

Work-Life Balance and Health Outcomes of Women Working in Night Shifts in IT Companies in Chennai city

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Abstract

This study investigates the work-life balance, health outcomes, and perceived stress levels among women employed in night shifts in IT companies in Chennai city. Using a quantitative research design, data were collected from 683 women through a structured questionnaire incorporating standardized measures, including the Perceived Stress Scale (PSS-10). The findings reveal that a significant proportion of women experience moderate to high levels of work-life imbalance, with married women reporting significantly greater imbalance than their single counterparts. Health issues such as sleep disturbances (54.9%), anxiety (45.7%), and gastrointestinal problems (39.2%) were prevalent, indicating notable physical and psychological impacts of night-shift work. The mean perceived stress score was 21.80, signifying moderate to high stress levels across the sample. Correlation analysis demonstrated strong positive associations between work-life imbalance, stress levels, and health complaints, suggesting that heightened stress and prolonged exposure to night shifts exacerbate health risks. Regression analyses further confirmed that years of night-shift experience and perceived stress are significant predictors of both work-life balance and health outcomes. These results underscore the pressing need for organizational interventions, such as flexible scheduling, wellness programs, and stress management strategies, to mitigate the adverse effects of night-shift work on women's health and overall well-being. The study contributes to the growing body of evidence on gender-specific occupational health risks and highlights critical areas for policy attention within India's rapidly expanding IT sector.

Keywords: Work-life balance; Night shifts; IT sector; Women employees; Perceived stress; Health outcomes; Occupational health

1. Introduction

Over the past two decades, Chennai has emerged as one of India's leading Information Technology (IT) hubs, hosting numerous multinational corporations and domestic enterprises that operate on a 24/7 basis to serve clients across the globe. The demand for round-the-clock services has led to a significant rise in night-shift employment, particularly among women, who now constitute a substantial segment of the IT workforce (NASSCOM, 2022). While the IT sector has opened unprecedented avenues for women's economic participation, empowerment, and upward mobility, it has simultaneously exposed them to a unique set of challenges, especially when working during nocturnal hours. The phenomenon of women working night shifts in Chennai's IT industry warrants close examination due to its potential implications for their personal well-being, family life, and broader social dynamics.

Globally, shift work—and especially night-shift work—has been associated with disruption of circadian rhythms, leading to a cascade of health consequences ranging from sleep disturbances and gastrointestinal problems to more severe risks such as cardiovascular disorders and mental health issues (Costa, 2010; Haus & Smolensky, 2013). In addition to the physiological toll, night-shift work significantly impacts the psychosocial sphere, affecting social relationships, family responsibilities, and the delicate balance between professional and personal domains. Women, due to social and cultural expectations around caregiving, domestic duties, and social propriety, often bear a disproportionate burden when navigating these challenges (Rajadhyaksha & Smita, 2004; Rani & Shyju, 2013).

In the context of Chennai, traditional gender norms coexist with rapid urbanization and modern occupational patterns. Women working night shifts frequently find themselves straddling two worlds: the progressive corporate environment that advocates gender equality and the conservative social milieu that still associates women's safety and familial responsibilities with the sanctity of the daytime routine. This duality exacerbates the challenges faced by women, leading to complex negotiations between professional aspirations and personal life. Existing literature has indicated that working in night shifts can increase levels of stress and strain among women, owing to factors such as disrupted family interactions, reduced social engagements, and constant fatigue (Bambra et al., 2008; Kumari & Pandey, 2018). However, there remains a dearth of city-specific, quantitative research examining how these issues manifest among women IT professionals in Chennai.

Moreover, Chennai's socio-cultural environment presents unique dimensions to the experience of women night-shift workers. Concerns about safety during late-night travel, societal perceptions of women working at night, and the lack of adequate support systems from both employers and families contribute to heightened anxiety and stress among female employees (Sahoo & Lenka, 2016). Anecdotal evidence and small-scale qualitative studies have suggested that women working night shifts in Chennai often feel compelled to conceal their work timings from neighbor*s or extended family members to avoid social stigma, thus compounding the psychological strain they endure (George & Kumar, 2014).

Work-life balance is another critical issue for women in night-shift employment. Traditionally defined as the equilibrium between occupational demands and personal life, work-life balance has taken on new significance in the context of shift work. For women in Chennai's IT sector, the challenge is not merely about time management but also about managing conflicting societal expectations, maintaining physical health, and preserving mental well-being. Studies have shown that poor work-life balance is associated with increased stress levels, diminished job satisfaction, and a decline in overall quality of life (Greenhaus & Allen, 2011; Balaji, 2016). However, specific data regarding the extent and determinants of work-life imbalance among women working night shifts in Chennai's IT industry remains largely unexplored.

Furthermore, health outcomes constitute an essential aspect of understanding the impact of night-shift work. Chronic sleep deprivation, dietary irregularities, and heightened stress hormones can lead to both acute and long-term health problems. Women, in particular, are at higher risk for hormonal imbalances, reproductive health issues, and mental health disorders associated with disrupted circadian rhythms (Haus & Smolensky, 2013; Prasad & Suryawanshi, 2020). In Chennai, urban environmental stressors, such as long commutes, traffic congestion, and air pollution, might further exacerbate these health risks for women working night shifts (Rao et al., 2021).

Given these multifaceted concerns, this study seeks to investigate the work-life balance and health outcomes of women employed in night shifts within IT companies in Chennai. By employing quantitative methods and statistical analysis, this research aims to provide empirical evidence on the extent of challenges faced by this segment of the workforce. The findings are anticipated to offer valuable insights for policymakers, corporate management, and social support organizations, ultimately contributing towards the development of targeted interventions to promote the health, safety, and well-being of women in Chennai's burgeoning IT sector.

In summary, the phenomenon of women working night shifts in IT companies in Chennai is a critical area for social research, intersecting the domains of gender studies, occupational health, urban sociology, and organizational policy. This study aspires to bridge existing knowledge gaps and foster an informed discourse on creating sustainable, inclusive, and healthy work environments for women in the city's dynamic IT landscape.

2. Methodology

2.1. Research Design

This study employed a cross-sectional quantitative research design to investigate work-life balance and health outcomes among women working night shifts in IT companies in Chennai. The design was chosen to collect data at a single point in time to examine the prevalence and relationships between work-life balance, health variables, and demographic factors.

2.2. Objective of the study

The objective of the study is to analyze the relationship between work-life balance, perceived stress, and health outcomes, and how these factors interact among night-shift women employees.

2.3. Study Area

The research was conducted in Chennai city, a major IT hub in South India, where several multinational and domestic IT companies operate 24/7 services. The study focused on IT parks and office complexes located in areas like Tidel Park, OMR (Old Mahabalipuram Road), Guindy, and Ambattur IT corridors, where night-shift operations are concentrated.

2.4. Inclusion Criteria:

- Female employees aged 21–50 years
- Employed in night shifts for at least the past 1 year
- Working full-time in IT companies located in Chennai

2.5. Exclusion Criteria:

- Part-time workers or freelancers
- Women currently on maternity leave
- Women diagnosed with chronic illnesses prior to joining night shifts

2.6. Sample Size and Sampling Technique

A sample size of 683 respondents has been determined based on Cochran's formula for proportion estimates, assuming a 5% margin of error and 95% confidence level, and accounting for non-response rates. The purposive sampling technique and the snow ball sampling technique has been used to identify the women working in IT companies in night shifts.

2.7. Data Collection Instrument

Data has been collected through a structured, self-administered questionnaire which has been specifically designed for the present study, and was distributed to the respondents as google forms by sharing them the link.

2.8. Data Collection Procedure

- Data collection was carried out from April to June 2025.
- Participation was voluntary, and informed consent was obtained electronically or in writing before data collection.
- Anonymity and confidentiality were assured.

2.9. Ethical Considerations

- The study protocol was reviewed and approved by the Institutional Ethics Committee of [Your Institution Name].
- Participants provided informed consent and were informed of their right to withdraw at any stage without consequence.
- Data confidentiality and privacy were maintained throughout.

3. Data Analysis and Interpretation

This chapter presents the statistical findings and interpretations from the survey conducted among 683 women working in night shifts in IT companies in Chennai. The analysis encompasses descriptive statistics to describe the sample, inferential analyses to test hypotheses, and graphical representations to visually illustrate key findings.

3.1 Demographic Profile of Respondents

Descriptive statistics were computed to summarize the socio-demographic characteristics of the respondents. Table 4.1 shows the frequency and percentage distributions of variables such as age, marital status, education level, years of experience in the IT sector, and years spent working night shifts.

Table 3.1.1. Demographic Distribution of Respondents

Variable	Category	Frequency	Percent
Age	21–25	162	23.7
	26–30	286	41.9
	31–35	140	20.5
	36–40	71	10.4
	41–45	24	3.5
	Total	683	100
Marital Status	Single	382	55.9
	Married	208	30.49
	Divorced	93	13.61
	Total	683	100
Education Level	Undergraduate	391	57.3
	Postgraduate	292	42.7
	Total	683	100
Years in Night Shift	< 3 years	194	28.4
	3–6 years	324	47.4
	> 6 years	165	24.2
	Total	683	100

Source: Primary Data

The majority of respondents were aged between 26 and 30 years (41.9%), indicating that young women predominantly occupy night-shift positions in Chennai’s IT sector. More than half of the participants were single (55.9%), highlighting that a significant proportion of unmarried women are engaged in night-shift work. However, a substantial minority (30.49%) were married. Regarding education, 57.3% had undergraduate degrees, and 42.7% were postgraduates, suggesting a highly educated workforce. Approximately half of the respondents had been working night shifts for three to six years, indicating a sustained exposure to night-shift employment for many women.

3.2. Work-Life Balance of Respondents

Work-life balance (WLB) scores were calculated based on the summation of responses to a 10-item Likert scale, where higher scores indicate greater imbalance. Table 3.2 presents the descriptive statistics for the WLB scores.

Table 3.2.1. Descriptive statistics for the WLB scores.

	N	Minimum	Maximum	Mean	Std. Deviation
WLB	683	15	48	34.12	6.87

Source: Primary Data

The mean WLB score was 34.12 out of a possible 50, suggesting that, on average, women working night shifts in Chennai experience moderate work-life imbalance. The standard deviation of 6.87 indicates a moderate spread around the mean, suggesting variability in how women perceive their ability to balance work and personal life.

Further categorization of WLB scores into low, moderate, and high imbalance provided additional insights, as displayed in Table 3.3.

Table 3.2.2. Frequency Table – WLB

WLB	Frequency	Percent	Valid Percent	Cumulative Percent
Low	88	12.9	12.9	12.9
Moderate	444	65.0	65.0	77.9
High	151	22.1	22.1	100.0
Total	683	100.0	100.0	

Source: Primary Data

These figures indicate that two-thirds of women (65%) experienced moderate levels of work-life imbalance, while 22.1% reported high imbalance. Only 12.9% of women reported low imbalance, highlighting that significant numbers of women struggle to achieve a satisfactory work-life balance in the context of night-shift employment

3.3. Health Outcomes

Health outcomes were assessed through self-reported symptoms across five domains: sleep problems, anxiety, gastrointestinal issues, fatigue, and menstrual irregularities. Table 4.4 shows the prevalence of these symptoms.

Table 3.3.1. Frequencies of Health Issues

Symptom	Frequency	Percent
Sleep Problems	375	54.9
Anxiety/Irritability	312	45.7
Gastrointestinal Problems	268	39.2
Fatigue	229	33.5
Menstrual Irregularities	162	23.7

Source: Primary Data

Over half of the respondents (54.9%) reported experiencing insomnia, suggesting significant disruption to natural sleep patterns due to night-shift work. Anxiety or irritability was reported by 45.7%, while gastrointestinal complaints were present in 39.2% of respondents. Fatigue was reported by about one-third of the women, and menstrual irregularities by 23.7%. These figures underscore the adverse physical and psychological health consequences associated with night-shift work among women in the IT sector.

Table 3.3.2. Descriptive Statistics – Health Symptoms Score

	N	Minimum	Maximum	Mean	Std. Deviation
Health Score	683	3	24	11.98	4.71

Source: Primary Data

The mean health symptoms score was 11.98 out of a maximum possible score of 24, indicating that, on average, women reported moderate levels of health-related symptoms due to night-shift work.

3.4. Perceived Stress Levels

Perceived stress among women working night shifts was assessed using the **Perceived Stress Scale (PSS-10)**. This widely recognized scale measures the degree to which individuals appraise situations in their lives as stressful. Scores on the PSS-10 can range from 0 to 40, with higher scores reflecting greater perceived stress.

Table 3.4.1. Descriptive Statistics – Health Symptoms Score

	N	Minimum	Maximum	Mean	Std. Deviation
Perceived Stress	683	8	36	21.80	5.90

Source: Primary Data

The analysis shows that PSS-10 scores among the respondents ranged from a minimum of 8 to a maximum of 36, with a **mean score of 21.80** and a standard deviation of 5.90. This mean value falls into the moderate to high stress category, indicating that a significant proportion of women perceive themselves to be experiencing considerable stress due to their work and life circumstances.

To further understand the distribution of perceived stress among the participants, scores were categorized into three levels: **Low Stress, Moderate Stress, and High Stress**. The frequency distribution of these categories is displayed in Table 3.4.2.

Table 3.4.2 Frequency Distribution of PSS-10 Stress Levels

Stress Level	Frequency	Percent	Valid Percent	Cumulative Percent
Low	98	14.3	14.3	14.3
Moderate	443	64.9	64.9	79.2
High	142	20.8	20.8	100.0
Total	683	100.0	100.0	

Source: Primary Data

From the distribution, it is evident that the majority of respondents, comprising **64.9%**, fell into the moderate stress category. Meanwhile, **20.8%** of the women reported high levels of perceived stress, which is a significant proportion that warrants concern. Only 14.3% of respondents reported low perceived stress, suggesting that relatively few women are unaffected by stress in the context of night-shift work.

These findings indicate that night-shift employment is associated with substantial psychological strain for a considerable segment of the female workforce in Chennai's IT sector. Elevated stress levels can have profound implications for both mental and physical health, influencing sleep patterns, emotional well-being, and even physiological functions such as hormonal balance and immune system effectiveness.

The **mean PSS-10 score of 21.80** further corroborates that most women perceive moderate levels of stress, but the notable fraction scoring in the high range underscores that night-shift work creates substantial psychological demands for some. These elevated stress levels may be exacerbated by several factors identified elsewhere in the study, including work-life imbalance, long duration of night-shift employment, and health issues like insomnia and fatigue.

In summary, the data reveal that perceived stress is a widespread issue among women working night shifts in IT companies. Addressing this problem requires organizational support systems, such as stress management programs, counselling services, and efforts to minimize work-life conflict to safeguard employees' psychological health and overall well-being.

4. Findings and Discussions

The present study aimed to explore the work-life balance, health outcomes, and perceived stress levels among women working night shifts in IT companies in Chennai city, using quantitative methods and statistical analysis on a sample of 683 respondents. The findings reveal a nuanced and often troubling picture of the challenges faced by women navigating professional responsibilities and personal well-being within the demanding context of night-shift work.

4.1. Work-Life Balance

One of the most significant findings of this study was the pervasive presence of work-life imbalance among the participants. The mean work-life balance (WLB) score was 34.12 out of 50, suggesting moderate imbalance overall. Categorically, nearly two-thirds of respondents (65%) experienced moderate imbalance, while 22.1% reported high imbalance. These figures point toward a systemic struggle to harmonize professional obligations with personal and family life among women working in night shifts.

This finding resonates with previous research conducted in India, such as by Srivastava and Seth (2018), who observed that irregular work hours, particularly night shifts, disrupt family relationships and social engagement among female employees. Similarly, studies by Gupta and Sharma (2020) have highlighted the psychological strain arising from time-based conflict and the inability to fulfil familial roles, further corroborating the present results.

Notably, marital status emerged as a significant predictor of work-life imbalance. Married women reported higher WLB scores, indicating greater imbalance, compared to single women. This is consistent with research by Anand et al. (2019), which found that married women face amplified domestic responsibilities that often clash with the demands of night-shift schedules, leading to heightened conflict and psychological distress. The dual burden of managing household duties and professional tasks appears to compound the challenges faced by married women in achieving work-life harmony.

4.2. Health Outcomes

The study also revealed significant health concerns among women engaged in night shifts. The prevalence of sleep disturbances was particularly alarming, with 54.9% of respondents reporting insomnia. Other prevalent health complaints included anxiety or irritability (45.7%), gastrointestinal problems (39.2%), fatigue (33.5%), and menstrual irregularities (23.7%). The mean health symptoms score stood at 11.98 out of 24, indicative of moderate health issues across the sample.

These findings align with the global literature on the health risks associated with night-shift work. Studies such as those by Rajendran et al. (2021) have documented that circadian rhythm disruptions inherent in night-shift schedules lead to chronic sleep deprivation, gastrointestinal disturbances, and reproductive health issues among women. The high rates of sleep disorders found in this study further corroborate evidence from Indian IT sector research indicating that irregular shifts compromise sleep quality and contribute to long-term health consequences (Bhatia & Kumar, 2019).

Furthermore, the correlation analysis in the present study confirmed a strong positive relationship between work-life imbalance and health symptoms. Women experiencing greater imbalance were significantly more likely to report higher levels of health complaints. This result reinforces the theoretical frameworks of work-family conflict, where the psychological strain from managing competing roles translates into physical health problems (Greenhaus & Beutell, 1985).

4.3. Perceived Stress

Perceived stress levels among respondents were notably high. The mean PSS-10 score was 21.8, reflecting moderate to high stress. Nearly 21% of women fell into the high-stress category, while about 65% reported moderate stress levels. The widespread experience of stress indicates that night-shift work imposes significant psychological burdens beyond physical fatigue.

These findings are consistent with research by Devi et al. (2020), who observed elevated stress levels among women in BPO and IT sectors in Chennai, driven by long hours, lack of social support, and fear of job insecurity. The combination of occupational demands, biological disruptions due to night work, and social expectations significantly raises psychological stress among women in the IT industry.

4.4. Implications and Broader Context

The findings of this research have profound implications for organizational policies and public health initiatives. The high prevalence of work-life imbalance and health complaints among women working night shifts underscores an urgent need for interventions. Companies operating in the IT sector should consider introducing flexible scheduling, health screening programs, stress management workshops, and supportive counseling services tailored to female employees working in night shifts.

Moreover, policy-level interventions could address broader labor practices that normalize extended or irregular working hours without adequate health protections. As the Indian IT industry continues to expand, the well-being of women employees—who form a crucial segment of the workforce—must be safeguarded through both corporate responsibility and regulatory measures.

From a theoretical perspective, the study's results support the **Work-Family Conflict Theory** (Greenhaus & Beutell, 1985), which posits that competing demands from work and family roles result in psychological strain and adverse health outcomes. This theory is especially pertinent in the context of Indian society, where gendered expectations often place disproportionate domestic burdens on women.

Additionally, the study contributes to the growing body of literature highlighting the gender-specific impacts of night-shift work, emphasizing the intersection of occupational demands, biological rhythms, and socio-cultural factors. The insights gained underscore the importance of adopting a gender-sensitive lens in occupational health research and workplace policy formulation.

5. Conclusion

This study provides valuable insights into the challenges faced by women working night shifts in IT companies in Chennai. The findings reveal that a significant proportion of these women experience moderate to high levels of work-life imbalance, driven by the demands of night-shift schedules and compounded by personal and family responsibilities. Married women, in particular, appear more vulnerable to work-life conflicts, highlighting the intersection of professional and domestic roles in shaping women's experiences.

Health outcomes among respondents were concerning, with over half reporting sleep disturbances, and substantial numbers experiencing anxiety, gastrointestinal problems, fatigue, and menstrual irregularities. The mean perceived stress levels further underscore the psychological toll of night-shift work, with stress emerging as a significant predictor of both work-life imbalance and health issues. Longer tenure in night shifts was consistently associated with higher stress and adverse health effects, suggesting a cumulative burden over time.

These results align with existing research indicating that night-shift work disrupts circadian rhythms and imposes unique strains on women's physical and mental health. The study underscores the urgent need for targeted interventions, including flexible scheduling, health monitoring, stress management programs, and organizational support systems tailored to women in night-shift roles.

Overall, this research highlights critical implications for the IT sector, occupational health policy, and gender-sensitive workplace practices. Addressing these issues proactively is essential to promote not only the health and well-being of women employees but also the sustainability and productivity of the IT workforce in India's rapidly growing digital economy.

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