE

Full Text:
Available in fulltext at Ovid

10. To assess sleep and vigilance among nurses in an intensive care unit setting

Author(s): Surani S.R., Majid H., Booparaju S., Surani A., Gunupalli B., Subramanian S.

Citation: Chest, October 2009, vol./is. 136/4, 0012-3692 (01 Oct 2009)

Publication Date: October 2009

Abstract: PURPOSE: Sleepiness amongst nurses is both prevalent and has implications for patient safety. The objective of this study was to assess overall sleep quality, and vigilance amongst ICU nurses at both the beginning and the end of their shift, and compare
Methods: Nurses from both the ICU and floor who volunteered were included in the study. Nurses with sleep disorder; history of major cardiopulmonary, or psychiatric disease; on sedative medications were excluded. Nurses filled out the Pittsburgh Sleep Quality Index Questionnaire (PSQI). Vigilance was assessed on each nurse by means of the standardized and well-validated psychomotor vigilance test (PVT). Testing was carried out both at the beginning of their shift, and at the end of the same 12 hour shift. Results: Among both floor and ICU nurses the slow reaction times were unchanged across the shift; however there was a significant reduction in fast reaction time between either ends of the shift only in the floor nurses (205.47 +/- 24.69 vs. 199.95 +/- 19.46; p = 0.027) but not in the ICU nurses (199.95 +/- 19.46 vs. 199.83 +/- 28.99; p = 0.179). Also errors at either end of the shift were different only in the ICU group (2.48 +/- 4.18 vs. 3.57 +/- 6.45; p = 0.029) but not in the floor group (1.64 +/- 2.90 vs. 1.52 +/- 1.42; p = 0.408). Both ESS and SSS were not different between either group. PSQI was more abnormal in the ICU group (7.40 +/- 3.24) vs. the floor group (5.73 +/- 2.59); p = 0.041. Conclusion: Our data indicate that ICU nurses have more abnormal sleep. They also tend to have a significant reduction in reaction times and a greater frequency of errors across the length of their shift. Clinical implications: Nurses working in an ICU setting tend to have more abnormal sleep and tend to demonstrate a fall in vigilance as the shift progresses which may have implications for patient safety.

Source: EMBASE

Full Text:
Available in full text at Grantham Hospital Staff Library; Note: Username: ULHTKIS/Password: Library

11. Nursing teamwork, staff characteristics, work schedules, and staffing.

Author(s): Kalisch BJ, Lee H

Citation: Health Care Management Review, 01 October 2009, vol./is. 34/4(323-333), 03616274

Publication Date: 01 October 2009

Abstract: Purpose: This study aimed to explore whether and how staff characteristics, staffing, and scheduling variables are associated with the level of teamwork in nursing staff on acute care hospital patient units. Design: This was a cross-sectional study with a sample of 1,758 nursing staff members from two different hospitals on 38 patient care units who completed the Nursing Teamwork Survey in 2008. This study focused on nursing teams who are stationed on a particular patient care unit (as opposed to visitors to the units). The return rate was 56.9%. The sample was made up of 77.4% nurses (registered nurses and licensed practical nurses), 11.9% assistive personnel, and 7.9% unit secretaries. Findings: Teamwork varied by unit and service type, with the highest scores occurring in pediatrics and maternity and the lowest scores on the medical-surgical and emergency units. Staff with less than 6 months of experience, those working 8- or 10-hour shifts (as opposed to 12 hours or a combination of 8 and 12 hours), part-time staff (as opposed to full time), and those working on night shift had higher teamwork scores. The higher teamwork scores were also associated with no or little overtime. The higher perception of the adequacy of staffing and the fewer patients cared for on a previous shift, the higher the teamwork scores. Conclusions: There is a relationship between selected staff characteristics, aspects of work schedules, staffing, and teamwork. Nursing staff want to work where teamwork is high, and perceptions of good staffing lead to higher teamwork. Higher teamwork scores correlated with those who worked less overtime.

Source: CINAHL

12. 12-hour shifts better for nurses, better for patients.

Author(s): Pridham A

Citation: Lamp, 01 August 2009, vol./is. 66/7(6-6), 00473936

Publication Date: 01 August 2009

Source: CINAHL
13. **Effects of shift length on quality of patient care and health provider outcomes: systematic review.**

**Author(s):** Estabrooks, C, Cummings, G, Olivo, S

**Citation:** Quality & Safety in Health Care, June 2009, vol./is. 18/3(181-8), 1475-3898 (2009 Jun)

**Publication Date:** June 2009

**Abstract:** Systematic review concerning the effect of shift lengths of 8 hours or 12 hours on errors, patient injury, nurse perception of patient care quality and on staff wellbeing, job satisfaction and drug or alcohol use. Studies are described and the evidence they provide is analysed. 58 refs.

**Source:** BNI

**Full Text:** Available in fulltext at [Highwire Press](http://www.highwire.org)


**Author(s):** Barrau-Baumstarck K, Rebeschini E, Dalivoust G, Durand-Bruguerolle D, Gazazian G, Martin F

**Citation:** Presse Medicale, March 2009, vol./is. 38/3(346-53), 0755-4982;0755-4982 (2009 Mar)

**Publication Date:** March 2009

**Abstract:** BACKGROUND: The need to reorganize hospital care in view of the inadequate number of staff available has led some departments to change shift hours to two 12-hour shifts daily. The impact of this organization on the quality of life (QoL) and daily life of caregivers has not been studied sufficiently. OBJECTIVE: The objective of our study was to document the role of the type of schedule worked on QoL, fatigue, and burnout among critical care nursing and paramedical staff. METHODS: A descriptive survey was conducted among the nurses, nurses’ aides, and other paramedical staff of 3 critical care departments at the Timone Hospital Center in Marseille. Three groups were defined by the type of hours worked: 12-hour alternating night and day shifts, 10-hour nights, and 8-hour days. A booklet of questions was distributed to all staff; it contained one section that collected social, demographic, family and occupational data and another containing self-administered standardized and validated questionnaires that assessed QoL (SF36), fatigue (MFIS-5), and burnout (MBI). RESULTS: The participation rate was 78%. The univariate analysis showed QoL was best in the group working 12-hour shifts, compared with the other 2 groups, while their levels of fatigue and burnout were similar. The multivariate approach, which sought to document the specific role of length of work shift on QoL showed that while the physical component of QoL might be influenced by number of hours worked (staff working 10-hour nights had lower QoL scores than either of the others), but the psychological component was not; only gender and duration of commute were significantly associated with QoL. CONCLUSION: These results add yet more divergence to the already existing reports on how employees experience the length of their workday. The specific scheduling does not appear to affect either fatigue or the mental component of QoL, but does appear to affect the physical component of QoL. Other studies are necessary to validate these initial approaches.

**Source:** MEDLINE

15. **Eight- or twelve-hour shifts: what nursing students prefer.**

**Author(s):** Rossen BE, Fegan MA

**Citation:** Nursing Education Perspectives, January 2009, vol./is. 30/1(40-3), 1536-5026;1536-5026 (2009 Jan-Feb)

**Publication Date:** January 2009

Author(s): Rossen BE, Fegan MA

Citation: Nursing Education Perspectives, 01 January 2009, vol./is. 30/1(40-43), 15365026

Abstract: Securing and organizing clinical placements for nursing students has become increasingly difficult for schools of nursing and for hospitals, especially with today's dramatic increases in student enrollments. Many nursing programs now include 12-hour shifts as part of students' clinical education. But questions remain regarding the impact of 12-hour shifts on student learning and lifestyle, relationships among students, their clinical instructors, and nursing staff, and patient and family care.

Source: CINAHL

Full Text:
Available in fulltext at EBSCO Host

17. Energy expenditure, heart rate, work pace, and their associations with perceived workload among female hospital nurses working 12-hour day shift.

Author(s): Chen J

Citation: , 01 January 2009, vol./is. /(/0-175),

Abstract: Background. The current nursing shortage is a growing public concern and threatens the quality of patient care in American hospitals. Unrealistic workloads are one of the top reasons for hospital nurses' leaving the profession. Although nursing workload is extensively discussed in the literature, little is known about the influence of these workloads on physiological strain to female hospital Registered Nurses (RNs). The first objective of the study was to describe the physiological responses to workload of female hospital RNs. Three physiologic parameters---energy expenditure (EE), heart rate (HR) and work pace (WP), were measured to identify physiological response patterns over a 12-hour shift; and then response patterns of the 1st eight hours were compared to the last four hours to determine if there was a change in the physiological response to work in the later part of the shift. The second objective of the study was to examine the association between the physiological parameters and perceived workload. Fatigue and recovery factors were examined in terms of their contributions to the physiological responses to work.

Source: CINAHL

18. Short total sleep time in 12-hour shift nurses: Slow unwinding, circadian disruption, or time allocated to sleep?

Author(s): Geiger-Brown J., Rogers V., Brubaker A., Scharf S., Trinkoff A.

Citation: Sleep, 2009, vol./is. 32/(A138), 0161-8105 (2009)

Abstract: Introduction: Short total sleep time (TST) (< 6 hours) is common in 12-hour shift nurses. Three plausible reasons may account for this. Extended exposure to stressful work may produce slow unwinding, with delayed sleep or poor sleep efficiency (SE). Night nurses' sleep can be disrupted if lights out time is delayed. Insufficient time between shifts may reduce sleep opportunity (shift overruns, parenting, little time allocated to sleep). The aim is to describe the association of job stress, delay to bed, and limited sleep opportunity on sleep. We hypothesized that (1) higher job stress would reduce TST and SE, (2) delaying lights out would increase waking after sleep onset (WASO) after night shift, (3) loss of sleep opportunity would modify the effect of time at home to total sleep time. Methods: Registered nurses working consecutive 12-hour shifts were studied using
accelerometry (TST, SE, WASO), diary (actual hours worked, commute time, home responsibilities), and job stress survey (job demands, satisfaction, performance barriers, frustration) post shift (N=73). Correlations were done to test hypotheses 1-2. Regression was used to test hypothesis 3. Results: TST averaged 5.5 hours between 12-hour shifts. Correlation between job stress scales and TST/SE was low. Later nights out was associated with increased WASO. Shift overruns were common. Parents showed no relationship of time at home to TST, whereas those without children had longer TST with more time at home. Nurses with two jobs got less sleep with longer time at home. Conclusion: 12-hour shift nurses have significant partial sleep deprivation. Stronger relationships exist between circadian disruption, lack of sleep opportunity, and achieved sleep between 12-hour shifts than between job stress and sleep. Interventions to improve sleep should focus on creating individual work schedules that allow sufficient time at home for restorative rest.

Source: EMBASE

Full Text:
Available in fulltext at National Library of Medicine

19. Fatigue and charting errors: the benefit of a reduced call schedule.
Author(s): Warren A, Tart RC
Citation: AORN Journal, 01 July 2008, vol./is. 88/1(88-94), 00012092
Publication Date: 01 July 2008
Abstract: The effects of fatigue caused by long work hours, working on call, and insufficient rest periods are often overlooked during reviews of perioperative documentation errors. THE RELATIONSHIP BETWEEN fatigue and nurse charting errors prior to and after implementation of a reduced call schedule was examined at a not-for-profit, Magnet community hospital. A SIGNIFICANT REDUCTION in nursing documentation errors was observed after the reduced call schedule was implemented, with the greatest reduction in errors seen among nurses working 12-hour or call shifts. AORN J 88 (July 2008) 88-95. (c) AORN, Inc, 2008.
Source: CINAHL

Full Text:
Available in fulltext at EBSCO Host

20. Fatigue and charting errors: the benefit of a reduced call schedule.
Author(s): Warren, A, Tart, R
Citation: AORN J, July 2008, vol./is. 88/1(88-95), 0001-2092 (2008 Jul)
Publication Date: July 2008
Abstract: Research in the USA to determine whether a significant relationship existed between fatigue as a result of work hours, and surgical charting errors of nurses working 8 hour, 12 hour and call shifts. A cost/benefit analysis was conducted to determine the financial impact associated with implementing a reduced call schedule. 12 refs.
Source: BNI

Full Text:
Available in fulltext at EBSCO Host

21. Work schedules and job performance: what's the link?
Author(s): Johnson, K, Chisholm, A, Weatherman, P
Citation: Nursing Management USA, June 2008, vol./is. 39/6(44-7), 0744-6314 (2008 Jun)
Publication Date: June 2008
Abstract: Research to improve patient safety by examining the effect of nurses' work schedules on job performance, focusing on the 8-hour versus the 12-hour shift. Nurses on both types of shift logged their hours, self-reported fatigue and number of errors, including medication errors, and the results were compared to examine whether there was a
difference between 8 and 12 hour shifts. 2 refs.

Source: BNI
Full Text:
Available in fulltext at Ovid

22. Correlates of medication error in hospitals.
Author(s): Wilkins K, Shields M
Citation: Health Reports, June 2008, vol./is. 19/2(7-18), 0840-6529:0840-6529 (2008 Jun)
Publication Date: June 2008
Abstract: OBJECTIVES: This article examines associations between medication error and selected factors in the workplace of hospital-employed registered nurses (RNs) in Canada. DATA SOURCES AND METHODS: Data are from the 2005 National Survey of the Work and Health of Nurses, and were weighted to be representative of all RNs in Canada who deliver direct care to hospital patients. Correlates of medication error were considered in bivariate and multivariate analyses. Multiple logistic regression modeling was used to examine medication error in relation to work organization and workplace environment, while controlling for personal factors, including nurses’ general and mental health, job dissatisfaction, education, years of experience in nursing, and clinical area of employment. RESULTS: Nearly one-fifth (19%) of hospital RNs reported that medication error involving patients in their care had occurred "occasionally" or "frequently" in the past year. In the fully adjusted multivariate model, medication error was positively associated with usually working overtime, role overload, perceived staffing or resource inadequacy, low co-worker support, and low job security. Usually working a 12-hour shift, compared with shorter shifts, was negatively associated with medication error.

Source: MEDLINE

23. 12-hour shifts: an ethical dilemma for the nurse executive.
Author(s): Lorenz SG
Citation: Journal of Nursing Administration, 01 June 2008, vol./is. 38/6(297-301), 00020443
Publication Date: 01 June 2008
Abstract: Flexible work hours, including 12-hour shifts, have become a common scheduling option for nurses. The author explores whether 12-hour shifts are an ethical scheduling option for nurses because recent research suggests that 12-hour shifts are a potential hazard to patients. A multistep model for ethical decision making, reflecting the concept of procedural justice, is used to examine this issue.

Source: CINAHL

24. Musculoskeletal problems experienced by older nurses in hospital settings.
Author(s): Cameron SJ, Armstrong-Stassen M, Kane D, Moro FB
Citation: Nursing Forum, 01 April 2008, vol./is. 43/2(103-114), 00296473
Publication Date: 01 April 2008
Abstract: The effects of musculoskeletal problems on older nurses working in hospital settings was examined, including what contributed to the problems, and preferred treatments selected. Inadequate sleep was significantly related to musculoskeletal symptoms in all regions of the body. Most frequent problems were in lower and upper back, neck, and shoulder areas. Rotating and/or 12-hr shifts, inadequate sleep, frequent patient handling, and nurses who felt little control over their work reported more lower back symptoms. Surprisingly, nurses relied on over-the-counter medications to treat their problems. Implications for supporting the nursing workforce and minimizing musculoskeletal problems are discussed.

Source: CINAHL
25. The effect of consistent nursing shifts on teamwork and continuity of care.

Author(s): Kalisch BJ, Begeny S, Anderson C

Citation: Journal of Nursing Administration, 01 March 2008, vol./is. 38/3(132-137), 00020443

Publication Date: 01 March 2008

Abstract: To attract nurses to the workforce, scheduling of nurses on patient care units has evolved into a mixture of 4-, 6-, 8-, and 12-hour shifts. The result is chaotic as staff members come and go at varying times, creating the need for multiple handoffs and reassignment of patients. Effective teamwork and continuity of care are difficult, if not impossible, to achieve under these circumstances. The authors describe the effect of using just 1 shift length for all nursing staff.

Source: CINAHL

26. The relationship between nurses' work hours, fatigue, and occurrence of medication administration errors.

Author(s): Bellebaum KL

Citation: , 01 January 2008, vol./is. /(0-156),

Publication Date: 01 January 2008

Abstract: Nurses are responsible for the safety of their patients. Nursing factors such as long work hours and fatigue are concerns as they may affect patient safety. One area of patient safety to consider is medication use, specifically medication administration errors. Quantitative data in the form of observational studies are needed to assess the impact of nurses' work hours and fatigue on medication administration errors. This non-blinded, observation-based study took place at an academic medical center in Columbus, OH. The medication administration process was observed in volunteer nurses at three points in time over a single 12-hour shift: 0-2 hours (7am-9am), 6-8 hours (1pm-3pm), and 10-12 hours (5pm-7pm). In addition to the data collected through observation, each nurse completed three questionnaires: demographic and work-related, acute fatigue, and chronic fatigue. A pilot study was conducted in both the ED and medical intensive care unit (MICU) in order to decide which setting was more feasible for this study design. Eligible nurses for the study worked in either the MICU or ED (depending on pilot results), were registered nurses, and did not work straight night shifts. Using SPSS 16.0, linear regression, repeated measures ANOVA, and frequencies were used to analyze the medication administration and nursing data.

Source: CINAHL

27. A new approach to understanding the impact of circadian disruption on human health.

Author(s): Rea MS, Bierman A, Figueiro MG, Bullough JD

Citation: Journal of Circadian Rhythms, 2008, vol./is. 6/(7), 1740-3391;1740-3391 (2008)

Publication Date: 2008

Abstract: ABSTRACT: BACKGROUND: Light and dark patterns are the major synchronizer of circadian rhythms to the 24-hour solar day. Disruption of circadian rhythms has been associated with a variety of maladies. Ecological studies of human exposures to light are virtually nonexistent, however, making it difficult to determine if, in fact, light-induced circadian disruption directly affects human health. METHODS: A newly developed field measurement device recorded circadian light exposures and activity from day-shift and rotating-shift nurses. Circadian disruption defined in terms of behavioral entrainment was quantified for these two groups using phasor analyses of the circular cross-correlations between light exposure and activity. Circadian disruption also was determined for rats subjected to a consistent 12-hour light/12-hour dark pattern (12L:12D) and ones subjected
to a "jet-lagged" schedule. RESULTS: Day-shift nurses and rats exposed to the consistent light-dark pattern exhibited pronounced similarities in their circular cross-correlation functions and 24-hour phasor representations except for an approximate 12-hour phase difference between species. The phase difference reflects the diurnal versus nocturnal behavior of humans versus rodents. Phase differences within species likely reflect chronotype differences among individuals. Rotating-shift nurses and rats subjected to the "jet-lagged" schedule exhibited significant reductions in phasor magnitudes compared to the day-shift nurses and the 12L:12D rats. The reductions in the 24-hour phasor magnitudes indicate a loss of behavioral entrainment compared to the nurses and the rats with regular light-dark exposure patterns. CONCLUSION: This paper provides a quantitative foundation for systematically studying the impact of light-induced circadian disruption in humans and in animal models. Ecological light and activity data are needed to develop the essential insights into circadian entrainment/disruption actually experienced by modern people. These data can now be obtained and analyzed to reveal the interrelationship between actual light exposures and markers of circadian rhythm such as rest-activity patterns, core body temperature, and melatonin synthesis. Moreover, it should now be possible to bridge ecological studies of circadian disruption in humans to parametric studies of the relationships between circadian disruption and health outcomes using animal models.

Source: MEDLINE

Full Text:
Available in fulltext at BioMedCentral
Available in fulltext at National Library of Medicine


Author(s): Mcclelland, Laura Elizabeth

Citation: Dissertation Abstracts International: Section B: The Sciences and Engineering, 2008, vol./is. 68/11-B(7698), 0419-4217 (2008)

Publication Date: 2008

Abstract: Some previous research has focused on better understanding factors that influence nurses' decision-making; however, previous research has not used policy-capturing as a methodology to examine the impact of fatigue on registered nurses' decision-making. The purpose of the current study was to examine whether the fatigue of working a 12-hour day shift influenced a sample of registered nurses' decision-making. Participants consisted of 69 registered nurses working a 12-hour day shift from 7 AM to 7 PM at a large southeastern hospital. The participants completed a general questionnaire and a policy-capturing questionnaire at the beginning and at the end of a 12-hour day shift. Data analyses indicated that participants did not maintain their judgment policies from the beginning to the end of the work shift. Additionally, participants made "simpler" decisions both pre-shift and post-shift and became significantly sleepier, more stressed, and less alert from the beginning to the end of the work shift. These results, combined with previous research, suggest that the fatigue nurses experienced from working a 12-hour day shift was one factor that significantly contributed to their inconsistent judgment policies. This finding expands upon previous research indicating there are a variety of negative outcomes associated with 12-hour shifts and that these shifts may not be best for nurses or their patients. (PsycINFO Database Record (c) 2010 APA, all rights reserved)

Source: PsycINFO

29. 12-hour shifts: An ethical dilemma for the nurse executive

Author(s): Lorenzo, Susan G

Citation: Journal of Nursing Administration, 2008, vol./is. 38/6(297-301), 0002-0443 (Jun 2008)

Publication Date: 2008

Source: HMIC
30. **Effective implementation of work-hour limits and systemic improvements.**

**Author(s):** Landrigan CP, Czeisler CA, Barger LK, Ayas NT, Rothschild JM, Lockley SW

**Citation:** Joint Commission Journal on Quality & Patient Safety, 02 November 2007, vol./is. 33/11(19-29), 15537250

**Publication Date:** 02 November 2007

**Abstract:** Background: Sleep deprivation, ubiquitous among nurses and physicians, recently has been shown to greatly increase rates of serious medical errors and occupational injuries among health care workers in the United States.

**Source:** CINAHL

31. **A study examining the impact of 12-hour shifts on critical care staff.**

**Author(s):** Richardson A, Turnock C, Harris L, Finley A, Carson S

**Citation:** Journal of Nursing Management, November 2007, vol./is. 15/8(838-46), 0966-0429;0966-0429 (2007 Nov)

**Publication Date:** November 2007

**Abstract:** BACKGROUND: Twelve-hour shifts contribute to flexible patterns of work, but the effects on delivery of direct care and staff fatigue are important topics for deeper examination. AIMS: To examine the impact and implications of 12-hour shifts on critical care staff. METHODS: A staged dual approach using two focus groups (n = 16) and questionnaires (n = 147) with critical care staff from three critical care units. RESULTS: Positive effects were found with planning and prioritizing care, improved relationships with patients/relatives, good-quality time off work and ease of travelling to work. Less favourable effects were with caring for patients in isolation cubicles and the impact on staff motivation and tiredness. Acceptable patterns of work were suggested for ‘numbers of consecutive shifts’ and ‘rest periods between shifts’. CONCLUSIONS: Most participants believed 12-hour shifts should continue. The challenge is to ensure existing systems and practices develop to improve on the less positive effects of working 12-hour shifts. IMPLICATIONS FOR NURSING MANAGEMENT: This study provides nurse managers with important and relevant staff views on the impact of working 12-hour shifts. In particular to those working within a critical care environment and suggests the challenge is to ensure existing systems and practices develop to improve on the less encouraging effects of working 12-hour shifts. It adds an understanding of the senior nurse’s view on the positive and negative effects of managing and organizing staff off duty to safely run a department with 12-hour shifts.

**Source:** MEDLINE

**Full Text:** Available in fulltext at [EBSCO Host](https://www.ebscohost.com)

32. **Evaluation of the 12-hour shift trial in a regional intensive care unit.**

**Author(s):** Dwyer T, Jamieson L, Moxham L, Austen D, Smith K

**Citation:** Journal of Nursing Management, October 2007, vol./is. 15/7(711-20), 0966-0429;0966-0429 (2007 Oct)

**Publication Date:** October 2007

**Abstract:** INTRODUCTION: Given the shortage of critical care nurses, emphasis has been placed upon improving their working lives through the implementation of flexible work hours. METHOD: This descriptive exploratory study evaluated the effects of the implementation of the 12-hour roster in a regional intensive care unit (ICU). Staff (n = 19) completed a survey 12 weeks following the implementation of the 12-hour roster. RESULTS: The study demonstrated widespread acceptance (92%) positive impact on physical and psychological well-being and increased work satisfaction (58%) for the nursing participants. Similarly, nurses working both the 8- and 12-hour rosters (75%), the doctors and allied health care workers all identified increased continuity of patient care as an outcome of the 12-hour shift. Participants strongly agreed that 12-hour rostering was a good recruitment (67%) and retention (75%) strategy. CONCLUSION: In an environment
with considerable shortages of experienced critical care nurses, the use of flexible shift patterns such as the 12-hour roster was a positive recruitment and recruitment strategy.

Source: MEDLINE

Full Text:
Available in fulltext at EBSCO Host

33. Use of 12-hour clinical shifts in nursing education: faculty, staff, and student response.
Author(s): Tobar K, Wall D, Parsh B, Sampson J
Citation: Nurse Educator, 01 September 2007, vol./is. 32/5(190-191), 03633624
Publication Date: 01 September 2007
Source: CINAHL

34. 12 hour shifts the Nambour Hospital experience.
Author(s): anonymous
Citation: Queensland Nurse, August 2007, vol./is. 26/4(22-3), 0815-936X;0815-936X (2007 Aug)
Publication Date: August 2007
Abstract: Union members have a lengthy history of campaigning for fair working hours and conditions. The success of such campaigns has led to the implementation of the eight hour working day and the 40 hour and then 38 hour week as industrial standards. More recently though, calls for greater flexibility in their shift arrangements by nurses at Nambour Hospital have led to a voluntary 12 hour shift being implemented in their Intensive Care Unit. While union members are protective of their hard won gains in achieving reduced working hours through the 8 hour day--ICU nurses at Nambour Hospital say the voluntary 12 hour shift initiative goes a way in addressing their work/life balance issues.
Source: MEDLINE

35. Nurse staffing in relation to risk-adjusted mortality in neonatal care...
Author(s): Hamilton KES, Redshaw ME, Tarnow-Mordi W
Citation: Neonatal Intensive Care, 01 July 2007, vol./is. 20/4(37-42), 10622454
Publication Date: 01 July 2007
Abstract: Objective: To assess whether risk-adjusted mortality in very low birthweight or preterm infants is associated with levels of nursing provision.
Source: CINAHL

36. Sleepy nurses: are we willing to accept the challenge today?
Author(s): Surani S, Murphy J, Shah A
Citation: Nursing Administration Quarterly, 01 April 2007, vol./is. 31/2(146-151), 03639568
Publication Date: 01 April 2007
Abstract: With a shortage of supply of nurses and the increasing demand for nursing care, hospitals require or allow nurses to work extended shifts (in excess of 12 hours) and many shifts per week (up to and in excess of 60 hours per week). The result of these excessive hours of work is that many nurses care for patients while suffering from sleep deprivation. Sleep deprivation has been shown to negatively impact judgment and performance resulting in errors and accidents. Sleep deprivation also negatively affects the health of individuals. Sleep deprivation in nurses is a significant issue that requires more attention.
Source: CINAHL
37. **The vulnerability of nursing workers to tuberculosis in a teaching hospital.**

**Author(s):** de Souza JN, Bertolozzi MR

**Citation:** Revista Latino-Americana de Enfermagem, March 2007, vol./is. 15/2(259-66), 0104-1169:0104-1169 (2007 Mar-Apr)

**Publication Date:** March 2007

**Abstract:** This study aimed to identify aspects that potentially increase the vulnerability of nursing workers to tuberculosis, through the verification of personal life, work and disease knowledge indexes. The sample is composed of 81 nursing workers involved with assistance in the night and day shifts at USP Teaching Hospital, who answered a questionnaire about life and work habits. The sample aggregated the indexes that increase vulnerability to tuberculosis: long professional experience in hospitals and work load longer than 12 hours. Data show that nursing auxiliaries and workers from the night shift in general have a higher number of vulnerability indexes.

**Source:** MEDLINE

38. **Estimation of the psychological load in the performance of nurses’ work based on subjective fatigue symptoms.**

**Author(s):** Szczurak T, Kaminska B, Szpak A

**Citation:** Advances in Medical Sciences, 2007, vol./is. 52 Suppl 1/(102-4), 1896-1126 (2007)

**Publication Date:** 2007

**Abstract:** PURPOSE: The performance of ergonomic analyses for workplaces is justified by the fact that safe and comfortable working conditions for employees are required. The obtained results may be used to facilitate the implementation of organizational changes in health care centres. A complex assessment of occupational load is not always possible. In this paper it is limited to one factor, constituting the psychological component. The aim of this paper is to assess the psychological fatigue of nursing personnel. MATERIAL AND METHODS: The only indicator analysed in the study concerns the activity of nurses working on two or three shift schedules on two clinical wards. To measure psychological fatigue one of the available scales was used, i.e. the Japanese questionnaire. In total 108 subjective survey records of fatigue were obtained. RESULTS: The obtained results show that overall activity decrease was between small and average. On the 12-hour shift schedule this decrease amounted to 29.34% (cardiology) and 34.77% (surgical), whereas on the 8-hour shift schedule it was 24.58% and 17.36%. CONCLUSIONS: With a more significant activity decrease recorded for the 12-hour shift schedule, it should be assumed that the quality and efficiency of work performance on 8-hour shifts is higher and the risk of error decreased.

**Source:** MEDLINE

39. **Duration of time on shift before accidental blood or body fluid exposure for housestaff, nurses, and technicians.**

**Author(s):** Green-McKenzie J, Shofer FS

**Citation:** Infection Control & Hospital Epidemiology, 01 January 2007, vol./is. 28/1(5-9), 0899823X

**Publication Date:** 01 January 2007

**Abstract:** Background. Shift work has been found to be associated with an increased rate of errors and accidents among healthcare workers (HCWs), but the effect of shift work on accidental blood and body fluid exposure sustained by HCWs has not been well characterized. Objectives. To determine the duration of time on shift before accidental blood and body fluid exposure in housestaff, nurses, and technicians and the proportion of housestaff who sustain a blood and body fluid exposure after 12 hours on duty. Methods. This retrospective, descriptive study was conducted during a 24-month period at a large urban teaching hospital. Participants were HCWs who sustained an accidental blood and body fluid exposure. Results. Housestaff were on duty significantly longer than both nursing
staff (P=.02) and technicians (P<.0001) before accidental blood and body fluid exposure. Half of the blood and body fluid exposures sustained by housestaff occurred after being on duty 8 hours or more, and 24% were sustained after being on duty 12 hours or more. Of all HCWs, 3% reported an accidental blood and body fluid exposure, with specific rates of 7.9% among nurses, 9.4% among housestaff, and 3% among phlebotomists. Conclusions. Housestaff were significantly more likely to have longer duration of time on shift before blood and body fluid exposure than were the other groups. Almost one-quarter of accidental blood and body fluid exposures to housestaff were incurred after they had been on duty for 12 hours or more. Housestaff sustained a higher rate of accidental blood and body fluid exposures than did nursing staff and technicians.

Source: CINAHL

40. Examining the effects of fatigue on decision-making in nursing: a policy-capturing approach.

Author(s): McClelland LE

Citation: , 01 January 2007, vol./is. /(0-114),

Publication Date: 01 January 2007

Abstract: Some previous research has focused on better understanding factors that influence nurses' decision-making; however, previous research has not used policy-capturing as a methodology to examine the impact of fatigue on registered nurses' decision-making. The purpose of the current study was to examine whether the fatigue of working a 12-hour day shift influenced a sample of registered nurses' decision-making. Participants consisted of 69 registered nurses working a 12-hour day shift from 7 AM to 7 PM at a large southeastern hospital. The participants completed a general questionnaire and a policy-capturing questionnaire at the beginning and at the end of a 12-hour day shift. Data analyses indicated that participants did not maintain their judgment policies from the beginning to the end of the work shift. Additionally, participants made "simpler" decisions both pre-shift and post-shift and became significantly sleepier, more stressed, and less alert from the beginning to the end of the work shift. These results, combined with previous research, suggest that the fatigue nurses experienced from working a 12-hour day shift was one factor that significantly contributed to their inconsistent judgment policies. This finding expands upon previous research indicating there are a variety of negative outcomes associated with 12-hour shifts and that these shifts may not be best for nurses or their patients.

Source: CINAHL

41. Effective implementation of work-hour limits and systematic improvements

Author(s): Landrigan, Christopher P, Czeisler, Charles A, Barger, Laura K, Ayas, Najib T, Rothschild, Jeffrey M

Citation: Joint Commission Journal on Quality and Patient Safety, 2007, vol./is. 38/11(19-29), 1553-7250 (supp, Nov 2007)

Publication Date: 2007

Abstract: Sleep deprivation, ubiquitous among nurses and physicians, recently has been shown to greatly increase rates of serious medical errors and occupational injuries among health care workers in the United States. Current initiatives and policies are the Accreditation Council for Graduate Medical Education's current work-house limits for physicians-in-training allow work hours well in excess of those proven safe. No regulations limit the work hours of other groups of health care providers in the United States. Consequently, nursing work shifts exceeding 12 hours remain common. Physician-in-training shifts of 30 consecutive hours continue to be endorsed officially, and data demonstrate that even the 30-hour limit is exceeded routinely. By contrast, European health care workers are limited by law to 13 consecutive hours of work and to 48-56 hours of work per week. Except for a few institutions that have eliminated 24-hour shifts, as a whole, the United States lags far behind other industrialised nations in ensuring safe work hours. The conclusions were preventing health care provider sleep deprivation could be an extremely powerful means of addressing the epidemic of medical errors in the United States. Implementation of evidence-based work-hour limits, scientifically designed work schedules, and infrastructural changes, such as the development of standardised handoff
systems, are urgently needed. Cites 35 references. [Journal abstract]

Source: HMIC

42. A study examining the impact of 12-hour shifts on critical care staff.

Author(s): Richardson, Annette

Citation: Journal of Nursing Management, 2007, vol./is. 15/8(838-846), 0966-0429 (November 2007)

Publication Date: 2007

Abstract: BACKGROUND: Twelve-hour shifts contribute to flexible patterns of work, but the effects on delivery of direct care and staff fatigue are important topics for deeper examination. AIMS: To examine the impact and implications of twelve-hour shifts on critical care staff. METHODS: A staged dual approach using two focus groups (n=16) and questionnaires (n=147) with critical care staff from three critical care units. RESULTS: Positive effects were found with planning and prioritising care, improved relationships with patients and relatives, good quality time off work and ease of travelling to work. Less favourable effects were with caring for patients in isolation cubicles and the impact on staff motivation and tiredness. Acceptable patterns of work were suggested for 'numbers of consecutive shifts' and 'rest periods between shifts'. CONCLUSIONS: Most participants believed twelve-hour shifts should continue. The challenge is to ensure existing systems and practices develop to improve on the less positive effects of working twelve-hour shifts. IMPLICATIONS FOR NURSING MANAGEMENT: This study provides nurse managers with important and relevant staff views on the impact of working twelve-hour shifts, in particular to those working within a critical care environment. It is suggested that the challenge is to ensure existing systems and practices develop to improve on the less encouraging effects of working twelve-hour shifts. It adds an understanding of the senior nurse's view on the positive and negative effects of managing and organising staff off duty to safely run a department with twelve-hour shifts. 3 tables 11 refs. [Abstract]

Source: HMIC

Full Text:
Available in fulltext at EBSCO Host

43. Comparison of nurse, system and quality patient care outcomes in 8-hour and 12-hour shifts.


Citation: Medical Care, 01 December 2006, vol./is. 44/12(1099-1106), 00257079

Publication Date: 01 December 2006

Abstract: BACKGROUND: Many nurses desire 12-hour shifts. However, there are concerns about implementation. OBJECTIVE: We sought to compare the effects of 8- and 12-hour shifts on nurse, system, and quality patient care outcomes. METHODS: We used a cross-sectional design with data collected from multiple sources in 2003-2004, including a nurse survey and administrative and patient records. We studied hospital nurses and patients in general adult wards, with outcomes including burnout, job satisfaction, scheduling satisfaction, preferences, intention to stay, and employee safety. System outcomes included recruitment and turnover, staffing, absenteeism, and related costs. A variety of quality patient care outcomes were measured from the 3 different types of data. RESULTS: Thirteen New York City hospitals participated; 805 surveys were examined from 99 nursing units (response rate 42%). Compared with nurses working 8-hour shifts, those working 12-hour shifts were on average more satisfied with their jobs, experienced less emotional exhaustion, 10 times more likely to be satisfied with schedules, 2 times as likely to perceive 12-hour schedules as important, and 58% less likely to report missing shifts; units with 12-hour shifts had lower vacancy rates and weeks to fill the position (all P values < or =0.05). There were no differences in patient outcomes. CONCLUSIONS: Nurses working 12-hour shifts were more satisfied. There were no differences in quality outcomes. Flexibility and choice in shift length are important elements in a positive nurse work environment. This study represents an innovative attempt by a labor-management bargaining group to make an evidence-based decision. We encourage others to conduct
similar studies.

**Source:** CINAHL

#### 44. Improving alertness and performance in emergency department physicians and nurses: the use of planned naps.


**Citation:** Annals of Emergency Medicine, 01 November 2006, vol./is. 48/5(596-), 01960644

**Publication Date:** 01 November 2006

**Abstract:** STUDY OBJECTIVE: We examine whether a 40-minute nap opportunity at 3 AM can improve cognitive and psychomotor performance in physicians and nurses working 12-hour night shifts. METHODS: This is a randomized controlled trial of 49 physicians and nurses working 3 consecutive night shifts in an academic emergency department. Subjects were randomized to a control group (no-nap condition=NONE) or nap intervention group (40-minute nap opportunity at 3 AM=NAP). The main outcome measures were Psychomotor Vigilance Task, Probe Recall Memory Task, CathSim intravenous insertion virtual reality simulation, and Profile of Mood States, which were administered before (6:30 PM), during (4 AM), and after (7:30 AM) night shifts. A 40-minute driving simulation was administered at 8 AM and videotaped for behavioral signs of sleepiness and driving accuracy. During the nap period, standard polysomnographic data were recorded. RESULTS: Polysomnographic data revealed that 90% of nap subjects were able to sleep for an average of 24.8 minutes (SD 11.1). At 7:30 AM, the nap group had fewer performance lapses (NAP 3.13, NONE 4.12; p<0.03; mean difference 0.99; 95% CI: -0.1-2.08), reported more vigor (NAP 4.44, NONE 2.39; p<0.03; mean difference 2.05; 95% CI: 0.63-3.47), less fatigue (NAP 7.4, NONE 10.43; p<0.05; mean difference 3.03; 95% CI: 1.11-4.95), and less sleepiness (NAP 5.36, NONE 6.48; p<0.03; mean difference 1.12; 95% CI: 0.41-1.83). They tended to more quickly complete the intravenous insertion (NAP 66.40 sec, NONE 86.48 sec; p=0.10; mean difference 20.08; 95% CI: 4.64-35.52), exhibit less dangerous driving and display fewer behavioral signs of sleepiness during the driving simulation. Immediately after the nap (4 AM), the subjects scored more poorly on Probed Recall Memory (NAP 2.76, NONE 3.7; p<0.05; mean difference 0.94; 95% CI: 0.20-1.68). CONCLUSION: A nap at 3 AM improved performance and subjective report in physicians and nurses at 7:30 AM compared to a no-nap condition. Immediately after the nap, memory temporarily worsened. The nap group did not perform any better than the no-nap group during a simulated drive home after the night shift.

**Source:** CINAHL

**Full Text:**

Available in print at Louth County Hospital Medical Library

Available in print at Pilgrim Hospital Staff Library

#### 45. Sleep and cognitive performance of flight nurses after 12-hour evening versus 18-hour shifts.

**Author(s):** Thomas F, Hopkins RO, Handrahan DL, Walker J, Carpenter J

**Citation:** Air Medical Journal, 01 September 2006, vol./is. 25/5(216-225), 1067991X

**Publication Date:** 01 September 2006

**Source:** CINAHL

#### 46. Reduction of musculoskeletal injuries in intensive care nurses using ceiling-mounted patient lifts.

**Author(s):** Silverwood S, Haddock M

**Citation:** Dynamics, 01 September 2006, vol./is. 17/3(19-21), 14973715

**Publication Date:** 01 September 2006

**Abstract:** The musculoskeletal injury (MSI) rate in the Richmond Hospital Intensive Care Unit (ICU) increased significantly in 2000 and 2001 by 130%. As part of a quality initiative...
program, the problem was identified, assessed, and a plan was developed that involved the installation of ceiling-mounted patient lifts (CMPL) and the incorporation of a patient positioning sling. The evaluation process included a survey given to the ICU nursing staff prior to the implementation of the CMPL and repeated three, six, and 18 months after implementation. The survey included questions about discomfort, fatigue, and frustration levels before and after a 12-hour shift, as well as any medical interventions such as use of medications, physician visits, physiotherapy, and massage therapy for work-related issues. The use of the lifts contributed to lower scores in fatigue, pain and frustration in addition to a reduction in medical visits. The results also demonstrated a significant reduction in work-related time loss claims while promoting a positive workplace environment.

Source: CINAHL

Full Text:
Available in fulltext at EBSCO Host

47. Impact of shift work on the health and safety of nurses and patients.

Author(s): Berger AM, Hobbs BB

Citation: Clinical Journal of Oncology Nursing, 01 August 2006, vol./is. 10/4(465-474), 10921095

Publication Date: 01 August 2006

Abstract: Shift work generally is defined as work hours that are scheduled outside of daylight. Shift work disrupts the synchronous relationship between the body's internal clock and the environment. The disruption often results in problems such as sleep disturbances, increased accidents and injuries, and social isolation. Physiologic effects include changes in rhythms of core temperature, various hormonal levels, immune functioning, and activity-rest cycles. Adaptation to shift work is promoted by reentrainment of the internally regulated functions and adjustment of activity-rest and social patterns. Nurses working various shifts can improve shift-work tolerance when they understand and adopt counter measures to reduce the feelings of jet lag. By learning how to adjust internal rhythms to the same phase as working time, nurses can improve daytime sleep and family functioning and reduce sleepiness and work-related errors. Modifying external factors such as the direction of the rotation pattern, the number of consecutive night shifts worked, and food and beverage intake patterns can help to reduce the negative health effects of shift work. Nurses can adopt counter measures such as power napping, eliminating overtime on 12-hour shifts, and completing challenging tasks before 4 am to reduce patient care errors.

Source: CINAHL

Full Text:
Available in fulltext at EBSCO Host

48. Critical care nurses--perceptions of 12-h shifts.

Author(s): McGettrick KS, O'Neill MA

Citation: Nursing in Critical Care, July 2006, vol./is. 11/4(188-97), 1362-1017;1362-1017 (2006 Jul-Aug)

Publication Date: July 2006

Abstract: BACKGROUND: Twelve-hour shifts have been illustrated in the literature as being a highly contentious shift pattern. However, it has also been highlighted that there is a distinct paucity of literature solely related to such a shift pattern in critical care areas, where there is high activity and a requirement for multiple and highly significant decision-making situations. It was therefore identified that such an area deserved further exploration. AIM: This study aimed to elicit critical care nurses' perceptions of working 12-h shifts. METHODS: Fifty-four nurses from three critical care areas within a large local NHS teaching hospital currently working 12-h shifts completed a self-administered questionnaire on their perceptions of 12-h shifts. Following on, a focus group interview was conducted to complement this questionnaire in an attempt to further explore these perceptions. RESULTS: From the results of the questionnaire, patient care, job satisfaction, off duty and family life achieved the most positive responses, whereas communication, fatigue and
education achieved the most negative. The focus group explored these issues with added comments on work-shy staff, suggestions on shift patterns, breaks and staffing levels.

CONCLUSIONS: Twelve-hour shifts in critical care areas are suitable shift patterns for nurses, patients and management, provided that they are fundamentally well-managed.

Source: MEDLINE

Full Text:
Available in fulltext at EBSCO Host
Available in print at Grantham Hospital Staff Library
Available in print at Lincoln County Hospital Professional Library

49. Critical care nurses: perceptions of 12-h shifts.

Author(s): McGettrick, K, O'Neill, M

Citation: Nursing in Critical Care, 2006, vol./is. 11/4(188-97), 1362-1017 (2006 Jul/Aug)

Publication Date: 2006

Abstract: Research on intensive care nurses' attitudes towards 12 hour shifts and the suitability of 12 hour shifts for ITUs. Staff in 4 main critical care settings completed questionnaires about their experience of long shifts and whether they thought they contributed to staff performance, well-being and satisfaction and quality of patient care. 49 refs.

Source: BNI

Full Text:
Available in fulltext at EBSCO Host
Available in print at Grantham Hospital Staff Library
Available in print at Lincoln County Hospital Professional Library

50. Effects of critical care nurses' work hours on vigilance and patients' safety.

Author(s): Scott LD, Rogers AE, Hwang W, Zhang Y

Citation: American Journal of Critical Care, 01 January 2006, vol./is. 15/1(30-37), 10623264

Publication Date: 01 January 2006

Abstract: BACKGROUND To minimize the occurrence of adverse events among patients, critical care nurses must be alert to subtle changes in patients' conditions, perform accurate clinical assessments, and respond expeditiously. However, little is known about the effects of the nurses' work hours on vigilance and patients' safety. OBJECTIVES To describe the work patterns of critical care nurses, determine if an association exists between the occurrence of errors and the hours worked by the nurses, and explore whether these work hours have adverse effects on the nurses' vigilance. METHODS Data were obtained from a random sample of critical care nurses in the United States. Nurses eligible for the study were mailed two 14-day logbooks to fill out Information collected included the hours worked, the time of day worked, overtime hours, days off and sleep-wake patterns. On days worked, the respondents completed all work-related questions and questions about difficulties in remaining awake while on duty. Space was provided for descriptions of any errors or near errors that might have occurred. On days off the nurses completed only those questions about sleep-wake patterns, mood, and caffeine intake. RESULTS The 502 respondents consistently worked longer than scheduled and for extended periods. Longer work duration increased the risk of errors and near errors and decreased nurses' vigilance. CONCLUSIONS The findings support the Institute of Medicine recommendations to minimize the use of 12-hour shifts and to limit nurses' work hours to no more than 12 consecutive hours during a 24-hour period.

Source: CINAHL

Full Text:
Available in fulltext at Highwire Press
Comparison of nurse, system and quality patient care outcomes in 8-hour and 12-hour shifts

Author(s): Stone, Patricia W, Du, Yunling, Cowell, Rhabia, Amsterdam, Norma, Helfrich, Thomas A

Citation: Medical Care, 2006, vol./is. 44/12(1099-1106), 0025-7079 (Dec 2006)

Publication Date: 2006

Abstract: Many nurses desire 12-hour shifts. However, there are concerns about implementation. The authors sought to compare the effects of eight- and 12-hour shifts on nurse, system, and quality patient care outcomes. The authors used a cross-sectional design with data collected from multiple sources in 2003-2004, including a nurse survey and administrative and patient records. They studied hospital nurses and patients in general adult wards, with outcomes including burnout, job satisfaction, scheduling satisfaction, preferences, intention to stay, and employee safety. System outcomes included recruitment and turnover, staffing, absenteeism, and related costs. A variety of quality patient care outcomes were measured from the three different types of data. Thirteen New York City hospitals participated; 805 surveys were examined from 99 nursing units (response rate 42%). Compared with nurses working eight-hour shifts, those working 12-hour shifts were on average more satisfied with their jobs, experienced less emotional exhaustion, 10 times more likely to be satisfied with schedules, two times as likely to perceive 12-hour schedules as important, and 58% less likely to report missing shifts; units with 12-hour shifts had lower vacancy rates and weeks to fill the position (all P values less than or equal to 0.05). There were no differences in patient outcomes. Nurses working 12-hour shifts were more satisfied. There were no differences in quality outcomes. Flexibility and choice in shift length are important elements in a positive nurse work environment. This study represents an innovative attempt by a labour-management bargaining group to make an evidence-based decision. The authors encourage others to conduct similar studies. Cites 45 references. [Journal abstract]
implementation, or otherwise, of this model of work for nurses within the Intensive Care Unit (ICU).

Source: CINAHL
From the first 50 results…

Work ability of health care shift workers: What matters?

FM Fischer, FN da Silva Borges, L … - Chronobiology, 2006 - Informa Pharma Science
... M., Lemay F. L. Aging and shiftwork: the effects of 20 years of rotating 12-hour shifts among ... Hobbs BB, Farr L. A. Assessing internet survey data collection methods with ethnic nurse shift workers. ... Josephson M., Vingárd E. Remaining in nursing work with a sustainable health. ...

Shift work in nursing: is it really a risk factor for nurses' health and patients' safety?

H Admi, O Tzischinsky, R Epstein, P Herer, P ... - Nursing, 2008 - medscape.com
... (2004). Mental health status, shift work, and occupational accidents among hospital nurses in Japan. ... Daytime sleepiness, sleep habits and occupational accidents among hospitals nurses. Journal of Advanced Nursing, 52(4), 445-453. ... The Canadian Nurse, 96(9), 35-40. ...

The older nurse in the workplace: Does age matter?

LD Norman, K Donelan, PI Buerhaus, G Willis, … - Nursing, 2005 - medscape.com

Role stress and career satisfaction among registered nurses by work shift patterns

AJ Hoffman, LD Scott - Journal of Nursing Administration, 2003 - journals.lww.com
... Conclusion Nurse executives face many challenges now and in the future. ... 3. Ugrovics A, Wright J. 12-hour shifts: does fatigue undermine ICU nursing judgments? ... 4. Bloodworth C, Lea A, Lane S, Ginn R. Challenging the myth of the 12-hour shift: a pilot evaluation. Nurs Stand. ...

Surviving shift work.

DE Scott - Colorado nurse (1985), 2008 - navigatenursing.org
... Approximately 30% of the nursing population is employed in shift work (Hughes & Stone ... shift work, working non-daylight hours can be detrimental to a nurse’s health. ... When scheduling shift that rotate, nurses should consider working forward rotating shifts whenever possible. ...

Health, work variables, and job satisfaction among nurses

JS Ruggiero - Journal of Nursing Administration, 2005 - journals.lww.com
... The nursing literature contains conflicting evidence regarding the relationship between age and job ... Each nurse was sent an envelope containing a letter inviting participation in the study; a ... participants worked 12-hour shifts (Table 4). Eight-, 10-, and 12-hour shift workers were ...

EWTD, the full-shift system and the tertiary referral centre

JS Khan, N Iqbal, R Al-Mutti - Bulletin of The Royal College of ..., 2005 - journals.lww.com
... out-of-hours on-call rota was divided into two shifts for weekdays (5pm – 8pm and 8pm – 8am) and a 12-hour full-shift system over ... Results The results from the questionnaire are shown in Table 1. Under the Hospital at Night initiative, the night nurse responded initially to all ...

Consistency of Shift Length Builds Teamwork

C Potera - AJN The American Journal of Nursing, 2008 - journals.lww.com
... fewer different people has really made it possible for us to know each other's strengths and weaknesses,” said another nurse. ... said Beatrice Kalisch, director of nursing business and health sys- tems at the University of Michigan's School of Nursing. ...

Consistency of Shift Length ...

Faculty Perceptions on the Use of Varied Shift Lengths for Nursing Student Clinical Rotations

JJA Hannans - 2010 - csuchico-dspace.calstate.edu
... hour shifts. Since the 1970s, the 12-hour shift has become common in nurse staffing (Heaslip, 1988; McGettrick & O'Neil, 2006; Todd, Reid, & Robinson, 1989). In addition to
providing more efficient use of **nursing** staff, reasons for hospital wide **12-hour** shifts ...

Maintain vigilance in the ICU: How do work hours and sleep affect patient care?


Reexamining the **Nurse Scheduling Problem**: **Staffing Ratios** and **Nursing Shortages**

PD Wright, KM Bretthauer, MJ Côté - Decision Sciences, 2006 - interscience.wiley.com … Our discussions with **nursing** managers indicate that the Medical, Surgical, and Ortho-Neuro units observed … which we worked uses two types of nurses: registered nurses (RNs) and **nurse** aides (NAs … the base rate for working certain shifts: evening **shift**, 10%; night **shift**, 12%; 12 …

Neonatal Advanced Practice **Nurses Shift** Length, **Fatigue**, and Impact on Patient Safety


Longitudinal relationship of work hours, mandatory overtime, and on-call to musculoskeletal problems in **nurses**


Role stress and career satisfaction among registered **nurses** by work **shift patterns**

AJ Hoffman, LD Scott - Journal of **Nursing Administration, 2003** - journals.lww.com … with a corresponding decrease in current career satisfaction. This is important information for **nurse** executives to … of this stress is apparent in today's healthcare envi-ronment as the current **nursing** shortage escalates to an all-time deficiency of 90,000 **nurses** by the …

**Nurses'** perceptions of the advantages and disadvantages of their **shift** and work **schedules**

JS Ruggiero, JM Pezzino - Journal of **Nursing Administration, 2006** - journals.lww.com … perceived advantages and disadvantages of their **shift** assignments and work **schedules** would facilitate **nurse** administrators' development of … The findings of this study reinforce what many **nursing** administrators already know about staff **nurses'** views regarding …