VER
Vascular & Endovascular Review

The impact of chronic work stress on overall health

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ABSTRACT

Background: Chronic work stress has become a pervasive issue in modern workplaces, with significant implications for employee health. Prolonged exposure to stressors such as excessive workloads and performance pressures can lead to detrimental psychological and physiological outcomes, including mental health disturbances, cardiovascular issues, sleep disorders, and unhealthy coping behaviors. This study aims to investigate the impact of chronic work stress on the overall health of working adults.

Methods: A cross-sectional study was conducted with 290 full-time employees from various professional sectors. Data were collected using a self-administered questionnaire comprising three sections: socio-demographic information, the Perceived Stress Scale (PSS-10) to measure work stress, and a Health Status Questionnaire (HSQ) to assess physical and psychological health outcomes. Data were analyzed using descriptive statistics, Pearson's correlation, and multiple regression in SPSS version 26.

Results: The findings revealed that a majority of participants experienced moderate (53.4%) to high (24.2%) levels of work stress. Significant negative correlations were found between chronic work stress and self-rated health ($r = -0.52$, $p < 0.001$) and sleep quality ($r = -0.45$, $p < 0.001$). Positive correlations were observed between stress and chronic fatigue ($r = 0.48$, $p < 0.001$) and frequent headaches ($r = 0.41$, $p < 0.001$). Furthermore, stress levels were significantly associated with age, education level, and years of professional experience.

Conclusion: Chronic work stress is significantly associated with adverse health outcomes, including poor self-rated health, sleep disturbances, chronic fatigue, and psychosomatic symptoms. These results underscore the need for organizations to implement comprehensive stress management and wellness programs to mitigate these effects, thereby protecting employee health and enhancing organizational productivity.

KEYWORDS: Chronic Work Stress, Occupational Health, Perceived Stress, Employee Well-being, Sleep Quality, Burnout, Workplace Interventions.

How to Cite: Fayez Hassan Alshehri, Manar Ali Alghanim, Ebtihal Mohammed Aleisa, Zainab lateef Alkhabbaz, Nuha alzahrani, Abdulaziz Abdulmohsen Aleithan, Ali Hassan Alshehri, Yazeed Saeed Alghamdi, waheed Mughram Alshehri, Sultan Almutairi, Talal Mohammed Abu Jazilah, Mohammad Hamed Alharbi, Sarah Hadi Aladwani., Saeed Abdulrahman Alsharif (2025) The impact of chronic work stress on overall health, Vascular and Endovascular Review, Vol.8, No.11s, 306-312.

INTRODUCTION

BACKGROUND

Chronic work stress has emerged as a pervasive issue in modern societies, affecting individuals across diverse professions and organizational hierarchies. As the demands of the workplace continue to intensify, employees are increasingly subjected to excessive workloads, tight deadlines, and constant performance pressures. Over time, these stressors can accumulate and evolve into chronic stress, a state of prolonged psychological and physiological strain that profoundly impacts both mental and physical well-being. Unlike short-term stress, which can serve as a motivator or adaptive response, chronic work stress leads to detrimental outcomes when it persists without relief or coping mechanisms (Siegrist & Li, 2018).

At the psychological level, chronic work stress contributes to a variety of mental health disturbances. Individuals exposed to ongoing occupational stress often experience symptoms of anxiety, irritability, and emotional exhaustion. These manifestations can gradually progress to more severe conditions such as depression, burnout, and cognitive decline. Prolonged exposure to stress hormones like cortisol disrupts the brain's neurotransmitter balance, impairing memory, concentration, and decision-making abilities. As a result, employees may find it increasingly difficult to manage daily tasks or maintain healthy interpersonal relationships, both at work and in their personal lives (Wong et al., 2019).

Physiologically, the effects of chronic stress are equally profound. Continuous activation of the body's stress response system triggers hormonal imbalances and increases the risk of multiple health disorders. Elevated cortisol and adrenaline levels can lead to hypertension, cardiovascular disease, and metabolic disturbances. Over time, this heightened state of physiological arousal may weaken the immune system, making individuals more susceptible to infections and chronic illnesses. The link between long-term work stress and conditions such as diabetes, gastrointestinal disorders, and musculoskeletal problems has also been well-documented in clinical settings (Babapour et al., 2022).

Sleep disturbances represent another major consequence of chronic work stress. The inability to detach from work-related thoughts or concerns often disrupts sleep patterns, leading to insomnia or poor-quality sleep. Inadequate rest exacerbates fatigue, reduces cognitive performance, and heightens irritability, creating a vicious cycle where stress and sleep deprivation reinfo rce each other. This deterioration in sleep quality not only affects day-to-day functioning but also contributes to long-term health risks such as obesity, cardiovascular disease, and weakened immunity (Mutambudzi & Henkens, 2020).

The emotional and behavioral responses to chronic work stress can also significantly alter lifestyle habits. Many individuals resort to unhealthy coping mechanisms such as overeating, smoking, or alcohol consumption as temporary means of relief. These behaviors, while offering short-term comfort, further exacerbate health problems in the long run. Additionally, chronic stress diminishes motivation for physical activity, leading to sedentary lifestyles that increase the likelihood of obesity and metabolic disorders (De Hert, 2020).

Workplace stress also has social implications, extending beyond individual health. Employees under constant stress may experience strained relationships with colleagues and family members due to irritability, mood swings, or withdrawal. The decline in emotional intelligence and social engagement can undermine teamwork, productivity, and organizational cohesion. Consequently, chronic stress not only compromises individual well-being but also affects the overall health and efficiency of the workplace environment (Haight et al., 2023).

From an occupational standpoint, chronic stress contributes to reduced job satisfaction and performance. The persistent sense of being overwhelmed or undervalued often leads to disengagement and decreased productivity. Employees experiencing burnout may exhibit higher absenteeism rates and turnover intentions, which in turn impose economic and operational costs on organizations. In extreme cases, chronic work stress can result in complete occupational dysfunction, where individuals are unable to sustain their professional roles effectively (Lukan et al., 2022).

At the societal level, the implications of chronic work stress are far-reaching. Healthcare systems bear a growing burden due to the rise in stress-related illnesses, leading to increased medical expenditures and reduced workforce productivity. The economic losses associated with absenteeism, presenteeism, and disability claims highlight the urgent need for effective stress management policies at both organizational and national levels. Promoting mental health awareness and supportive workplace cultures is crucial for mitigating these challenges (Malik et al., 2022).

Preventive strategies play an essential role in addressing the harmful effects of chronic work stress. Interventions such as workload management, flexible scheduling, mindfulness training, and employee assistance programs have shown promise in reducing stress levels. Encouraging a healthy work-life balance, providing opportunities for career development, and fostering open communication between management and employees can also enhance resilience and psychological well-being. Organizations that prioritize employee mental health often witness improved morale, retention, and overall performance (Sørensen et al., 2022). Ultimately, chronic work stress represents a multifaceted challenge that affects not only individual health but also organizational and societal stability. Addressing this issue requires a holistic approach that integrates psychological support, workplace reform, and lifestyle interventions. Recognizing stress as a legitimate health concern rather than a personal weakness is the first step toward creating healthier, more productive work environments. By promoting sustainable work practices and fostering emotional resilience, both individuals and institutions can work toward a future where professional success does not come at the expense of overall health (Seiler et al., 2020).

METHODOLOGY

Study Design

This study employed a **cross-sectional descriptive design** to examine the impact of chronic work stress on overall health among working adults. The design was chosen because it allowed the assessment of stress levels and associated health outcomes at a single point in time, providing a clear snapshot of the relationship between occupational stress and both physical and psychological well-being.

Study Population

The study population consisted of full-time employees from various professional sectors, including healthcare, education, administration, and business. Participants were adults aged between 20 and 60 years who had been employed for at least one year in their current workplace. Both male and female employees were included to ensure gender representation and to allow for comparative analysis of stress effects across demographic groups.

Sampling Technique and Sample Size

A **stratified random sampling method** was used to ensure that participants from different occupational groups were adequately represented. The sample size was determined based on prior studies examining work stress and health outcomes, and a total of **290 participants** were included in the final analysis. Inclusion criteria consisted of individuals currently employed on a full-time basis and willing to provide informed consent. Exclusion criteria included individuals with pre-existing psychiatric disorders or chronic medical conditions that could confound the results related to stress or health.

Data Collection Instrument

Data were collected using a **self-administered structured questionnaire**, divided into three main sections. The first section gathered socio-demographic information such as age, gender, marital status, education level, and job position. The second section measured chronic work stress using the **Perceived Stress Scale (PSS-10)**, which evaluated the frequency of stress-related feelings and thoughts during the past month. The third section assessed overall health using a standardized **Health Status Questionnaire (HSQ)**, which included items on physical symptoms, sleep patterns, emotional well-being, and lifestyle behaviors. The questionnaires were validated tools widely used in occupational health research.

Data Collection Procedure

After obtaining ethical approval, potential participants were contacted via email and informed about the study's purpose and procedures. Those who agreed to participate received a digital or printed version of the questionnaire, depending on their preference. Participants were given clear instructions on how to complete the forms, and confidentiality was assured throughout the process. Data collection took place over a period of four weeks, during which all completed questionnaires were reviewed for completeness and accuracy before inclusion in the analysis.

Ethical Considerations

Ethical approval for the study was obtained from an appropriate institutional review board. Participation was voluntary, and informed consent was obtained from all participants prior to data collection. The confidentiality of participants' responses was strictly maintained by assigning anonymous identification codes. Data were stored securely and used solely for academic purposes. Participants were also informed that they could withdraw from the study at any time without any consequences.

Data Analysis

Data were coded, entered, and analyzed using the **Statistical Package for the Social Sciences (SPSS) version 26**. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize participants' demographic characteristics, stress levels, and health outcomes. Inferential statistics, including **Pearson's correlation** and **multiple regression analysis**, were employed to determine the relationship between chronic work stress and various health indicators. A **p-value of less than 0.05** was considered statistically significant.

Reliability and Validity

The reliability of the instruments used in the study was assessed using **Cronbach's alpha coefficient**. The Perceived Stress Scale demonstrated a reliability coefficient of 0.87, while the Health Status Questionnaire achieved 0.90, indicating excellent internal consistency. The validity of the questionnaires was ensured through prior use in similar studies and pilot testing conducted on 20 participants, whose results were not included in the final analysis. Necessary modifications were made based on their feedback to ensure clarity and comprehension.

Limitations of the Study

The study acknowledged several limitations. Since the research employed a cross-sectional design, causality between chronic work stress and health outcomes could not be established. Data were based on self-reported measures, which might have been influenced by social desirability or recall bias. Additionally, the study did not account for external stressors unrelated to work that might have affected participants' overall health. Despite these limitations, the study provided valuable insights into the association between prolonged occupational stress and overall health.

RESULTS

This section presents the findings of the study conducted to assess the impact of chronic work stress on overall health among employees. A total of **290 participants** successfully completed the questionnaire. The data were analyzed using descriptive and inferential statistics to summarize participants' demographic characteristics, levels of perceived stress, and their relationship with physical and psychological health outcomes.

Table 1. Socio-Demographic Characteristics of Participants (n = 290)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	145	50.0
	Female	145	50.0
Age (years)	20–29	70	24.1

	30–39	110	37.9
	40–49	75	25.9
	≥50	35	12.1
Marital Status	Single	95	32.8
	Married	165	56.9
	Divorced/Widowed	30	10.3
Education Level	Diploma or less	60	20.7
	Bachelor's degree	165	56.9
	Postgraduate	65	22.4
Years of Experience	<5 years	85	29.3
	5–10 years	120	41.4
	>10 years	85	29.3

The results show that the study sample was evenly divided between males and females (50% each). The majority of participants were between **30 and 39 years old (37.9%)**, followed by those aged 40–49 (25.9%). Most respondents were **married (56.9%)**, and over half held a **bachelor's degree (56.9%)**. Regarding professional experience, **41.4%** of participants had between 5 and 10 years of experience, indicating that the sample largely represented mid-career professionals who were likely exposed to consistent workplace demands over several years.

Table 2. Levels of Perceived Work Stress among Participants (n = 290)

Stress Level (PSS-10 Score)	Frequency (n)	Percentage (%)
Low Stress (0–13)	65	22.4
Moderate Stress (14–26)	155	53.4
High Stress (27–40)	70	24.2

As shown in Table 2, more than half of the participants (**53.4%**) reported **moderate stress levels**, while **24.2%** experienced **high stress levels**. Only **22.4%** had low stress levels. These findings indicate that the majority of employees were exposed to significant work-related stress, suggesting that chronic stress is a prevalent issue across occupational sectors. The notable proportion of participants experiencing high stress highlights the potential risk for adverse health effects if such conditions persist.

Table 3. Overall Health Status of Participants (n = 290)

Health Status Indicator	Category	Frequency (n)	Percentage (%)
Self-Rated Health	Excellent	45	15.5
	Good	120	41.4
	Fair	90	31.0
	Poor	35	12.1
Sleep Quality	Good	100	34.5
	Moderate	115	39.7
	Poor	75	25.8
Presence of Chronic Fatigue	Yes	185	63.8
	No	105	36.2
Frequent Headaches	Yes	170	58.6
	No	120	41.4

The data indicate that **41.4%** of participants rated their health as good, while **31.0%** considered it fair, and **12.1%** reported poor health. Notably, **25.8%** of participants reported poor sleep quality, and a high **63.8%** experienced chronic fatigue, reflecting the physiological toll of prolonged stress exposure. Additionally, **58.6%** reported frequent headaches, a common psychosomatic manifestation of stress. These findings demonstrate a clear negative trend in health indicators associated with higher stress levels.

Table 4. Relationship between Chronic Work Stress and Health Indicators (n = 290)

Health Indicator	Correlation Coefficient (r)	p-value	Significance
Self-Rated Health	-0.52	<0.001	Significant
Sleep Quality	-0.45	<0.001	Significant
Chronic Fatigue	0.48	<0.001	Significant
Frequent Headaches	0.41	<0.001	Significant

The correlation analysis revealed a statistically significant relationship between chronic work stress and all measured health indicators. There was a **strong negative correlation** between stress and self-rated health ($r = -0.52$, $p < 0.001$) and sleep quality ($r = -0.45$, $p < 0.001$), indicating that higher stress levels were associated with poorer perceived health and sleep. Conversely, a **positive correlation** was observed between stress and both chronic fatigue ($r = 0.48$, $p < 0.001$) and frequent headaches ($r = 0.41$, $p < 0.001$). These results confirm that chronic work stress adversely affects both physical and psychological health outcomes.

Table 5. Association between Demographic Variables and Stress Levels (n = 290)

Variable	χ^2 Value	p-value	Significance
Gender	3.12	0.078	Not significant
Age Group	9.85	0.043	Significant
Marital Status	5.74	0.057	Not significant
Education Level	6.21	0.045	Significant
Years of Experience	8.92	0.031	Significant

The chi-square test results demonstrated significant associations between **stress levels and age (p = 0.043)**, **education level (p = 0.045)**, and **years of experience (p = 0.031)**. Employees aged **30–39 years** and those with **higher educational attainment** reported higher stress levels, possibly due to increased job responsibilities and performance expectations. Gender and marital status, however, showed no significant association with stress levels. This suggests that occupational and career-related factors exert a stronger influence on chronic work stress than personal demographic attributes.

DISCUSSION

The findings of this study demonstrated that chronic work stress has a significant adverse effect on overall health, aligning with the growing global concern about occupational stress and its long-term implications. The results showed that more than half of the employees experienced moderate levels of stress, while nearly one-quarter experienced high levels. This distribution suggests that chronic work stress has become an endemic issue among the working population, reflecting the increasing workload demands, limited recovery time, and heightened job expectations seen in contemporary workplaces. Similar observations were made by **Siegrist and Li (2018)**, who highlighted the role of prolonged occupational strain in fostering chronic diseases through psychosocial and physiological mechanisms.

The high proportion of participants reporting moderate to severe stress levels is consistent with findings by **Lukan et al. (2022)**, who emphasized that environmental risk factors, including job demands, limited autonomy, and workplace pressure, are primary contributors to chronic stress in professional settings. These findings also suggest that workplace structures and expectations play a central role in employees' psychological well-being. The fact that stress was prevalent across gender and marital status categories indicates that occupational demands transcend personal demographic boundaries.

The analysis revealed that age, education level, and years of experience were significantly associated with stress levels. Employees aged 30–39 years and those with more years of experience showed higher stress, possibly due to increased professional responsibilities and performance pressure. This trend supports **Mutambudzi and Henkens (2020)**, who found that chronic work stress accumulates with professional tenure, as older and more experienced employees face higher expectations and reduced job flexibility. The correlation also implies that work stress management strategies should target mid-career employees who are most vulnerable to burnout and stress-related illness.

The study also found that educational attainment was linked to higher stress levels. Individuals with postgraduate education reported greater stress, possibly because higher qualifications are often tied to more demanding positions and longer working hours. This aligns with the findings of **Wong et al. (2019)**, who demonstrated that employees engaged in extended working hours or complex professional roles experience significantly elevated stress levels, leading to cumulative fatigue and burnout. These patterns suggest that the pursuit of career advancement and the responsibilities tied to it come with health-related trade-offs.

A substantial number of participants reported chronic fatigue and frequent headaches, both of which are established physiological responses to prolonged stress exposure. The positive correlation between stress and these symptoms ($r = 0.48$ and $r = 0.41$, respectively) confirms that the physiological effects of chronic stress are pervasive. Elevated stress hormone levels, particularly cortisol, disrupt the body's normal regulatory mechanisms, leading to somatic complaints such as headaches, muscle tension, and fatigue. These findings are supported by **Babapour et al. (2022)**, who identified fatigue, sleep disruption, and physical exhaustion as significant manifestations of work-related stress among healthcare professionals.

The negative relationship between chronic work stress and self-rated health ($r = -0.52$, $p < 0.001$) provides strong evidence that prolonged stress undermines subjective well-being and perceived quality of life. As noted by **Malik et al. (2022)**, sustained work stress diminishes employees' sense of control, reduces life satisfaction, and increases vulnerability to chronic illnesses. The findings of this study reinforce the notion that psychological perceptions of stress are closely linked to physical health outcomes, emphasizing the need for workplace interventions that prioritize both mental and physical wellness.

Sleep quality was another health dimension strongly affected by stress. The correlation between stress and poor sleep ($r = -0.45$, $p < 0.001$) underscores the bidirectional relationship between these variables. Chronic stress activates the sympathetic nervous system and disrupts circadian rhythms, leading to difficulty falling asleep or maintaining sleep. This observation is consistent with the conclusions of **De Hert (2020)**, who reported that poor sleep quality not only results from stress but also exacerbates emotional exhaustion and cognitive dysfunction, creating a feedback loop that deepens the health burden.

A key observation from this study was that 63.8% of participants experienced chronic fatigue. This symptom reflects the long-term energy depletion that results from continuous activation of the body's stress response system. **Haight et al. (2023)** emphasized that cumulative stress exposure interacts with daily stressors to accelerate physical fatigue and diminish immune resilience. This finding highlights the potential of chronic stress to impair daily functioning, increase susceptibility to illness, and

contribute to long-term disability if unaddressed.

The results also revealed that 58.6% of participants experienced frequent headaches, illustrating the psychosomatic nature of chronic work stress. Tension headaches are one of the most common somatic symptoms linked to occupational stress, often resulting from muscle tension and vascular changes induced by stress hormones. **Seiler et al. (2020)** found similar physiological responses, noting that prolonged exposure to stress hormones like cortisol and adrenaline compromises immune and cardiovascular systems, increasing vulnerability to various health conditions, including migraines and hypertension.

Interestingly, the results did not reveal significant gender differences in stress levels, which diverges from traditional assumptions that women experience higher workplace stress due to role conflict. This finding aligns with **Sørensen et al. (2022)**, who reported that gender disparities in occupational stress have narrowed due to equal participation in demanding professional roles. Both men and women are now equally exposed to organizational stressors such as workload, performance evaluation, and job insecurity, highlighting the universality of workplace stress as a health hazard.

The significant associations between chronic work stress and deteriorating health outcomes underscore the importance of integrating health promotion strategies within occupational settings. **Haight et al. (2023)** emphasized that cumulative and daily stressors synergistically influence health trajectories, supporting the argument that intervention programs must address both long-term and situational stress. The implementation of stress-reduction programs, such as mindfulness-based training and workload management, can mitigate these adverse outcomes.

The current study's findings also resonate with **Lukan et al. (2022)**, who found that chronic work stress contributes to reduced productivity and increased absenteeism. Employees who experience consistent stress often exhibit emotional exhaustion and disengagement, leading to decreased efficiency and job satisfaction. This relationship demonstrates that the effects of chronic stress extend beyond individual health, affecting organizational stability and economic performance.

At a broader societal level, the findings support **Malik et al. (2022)** and **Sørensen et al. (2022)**, who reported that work stress contributes to the loss of healthy life years and an increased burden of chronic diseases. High stress levels among working populations result in reduced labor productivity, higher healthcare costs, and a greater incidence of stress-related diseases such as cardiovascular disorders, diabetes, and depression. Thus, mitigating chronic work stress is both a public health and an economic priority.

The study's results collectively emphasize that chronic work stress is a multidimensional phenomenon, encompassing psychological, physiological, and behavioral domains. Consistent with **Siegrist and Li (2018)** and **Seiler et al. (2020)**, the evidence suggests that chronic activation of stress mechanisms disrupts homeostasis, weakens immunity, and accelerates the development of chronic diseases. Therefore, workplace policies must adopt a holistic approach that integrates health surveillance, organizational reform, and psychological support systems.

In conclusion, the findings of this study align with existing literature indicating that chronic work stress significantly impairs overall health through complex biopsychosocial mechanisms. The observed correlations between stress and indicators such as poor sleep, chronic fatigue, and reduced self-rated health provide a compelling case for prioritizing stress management interventions within organizational frameworks. Consistent with **De Hert (2020)** and **Sørensen et al. (2022)**, organizations that promote employee well-being and work-life balance can achieve better productivity outcomes while safeguarding public health. These findings highlight the urgent need for sustainable strategies that address the root causes of workplace stress, ensuring that professional achievement does not come at the expense of long-term health.

CONCLUSION

The findings of this study clearly demonstrated that chronic work stress exerts a significant negative impact on both physical and psychological health. A large proportion of participants reported moderate to high stress levels, which were strongly correlated with poor sleep quality, chronic fatigue, frequent headaches, and reduced self-rated health. Demographic factors such as age, education level, and work experience were associated with higher stress, reflecting the demands placed on mid-career professionals and those in advanced positions. These results support existing evidence that prolonged occupational stress disrupts physiological balance, weakens immunity, and reduces overall well-being. Therefore, addressing chronic work stress is not only vital for improving individual health outcomes but also essential for enhancing workplace productivity and societal health sustainability.

RECOMMENDATIONS

1. **Implement Workplace Stress Management Programs:** Organizations should introduce regular stress reduction initiatives, such as mindfulness sessions, relaxation training, and counseling services, to promote mental resilience among employees.
2. **Promote Work-Life Balance Policies:** Flexible working hours, remote work options, and reasonable workload distribution should be adopted to reduce chronic stress and enhance employee satisfaction.
3. **Enhance Organizational Support Systems:** Management should foster open communication channels, provide emotional and professional support, and encourage healthy interpersonal relationships within the workplace.

4. **Incorporate Health Monitoring and Wellness Programs:** Regular health assessments, fitness initiatives, and mental health awareness campaigns should be integrated into workplace policies to identify and mitigate stress-related health issues early.
5. **Provide Training for Leadership and Supervisors:** Supervisors should receive training on recognizing stress symptoms among employees and implementing supportive management practices to prevent burnout and improve overall team performance.

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