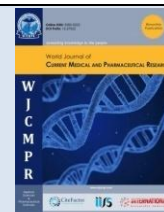




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A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM (STP) ON LEVEL OF KNOWLEDGE REGARDING SLEEP HYGIENE AND LIFESTYLE MODIFICATION AMONG NIGHT SHIFT EMPLOYEES WORKING IN COMPANIES/ INDUSTRIES AT KANPUR (UP)

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ARTICLE HISTORY	ABSTRACT
Received on: 16-08-2026 Revised on: 21-09-2026 Accepted on: 04-10-2026	Night shift work often disrupts the natural circadian rhythm, leading to poor sleep quality and lifestyle imbalances. Inadequate knowledge regarding sleep hygiene can further exacerbate health issues among industrial workers. The study aimed to assess the effectiveness of a Structured Teaching Program (STP) on the level of knowledge regarding sleep hygiene and lifestyle modifications among night shift employees in Kanpur (UP). A total 60 sample were collected using a structured knowledge questionnaire. A pre-test was conducted, followed by the administration of the STP. A post-test was performed after 7 days to evaluate the impact. The findings revealed that in the pre-test, 63.34% of employees had inadequate knowledge, while 36.66% had moderate knowledge. After the implementation of the STP, the post-test scores showed a significant increase, with 51.66% of participants achieving a level of adequate knowledge. The post-test mean score was significantly higher than the pre-test mean score, with a p-value of <0.05, indicating that the STP was highly effective. The study concludes that the Structured Teaching Program significantly improved the knowledge of night shift employees regarding sleep hygiene and lifestyle modifications. Regular educational interventions are recommended in industrial settings to promote the long-term well-being of night shift employees.
Keywords: Structured Teaching Program (STP), Sleep Hygiene, Lifestyle Modification, Night Shift Employees.	
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INTRODUCTION

Night-shift work has become an essential component of modern industrial operations, ensuring continuous production, timely service delivery, and economic productivity [1]. However, working at night can disrupt the body's natural sleep-wake cycle, potentially affecting physical, psychological, and social well-being [2].

Night-shift employees frequently experience disturbances in their biological clock, which may contribute to sleep problems, fatigue, reduced alertness, and long-term health complications [3]. These challenges can negatively affect their occupational performance, productivity, and overall quality of life. Therefore, adequate knowledge of sleep hygiene and lifestyle modification is essential for promoting healthy sleep habits and reducing the adverse effects associated with night-shift work [4]. Sleep Hygiene and Lifestyle Modification Sleep hygiene refers to healthy habits and environmental practices that promote adequate, restful,

and good-quality sleep. It is particularly important for night-shift employees because they often sleep during the daytime, when sunlight, environmental noise, and household activities can interfere with their rest [5].

Maintaining a cool, quiet, and dark sleeping environment can help improve daytime sleep. The use of eye masks, earplugs, and blackout curtains may further reduce disturbances. Following a consistent sleep schedule, including on days off when feasible, can help regulate the sleep-wake cycle [6].

Other beneficial practices include avoiding caffeine close to the intended sleep period, limiting heavy meals before bedtime, reducing exposure to bright lights and electronic screens before sleep, and incorporating regular physical activity. Short, planned naps before or during a night shift, where permitted, may also help reduce fatigue and improve alertness [7-8].

Need for the Study

Night-shift work is common in industries such as manufacturing, information technology, healthcare, and other sectors that require continuous operations. Disruption of the natural circadian rhythm can contribute to inadequate sleep, excessive daytime sleepiness, fatigue, and sleep disorders, including insomnia and shift work sleep disorder [9].

Long-term circadian disruption and insufficient sleep have also been associated with an increased risk of metabolic and cardiovascular problems, including obesity, diabetes, and hypertension, as well as psychological difficulties such as anxiety and depression.

Internationally, shift work represents a substantial proportion of the workforce, although its prevalence varies across countries and industries. Night-shift employees may have limited awareness of appropriate sleep hygiene practices and healthy lifestyle modifications, making educational interventions important [10].

A structured teaching programme (STP) can provide systematic information about sleep hygiene, appropriate sleep schedules, environmental modifications, dietary habits, and fatigue management. Assessing employees' knowledge before and after such a programme can help determine whether the intervention improves their understanding of these practices.

Therefore, the present study was undertaken to assess the effectiveness of a structured teaching programme on knowledge regarding sleep hygiene and lifestyle modification among night-shift employees working in selected industries in Kanpur, Uttar Pradesh.

Note: Prevalence estimates and statements about previous research should be supported by appropriate, verified references in the final manuscript.

Problem Statement

A study to assess the effectiveness of a structured teaching programme on the level of knowledge regarding sleep hygiene and lifestyle modification among night-shift employees working in selected companies/industries in Kanpur, Uttar Pradesh.

OBJECTIVES OF THE STUDY

1. To assess the pre-test level of knowledge regarding sleep hygiene and lifestyle modification among night-shift employees.
2. To evaluate the effectiveness of a structured teaching programme on knowledge regarding sleep hygiene and lifestyle modification among night-shift employees by comparing pre-test and post-test knowledge scores.
3. To determine the association between pre-test knowledge scores regarding sleep hygiene and lifestyle modification and selected sociodemographic variables among night-shift employees.

Hypotheses

Null hypotheses

- H₀₁: There is no statistically significant difference between the pre-test and post-test knowledge scores regarding sleep hygiene and lifestyle modification among night-shift employees working in selected industries in Kanpur, Uttar Pradesh.

- H₀₂: There is no statistically significant association between pre-test knowledge scores regarding sleep hygiene and lifestyle modification and selected sociodemographic variables among night-shift employees.

Research hypotheses

- H₁: There is a statistically significant difference between the pre-test and post-test knowledge scores regarding sleep hygiene and lifestyle modification among night-shift employees working in selected industries in Kanpur, Uttar Pradesh.
- H₂: There is a statistically significant association between pre-test knowledge scores regarding sleep hygiene and lifestyle modification and selected sociodemographic variables among night-shift employees.

METHODOLOGY

Research Approach

A quantitative research approach was adopted for the study.

Research Design

A quasi-experimental, one-group pre-test–post-test research design was selected to assess the effectiveness of the structured teaching programme.

Variables

- Independent variable: Structured teaching programme on sleep hygiene and lifestyle modification.
- Dependent variable: Knowledge regarding sleep hygiene and lifestyle modification among night-shift employees.
- Sociodemographic variables: Age, gender, religion, educational status, monthly family income, type of industry, years of work experience, duration of night-shift work, sleep pattern, and previous knowledge regarding sleep hygiene and lifestyle modification.

Population

The population comprised night-shift employees working in industrial settings.

Target Population

The target population consisted of night-shift employees working in selected industries and companies in Kanpur, Uttar Pradesh.

Accessible Population

The accessible population consisted of night-shift employees working at Balbir Hydraulic Machine Industry, Industrial Estate, Dada Nagar, Kanpur, Uttar Pradesh.

Sample

The sample consisted of night-shift employees who fulfilled the eligibility criteria for participation in the study.

Sample Size

The sample size was 60 night-shift employees (n = 60) working at the selected industry in Kanpur, Uttar Pradesh.

Sampling Technique

A simple random sampling technique using the lottery method was adopted to select the study participants.

Inclusion Criteria

The study included night-shift employees who:

1. Were working night shifts in the selected industry.
2. Were willing to participate in the study.
3. Were present at the time of data collection.

Exclusion Criteria

The study excluded night-shift employees who:

1. Were not present at the time of data collection.
2. Were not working night shifts in the selected industry.
3. Were unwilling to participate in the study.

Methods of Data Collection

Data were collected using a structured questionnaire consisting of sociodemographic variables and multiple-choice questions assessing knowledge regarding sleep hygiene and lifestyle modification. The structured teaching programme was administered after the pre-test, followed by a post-test to evaluate changes in knowledge.

Development and Description of the Research Tool

The data collection tool consisted of two sections.

- Section A: Sociodemographic variables. This section collected information about participants' age, gender, religion, educational status, monthly family income, industry type, work experience, duration of night-shift work, sleep pattern, and previous knowledge.
- Section B: Structured knowledge questionnaire. This section consisted of 30 multiple-choice questions designed to assess knowledge regarding sleep hygiene and lifestyle modification among night-shift employees.

RESULTS AND DISCUSSION**Section A: Frequency and Percentage Distribution of Sociodemographic Variables**

Sample size: n = 60

The major findings regarding the sociodemographic characteristics of the study participants were as follows:

1. Age: The majority of participants, 55 (91.66%), belonged to the combined age groups of 20–25 years and 26–30 years. The individual frequencies for these two age groups were not provided.
2. Religion: The majority of participants, 54 (90%), belonged to the Hindu religion.
3. Educational status: The largest reported group consisted of participants with primary education, accounting for 19 (31.66%) participants.
4. Work experience: The largest reported group, 18 (30%), had less than one year of work experience.
5. Monthly family income: Half of the participants, 30 (50%), belonged to the monthly family income category of ₹15,001–₹20,000.
6. Type of industry: All 60 participants (100%) were employed in the manufacturing industry.
7. Previous knowledge: A total of 31 participants (51.66%) reported having no previous knowledge regarding sleep hygiene and lifestyle modification.

Section B: Assessment of Pre-Test and Post-Test Knowledge Levels

The pre-test and post-test knowledge levels should be presented according to the categories used in the research tool, such as inadequate, moderately adequate, and adequate knowledge, if these categories were predefined in the study protocol.

The actual frequencies and percentages for each knowledge category, along with the pre-test and post-test mean scores and standard deviations, are required to complete this section accurately.

Table 01: Frequency and Percentage Distribution of Night-Shift Employees According to Their Pre-Test and Post-Test

Knowledge Levels Regarding Sleep Hygiene and Lifestyle Modification (n = 60).

S. No.	Level of knowledge	Pre-test	Post-test	
		F %	F	%
1.	Inadequate knowledge (0-14)	3863.34%	00	00%
2.	Moderate knowledge (15-22)	2236.66%	29	48.34%
3.	Adequate knowledge (23-30)	0000%	31	51.66%
	Total	60 100%	60	100%

Section C

Table 02: Comparison of Pre-Test and Post-Test Knowledge Scores Regarding Sleep Hygiene and Lifestyle Modification among Night-Shift Employees (n = 60)

S. No.	Knowledge level	Mean score	Mean difference	Mean percentage	Standard deviation
1	Pre-test	14.5	—	24.16%	2.60
2	Post-test	24.2	9.7	40.33%	2.14

Section D: Effectiveness of the Structured Teaching Programme on Knowledge Regarding Sleep Hygiene and Lifestyle Modification among Night-Shift Employees

Table 03: Comparison of Pre-Test and Post-Test Knowledge Scores Using Mean, Mean Difference, Standard Deviation, Paired t-Test, and Level of Significance (n = 60)

Knowledge level	Mean score	Mean difference	Standard deviation (SD)	Paired t-value	Level of significance
Pre-test	14.5		2.60		
Post-test	24.5	9.7*	2.14	25.2*	0.05*

Note: The supplied values are reproduced from the provided data. The post-test mean of 24.5 and pre-test mean of 14.5 yield a difference of 10.0, not 9.7. The mean difference, paired t-value, and significance level must be verified against the original statistical analysis [11].

The results indicate that the mean knowledge score increased from 14.5 in the pre-test to 24.5 in the post-test. This suggests an improvement in knowledge regarding sleep hygiene and lifestyle modification among night-shift employees following the structured teaching programme.

The reported paired t-value was 25.2. However, the exact p-value should be confirmed from the statistical analysis before concluding that the improvement was statistically significant. A significance threshold of 0.05 alone does not establish the actual p-value [12].

Section E: Association between Pre-Test Knowledge Levels and Selected Sociodemographic Variables

The association between pre-test knowledge scores regarding sleep hygiene and lifestyle modification and selected sociodemographic variables was assessed among night-shift employees working in the selected industry in Kanpur, Uttar Pradesh [13-15].

The findings revealed a statistically significant association between pre-test knowledge scores and educational status. This suggests that educational status may be related to employees' existing knowledge of sleep hygiene and lifestyle modification.

Therefore, the null hypothesis (H_0) was rejected and the research hypothesis (H_2) was accepted for educational status, provided that the association was statistically significant at the predetermined level of significance ($p < 0.05$).

Associations with other sociodemographic variables should be reported separately according to their respective statistical test results.

CONCLUSION

On the basis of the findings of the study, the following conclusion was drawn. In the pre-test knowledge based on selected industry/ company in Kanpur U.P. regarding sleep hygiene and lifestyle modification so that among night shift employees in industry 38(63.34%) had inadequate knowledge 22(36.66%) moderate knowledge and no one had adequate knowledge and in post-test (51.66%) had adequate knowledge (48.34%) had moderate knowledge.

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INFORM CONSENT AND ETHICAL STATEMENT

Not Applicable

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CONFLICT OF INTEREST

Not Declared

AUTHOR CONTRIBUTION

All authors are contributed equally.

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