Impact of Night Shift Work on Dietary Behaviour and Employee Wellness among IT Professionals

Anitha. M

Assistant Professor, Department of Home Science-Nutrition, Food Service Management and Dietetics, S.A. College of Arts & Science, Thiruverkkadu, Chennai, Tamil Nadu, India (Affiliated to the University of Madras)

Corresponding Author Email: anithamadhu1305@gmail.com

Abstract

***Introduction**: Globalization created the trend of increased number of workers, especially in the Information Technology (IT) sector to work in night shifts due to the growing demand of employment services. Working night shifts has developed a greater imbalance in the circadian rhythms and may have an impact on an employee's health, eating habits, way of life, and general well-being.*

***Objectives**: The study's objectives were to determine how night shift work affected IT workers' dietary habits and to find the association between employee wellness metrics like body mass index (BMI), sleep duration, physical activity, and eating habits.*

***Methodology**: A descriptive cross-sectional study was conducted among 70 IT employees working in night shifts in Chennai. Participants were selected using a purposive sampling technique based on inclusion criteria such as employment in IT companies and involvement in night shift work. Data were collected using a structured questionnaire, which included socio-demographic details, lifestyle habits, meal patterns, and food consumption behavior. Dietary behavior was assessed through food frequency patterns and meal consumption habits. Anthropometric measurements including height, weight, and Body Mass Index (BMI) were recorded to evaluate nutritional status. Additional variables such as sleep duration, physical activity, calorie counting behaviour, and nutritional supplement intake were also assessed. The collected data were analyzed using descriptive statistics and chi-square tests to determine associations between variables.*

***Results and Discussion**: The results indicated that night shift work significantly influences dietary behaviour and lifestyle patterns among IT professionals. Many respondents reported irregular meal timings, altered meal frequency, and a tendency toward convenience foods during night shifts. The anthropometric assessment revealed varying BMI categories among the respondents, with a considerable proportion falling under the*

overweight category. Statistical analysis showed a significant association between BMI and physical activity ($p < 0.05$), indicating that employees with lower physical activity levels were more likely to have higher BMI values. A significant relationship was also observed between physical activity and quantity of sleep, suggesting that inadequate sleep may reduce engagement in physical activity. Additionally, BMI showed a significant association with calorie counting behaviour, indicating awareness of dietary intake among certain participants. These findings highlight that irregular work schedules, sleep disturbances, and limited opportunities for healthy eating during night shifts may negatively affect dietary behaviour and employee wellness.

***Conclusion**: Night shift work influences dietary patterns, lifestyle behavior, and health indicators among IT employees. Workplace wellness initiatives focusing on nutrition education, structured meal timings, and promotion of physical activity may help improve employee health and contribute to sustainable work environments.*

***Keywords**: Night shift work, Dietary behaviour, circadian rhythm, IT professionals, Body Mass Index, Physical activity, Employee wellness*

Introduction

The rapid expansion of globalization and the growth of the Information Technology (IT) sector have significantly increased the prevalence of night shift work, particularly in countries like India. As organizations operate across global time zones, employees are increasingly required to work during unconventional hours, leading to disruption of the natural circadian rhythm. This biological misalignment adversely affects physiological, psychological, and behavioral processes, particularly dietary habits, sleep patterns, and overall wellness. Circadian rhythm disruption has been linked to metabolic imbalance, hormonal dysregulation, and increased risk of chronic diseases such as obesity, cardiovascular disorders, and type 2 diabetes (Reiter et al. 2012; Wang et al. 2011). Night shift workers often exhibit irregular eating patterns, increased consumption of energy-dense convenience foods, and reduced levels of physical activity, all of which contribute to poor health outcomes (Zhao et al. 2012; Bonnell et al. 2017). Furthermore, altered secretion of hormones such as melatonin, cortisol, leptin, and ghrelin affects appetite regulation and energy metabolism, thereby influencing dietary behavior (Jeong & Hong, 2015). From a sustainability perspective, employee health is a key determinant of organizational

productivity and long-term viability. Poor dietary behavior and compromised wellness among night shift employees can lead to increased absenteeism, reduced efficiency, and higher healthcare costs. Therefore, understanding the relationship between night shift work, dietary behavior, and employee wellness is essential for developing sustainable and health-promoting workplace strategies.

Methodology

A descriptive cross-sectional study was conducted among 70 IT professionals working night shifts in Chennai to assess the impact of night shift work on dietary behavior and employee wellness. Participants were selected using purposive sampling based on inclusion criteria such as employment in IT companies and engagement in night shift schedules. Data were collected using a structured questionnaire that included socio-demographic characteristics, dietary habits, food frequency patterns, and lifestyle variables such as sleep duration, physical activity, calorie counting behavior, and nutritional supplement intake. Anthropometric measurements including height and weight were recorded to calculate Body Mass Index (BMI), which served as an indicator of nutritional status. Dietary intake was assessed using a 24-hour recall method along with food frequency questionnaires to evaluate habitual eating patterns. The collected data were analyzed using descriptive statistics such as frequency and percentage distribution, and inferential statistics including chi-square tests were applied to determine associations between variables such as BMI, physical activity, sleep duration, and dietary behavior. This methodological framework enables a comprehensive evaluation of employee health and its implications for sustainable workplace environments.

Results and Discussion

The results of the present study indicate that night shift employment has a substantial impact on dietary patterns and overall wellness among IT professionals. Most participants belonged to the 26–30-year age group, with a nearly equal representation of males and females. A notable proportion of respondents (59%) reported experiencing disturbed sleep, reflecting significant disruption of circadian rhythms. Such sleep disturbances are widely recognized to impair metabolic processes and elevate the risk of chronic health conditions (Angerer et al. 2017).

Table 1: Showing sleep related symptoms of the respondents

Variable	No. of Respondents	Percentage
Insomia	20	28%
Fatigue	15	21%
Head Ache	25	37%
Cramps	10	14%
Total	**70**	**100%**

Source: Primary Data

Health-related complaints were common among the participants, with headaches (37%) being the most frequently reported symptom, followed by insomnia (28%), fatigue (21%), and muscle cramps (14%). These findings suggest that night shift schedules contribute to both physiological and psychological stress, adversely affecting employee well-being.

Dietary assessment revealed a high frequency of unhealthy eating behaviors. A considerable number of respondents reported daily consumption of junk foods (39%), while others consumed such foods on a weekly (27%), occasional (14%), or monthly (11%) basis, with only a small proportion (12%) reporting no intake. Similarly, intake of aerated and packaged beverages was prevalent, with many participants consuming them regularly. These patterns align with earlier research indicating that night shift workers tend to prefer energy-dense, high-fat, and high-sugar foods due to fatigue, stress, irregular meal timings, and limited access to nutritious options (Bonnell et al. 2017; Heath et al. 2019).

Despite possessing moderate nutritional knowledge, many participants failed to adopt healthy dietary practices, highlighting the strong influence of occupational and environmental constraints on food choices. Anthropometric measurements further revealed that a significant proportion of respondents were overweight, and nearly half reported recent weight changes, suggesting a negative impact of shift work on nutritional status.

Table 2: Showing consumption of packed chips and fried foods among the respondents

Variable	No. of Respondents	Percentage
Daily	27	39%
Weekly	17	27%
Monthly	8	11%

Occasionally	10	14%
Never	9	12%
Total	**70**	**100%**

Source: primary data

The study also identified that 35% of participants experienced health issues such as insomnia, fatigue, and headaches, conditions commonly associated with circadian misalignment and unhealthy lifestyle behaviors. Statistical analysis using the chi-square test demonstrated a significant association between body mass index (BMI) and physical activity levels ($p < 0.05$), indicating that individuals with lower physical activity were more likely to have higher BMI values.

Table 3: Showing correlation between physical activity, BMI and quality of sleep among respondents

Category		**Physical activity**		**Total**	**Chi-square value**
		yes	**No**		
BMI	**Under weight**	6	4	10	0.005
	Normal	7	25	32	
	Over weight	17	11	28	
	Total	30	40	70	

Category		**Physical activity**		**Total**	**Chi-square value**
		yes	**No**		
Quantity of sleep	**<5hrs**	6	3	9	0.002
	6hrs	10	31	41	
	8hrs	10	3	13	
	>8hrs	4	3	7	
	Total	30	40	70	

Similarly, a significant relationship was observed between physical activity and sleep duration ($p < 0.05$). Participants with shorter sleep durations were less likely to engage in regular physical activity, emphasizing the interconnected nature of sleep and lifestyle behaviors (Vidafar et al. 2020). In addition, a statistically significant association was found between stress and hair fall ($p < 0.05$), suggesting that psychological stress may manifest in physical symptoms such as hair loss.

Table 4: Showing correlation between hairfall and stress factor among respondents

Category		Stress		Total	Chi-square value
		Yes	No		
Hair fall	Yes	30	14	44	0.015
	No	10	16	26	
	Total	40	30	70	

Further analysis indicated that BMI was significantly associated with calorie monitoring behavior, while emotional eating showed a strong relationship with calorie awareness. These findings highlight the psychological dimensions influencing dietary habits, particularly under conditions of occupational stress.

Overall, the results demonstrate that sleep disturbances, poor dietary habits, and reduced physical activity are closely interlinked among night shift workers. Disruption in one domain tends to negatively influence the others, creating a cycle that adversely affects health outcomes. From a sustainability perspective, these issues may lead to decreased productivity, increased absenteeism, and a higher economic burden on organizations, ultimately impacting workplace sustainability and long-term employee well-being.

Summary and Conclusion

The study highlights that night shift work has a significant impact on dietary behavior, lifestyle patterns, and overall employee wellness among IT professionals. Irregular meal timings, increased consumption of unhealthy foods, poor sleep quality, and reduced physical activity were commonly observed among participants. Anthropometric assessment indicated variations in BMI, with a notable proportion of individuals falling into the overweight category. Statistical analysis established significant associations between BMI, physical activity, sleep duration, and dietary behaviors, emphasizing the interconnected nature of these variables.

Despite possessing basic nutritional knowledge, participants exhibited unhealthy dietary practices due to occupational constraints and environmental influences. These findings indicate that night shift work negatively affects both physical and mental well-being. From a sustainability perspective, employee health plays a crucial role in organizational productivity, efficiency, and long-term growth.

In conclusion, night shift work contributes to circadian disruption, leading to unhealthy dietary patterns and compromised wellness. To promote sustainable work environments, organizations must implement comprehensive workplace wellness programs that include nutrition education, provision of healthy food options during night shifts, promotion of physical activity, and strategies for improving sleep hygiene and stress management. Such interventions can enhance employee well-being, improve productivity, and reduce healthcare costs, thereby supporting sustainable organizational development.

References

Angerer, P., Schmook, R., Elfantel, I., & Li, J. (2017). Night work and the risk of depression. Deutsches Ärzteblatt International, 114(24), 404–411.

Bonnell, E. K., Huggins, C. E., & Huggins, C. E. (2017). Influence of shift work on dietary patterns. Nutrients, 9(10), 1127.

Ferri, G. M., et al. (2017). Diet and lifestyle interventions in shift workers. Journal of Occupational Health, 59(3), 233–245.

Heath, G., Roach, G. D., Dorrian, J., Ferguson, S. A., & Darwent, D. (2019). The effect of shift work on eating behavior and nutrient intake. Chronobiology International, 36(7), 961–974.

Jeong, J. H., & Hong, S. C. (2015). The relationship between sleep and hormones. Sleep Medicine Research, 6(1), 1–9.

Reiter, R. J., Tan, D. X., Korkmaz, A., & Ma, S. (2012). Circadian rhythm and metabolic disorders. Journal of Pineal Research, 52(3), 257–266.

Vidafar, P., et al. (2020). Sleep and food cravings in shift workers. Appetite, 146, 104518.

Wang, X. S., Armstrong, M. E., Cairns, B. J., Key, T. J., & Travis, R. C. (2011). Shift work and chronic disease risk. Occupational and Environmental Medicine, 68(8), 567–574.

World Health Organization. (2020). Guidelines on physical activity and sedentary behaviour. WHO Press.

Zhao, I., Bogossian, F., & Song, S. (2012). The association between shift work and unhealthy lifestyle behaviors. Journal of Occupational Health, 54(3), 174–183.