

Strengthening Health Equity:

Protection of Vulnerable Workers in Health Promoting Hospitals and Health Services (HPH)

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Health Equity in HPH

▶ **Health equity and its relevance to the HPH framework**

- One of the central missions of the HPH framework is to address **health equity**
 - Providing fair access to health services
 - Fostering a supportive and culturally sensitive environments
 - Addressing the needs of vulnerable workers, including low-income and at-risk populations
 - So, eventually promoting well-being for all.

Understanding Vulnerable Workers in HPH

▶ Key Challenges

- **Economic instability:** Usually engaged in demanding jobs with lower pay and job insecurity, which contribute to their economic struggles
 - ➔ **Often endure unfavorable working conditions, sacrificing their health to make living.**
- **Limited resources:** They may lack access to adequate protective equipment, safety training, or healthcare services, which further worsens their exposure to workplace hazards
- **Disproportionate hazards:** Greater risk of workplace accidents and health issues.

Case study

Issues with fixed night shift in Korean Hospitals

Overview of Night Duty Systems

- ▶ Introduction to the different types of night duty systems in hospitals (e.g., fixed night shifts, rotational shifts).

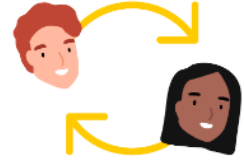
FIXED SHIFT

When an employee works the same hours on first, second, or third shift.



ROTATING SHIFT

When an employee works inconsistent hours throughout the week.



SPLIT SHIFT

An employee works two shifts during the day.



ON-CALL SHIFT

Must be available to work if needed. Generally, employees working on-call shifts also work regular shifts.



WEEKDAY/WEEKEND SHIFT

You may need employees to work during the week, weekend, or both.



Consequences of **Shift Work:**

- Blood Sugar Imbalance and Diabetes
- Inhibited Mental Performance
- Increased Risk of Injury & Accidents
- Hormone Imbalances
- Weight Gain
- Digestive Disorders
- Depression
- Anxiety
- Chronic Fatigue



Issues with fixed night shift in South Korean Hospitals

- ▶ **Rotational shift dissatisfaction and turnover rates in South Korean hospitals.**
 - About 50% of nurses who join large hospitals leave within 1-2 years due to the difficulties they face.
- ➔ **As a solution to that, fixed shift policy has been implemented.**
 - Key reasons for implementing fixed night shifts (e.g., turnover reduction, health improvement).

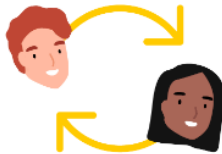
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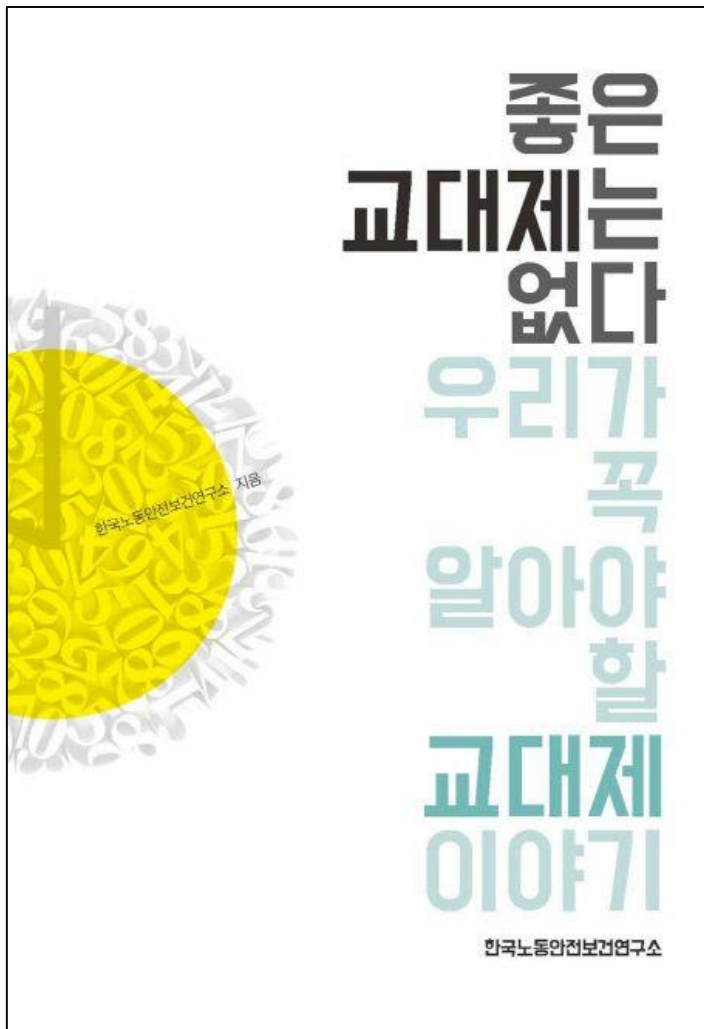
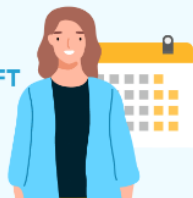
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There is No Good Shift System:
The Story About Shift Work That We Must Know

Korea Labor & Safety Health Research Institute

First Author	Year	Health outcome	Fixed night shift	Rotating shift
F Wei	2022	Breast Cancer Incidence	1.029 (1.003–1.055)	1.053 (1.018–1.090)
Y Wang	2021	Metabolic syndrome	OR: 1.40 (1.18 1.65)	OR: 1.42 (1.18 1.71)
F Dutheil	2020	Total Chol	SMD=0.23 (0.01 0.46), p=0.049 SMD=0.22 (0.01 0.42), p=0.038 SMD=0.24 (0.02 0.46), p=0.037	ref (Unspecified) ref (Rotating 3*8) ref (Rotating 2*12)
		TG	SMD=0.21 (0.03 0.38), p=0.023	ref (Rotating day shift)
		c-LDL	SMD=0.04 (-0.21 0.29), p=0.739	ref (Unspecified)
		c-HDL	SMD=-0.32 (-0.57 -0.07), p=0.014	ref (Rotating day shift)
S Manohar	2017	Hypertension	OR 1.07 (95% CI, 0.85–1.35)	OR 1.34 (1.08–1.67)
M Cheng	2019	Ischaemic heart diseases	RR 1.44 (1.10 to 1.89)	RR 1.10 (1.04 to 1.17)
MV Vyas	2012	Cardiovascular events	RR 1.41 (1.13 to 1.76)	RR 1.21 (1.00 to 1.46)
Y Gan	2018	Prostate cancer	RR 1.34 (0.94 to 1.91)	RR 1.10 (1.00 to 1.26)
C Cai	2019	Preterm delivery	OR 1.21 (1.03-1.42)	OR 1.13 (1.00 1.28)
		SGA (small for gestational age)		OR 1.18 (1.01 1.38)
		Preeclampsia	OR 1.05 (0.63 to 1.75)	OR 1.75 (1.01 3.01)
		Gestational hypertension	OR 1.19 (0.97 to 1.45)	OR 1.19 (1.10 1.29)
		Miscarriage	OR 1.23 (1.03 1.47)	OR 1.05 (0.85 to 1.29)
		LBW	OR 1.44 (0.76 to 2.75)	
Y Gan	2015	Diabetes Mellitus	OR 1.09 (1.04 to 1.14)	OR 1.42 (1.19 to 1.69)
Q Liu		Overweight	RR 1.38 (1.06, 1.80)	RR 1.21 (1.02, 1.43)
		Obesity	RR 1.05 (1.00, 1.10)	RR 1.18 (1.08, 1.29)
HT Chen	2022	GERD	OR 1.39 (1.16–1.66)	OR 1.83 (1.44–2.33)
HM Chen	2023	Low Back Pain	OR 1.49 (1.21–1.82)	OR 0.96 (0.76–1.22)

The deleterious effect of permanent night shift

- ▶ **Permanent night shifts might be the worst schedule for workers in terms of sleep problem.**
- ▶ **Putative explanations**
 - Desynchronized circadian rhythm
 - ✓ Daytime sleep is typically much shorter than normal night sleep.
 - Because of multiple reasons including increased environmental noise, light levels, and conflicting social, domestic and family demands
 - ✓ Most night shift workers tend to return to their daytime routine on their off days, especially if they work less than 5 nights a week (e.g., nurses often work only 3 nights a week).

Shiftwork impacts and adaptation among health care workers

James B. Burch^{1,2}, Jasmine Tom³, Yusheng Zhai¹, Lela Criswell³, Edward Leo³ and Kisito Ogoussan¹

Background	Shiftwork among health care workers impacts upon the safety and health of both employees and patients.
Aims	To characterize shiftwork-related attitudes, behaviours, symptoms and coping strategies among health care workers, two validated questionnaires (the Standard Shiftwork Index and the Pressure Management Indicator) were used to identify factors predicting shiftwork adaptation.
Methods	Participants ($n = 376$, response rate 25%) were grouped according to their work schedule (days, permanent evenings, rotating days plus evenings, permanent nights or relief and combined shifts). Indicators of lifestyle, work organization, sleep disruption, health and pressure management among workers on irregular shifts were compared with participants on day shifts, after adjustment for gender, age and marital status. Principal components analysis and ordinal logistic regression were used among irregular shiftworkers to identify factors predicting schedule adaptation.
Results	Night and relief/combined shiftworkers reported a greater ability to accommodate irregular schedules and disrupted sleep, but were also more likely to report work-related impacts than day workers. Permanent night workers generally reported poorer health, more absenteeism and less job satisfaction than day workers. Factors associated with optimal work performance or schedule contentment among shiftworkers included adequate sleep, evening circadian preference, increased age and organizational satisfaction. Reduced work performance or schedule discontent was associated with sleep/wake difficulties and poor health.
Conclusions	This study confirmed previous research and identified factors that can be targeted for the development of more effective shiftwork adaptation programmes in a health care setting (sleep timing and duration, exercise and optimal health and organizational satisfaction).
Key words	Circadian rhythm; medical care; nursing; shiftwork.

(Permanent) night workers had more

- sick days,
- non-prescription medication use (antacids and acetaminophen or paracetamol),
- gastrointestinal complaints, and
- poorer self-rated fitness

Night and Relief Shiftwork

- ▶ **Main motivations for working night and shiftwork: securing wage increases and job stability**
- ▶ **When shift workers perceive their current work schedule as favorable (although this is less true), they believe they have greater adaptability to shift work.**
- ▶ **Paradoxically**, those who think they can manage night shiftwork are often the ones who suffer more negative impacts on sleep, stamina, and health.

→ In other words, people who believe they can handle the night shift schedule well are actually more likely to experience sleep deprivation, reduced physical stamina, and other health issues.

Night Shift Survey in a University Hospital

▶ Purpose

- To understand the reality of the night shift system.

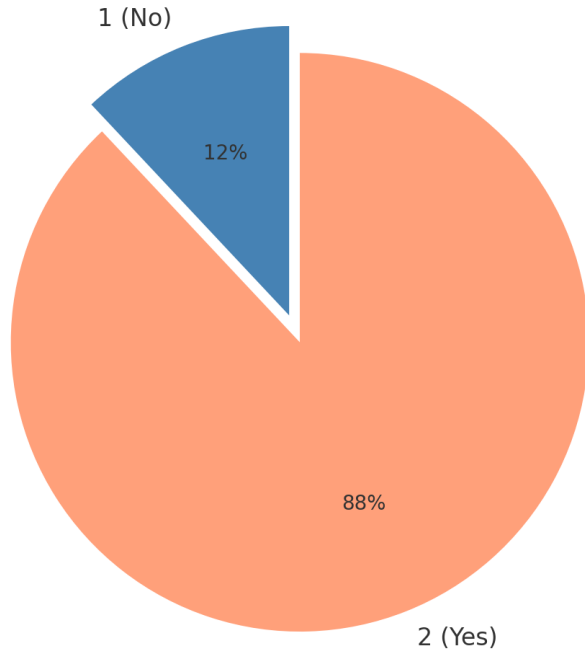
▶ Method

- **Online survey:** Conducted in April 2024 for one month, targeting department heads managing night shift schedules.
- **Interviews:** Group interviews (3 people) and individual interviews (1 person) were conducted in July 2024.

▶ Survey Detail

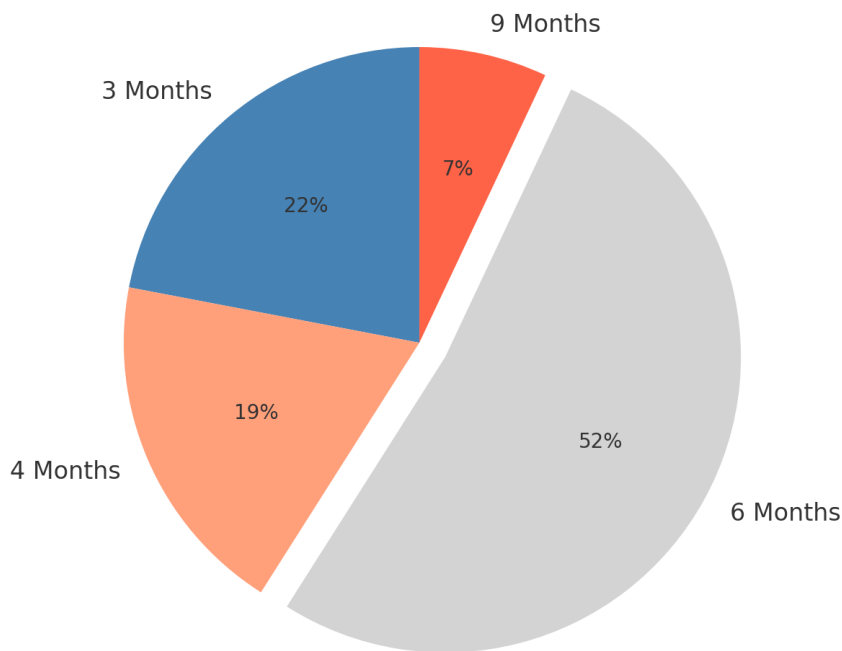
- Number of staff participating in night shifts in each department, the maximum months of night shift duty in one year, the longest consecutive night shift periods, etc.

Presence of Dedicated Night Shift Workers



- ▶ **The survey indicated that 88% of nursing departments reported having dedicated fixed night shift workers, while 12% did not.**

Maximum Night Shifts in One Year per Person



- ▶ **Government Guidelines:** Up to 9 months of fixed night shifts might be possible using a 3-month fixed night duty followed by a 1-month rotation system.
- ▶ **Most nurses typically work fixed night shifts for up to 6 months a year.**
- ▶ **Most wards limit fixed night shifts to 6 months, with workers rotating every 3 months.**
- ▶ **However, some wards allow up to 9 months of continuous fixed night shifts.**

Night Shift Assignment Decision Methods

- ▶ **Workers who apply for fixed night shifts are assigned based on the requested duration.**
- ▶ **If there are not enough volunteers, remaining workers are rotated to fill the gaps.**
- ▶ **Although not mandatory, some departments have a culture where each individual must take 1-2 months of fixed night shifts.**
- ▶ **Senior staff tend to avoid night shifts when possible.**
- **Junior staffs sometimes feel more pressure.**
- **In some cases, contract workers are hired for fixed night shifts.**

Summary of Interview

▶ **Reasons for Night Shift Duty**

- Primarily for higher wages (difference of approximately 25% of total wages compared to rotational shifts).

▶ **Daily Life Changes**

- "During fixed night shifts, there is almost no social life."
- "Rarely make appointments; simply rest."
- "When not on night shifts, days feel fuller. But, during fixed night shifts, it becomes hard to remember the day's activities, and there's confusion about dates and appointments."

Summary of Interview

▶ **Social Relationships & Hobbies**

- "I don't meet friends often. It's difficult to predict when I will be mentally alert. This makes it difficult to make plans or engage in social activities."
- "Going out is exhausting, and most prefer resting alone on off-days."

▶ **Emotional Changes**

- "Increased feelings of depression, anxiety, and heightened sensitivity to emergencies."
- "Experiencing decreased focus and emotional dullness."

Evaluation of Fixed Night Shift Policies

A system that operates at the expense of a few vulnerable individuals within the organization.

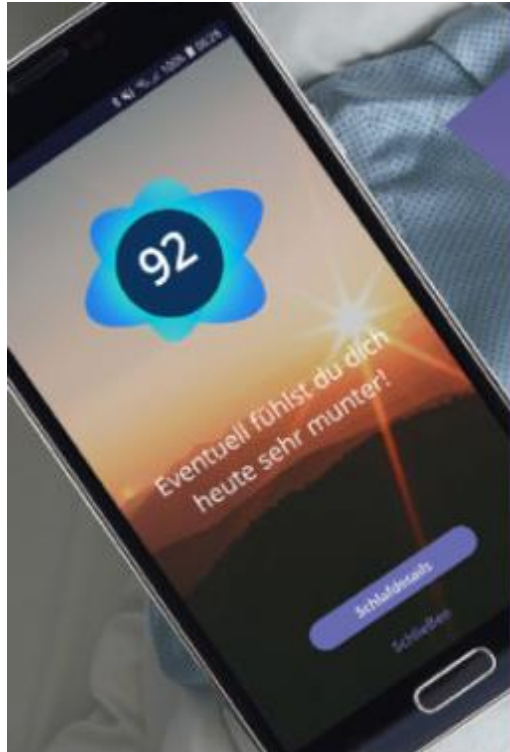
► Recommendations for Improvement

- The determining work schedules should be changed to a more fair and democratic approach.
- **Strategies for Night Shift Management**
 - Ensure adequate staffing (e.g., float nurses).
 - Establish rest/sleep rooms.
 - Conduct frequent assessments on fitness for work.
 - Implement close monitoring of sleep logs.
 - Reducing the maximum number of night shifts.



Tout, Amber F., et al. "Current sleep interventions for shift workers: a mini review to shape a new preventative, multicomponent sleep management programme." *Frontiers in Sleep* 3 (2024): 1343393.

Digital CBT-I



Received: 14 December 2023 | Revised: 14 February 2024 | Accepted: 23 February 2024
DOI: 10.1111/jsr.14193

RESEARCH ARTICLE



Digital cognitive behavioural therapy for insomnia reduces insomnia in nurses suffering from shift work disorder: A randomised-controlled pilot trial

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Digital Health Solutions for Shift Worker Protection

▶ The rise of digital health solutions in HPH settings

▶ Digital Health Equity

- Challenges in achieving equity in digital health access can be addressed through strategies that ensure all workers benefit from digital health solutions by providing devices, reliable internet, and user-friendly digital tools.

▶ The Role of Digital Literacy

- Teaching vulnerable workers how to use digital health tools through training programs is essential to prevent further health inequity due to the digital literacy gap.

Conclusion and Next Steps

- ▶ **The risk does not disappear; it is shifted to the most vulnerable people within the organization.**
- ▶ **Reaffirming Commitment to Health Equity:** HPH must continue its mission of addressing health disparities and ensuring equitable access to services for vulnerable workers.
- ▶ **Future Directions**
 - Investigate the correlation between economic vulnerability and increased occupational health risks.
 - Provide better access to digital tools and training for vulnerable workers.
 - Conduct ongoing assessments to evaluate the impact of interventions on health equity and worker well-being.



Thank you.
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