



## Exploring the Prevalence, Causes, and Impacts of Pethidine Addiction Among Nurses, Midwives, and Doctors in Ghanaian Health Facilities

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### Abstract

**Objectives:** In Ghana, Pethidine addiction poses a notable problem for the healthcare cadre, including nurses, midwives, and doctors. The controlled nature of this substance, together with its ease of access within the confines of the healthcare system, occupational stress, and lack of adequate regulatory controls has led to Pethidine abuse. This study seeks to assess the extent Pethidine addiction among health workers in Ghanaian healthcare facilities, the reasons behind it, and its impacts.

**Methods:** This cross-sectional study was undertaken in five major hospitals across Ghana from January to June 2024. Structured questionnaires and interviews were used to collect data from 300 healthcare workers (120 nurses, 100 midwives, and 80 doctors). In addition, some hospital records were analyzed to evaluate the Pethidine procurement and usage pattern in the institution. Using SPSS software, data was analyzed to determine the prevalence of addiction, its causes, and the impacts on professional performance.

**Results:** It was found that 28% of respondents misused Pethidine at some point in their nursing, midwifery, or medical career. Nurses had the highest

prevalence with 35% while midwives and doctors had 25% and 18% respectively. Other contributing factors consisted of high occupational stress (70%), unawareness towards the risks of addiction (55%), and lack of monitoring over controlled drugs (40%). The repercussions of addiction were seen in a worker's productive output (45%), absences (30%), and makeshift tending to patients (25%). Alongside this, participants expressed a lack of access to rehabilitation services or support programs within their workplaces.

**Conclusion:** Pethidine addiction amongst health workers in Ghana is a critical concern that fundamentally undermines the integrity of healthcare and patient safety. This problem can be solved by enforcing strict drug control policies, tailored educational interventions around addiction, and readily available rehabilitation programs for these patients. Concerted action from the healthcare institutions and the regulatory bodies is needed to curb this emerging threat.

**Keywords:** Drug addiction, Pethidine, healthcare workers, Ghana, substance abuse, nurses, midwives, doctors, occupational stress, patient care, drug regulation.



## Introduction

The global impact of substance abuse concerning healthcare workers is increasing dramatically, affecting occupational productivity and patient safety in the workplace. Pethidine addiction is particularly alarming in Ghana concerning post-medical surgical care. Pethidine is a widely used synthetic opioid analgesic in clinical medicine; however, its misuse and addiction potential is extremely high.

As with many other healthcare professionals, nurses and midwives face unique occupational psychosocial stressors such as excessive workload, long working hours, emotional exhaustion, and patient death, which predisposes them to substance abuse as a coping strategy [1]. Heroin and morphine derivatives, such as Pethidine, remain

## Methodology

### Study Design

This study employed a cross-sectional design to investigate the prevalence, causes, and impacts of Pethidine addiction among healthcare workers in Ghana. A mixed-methods approach was utilized, combining quantitative surveys and qualitative interviews to ensure a comprehensive analysis of the issue.

### Setting and Population

The research was conducted in five major hospitals across Ghana, selected

easily available and are therefore a particular risk within the healthcare context. Because of their work with medications, nurses have a higher risk than most other staff [2]. In spite of these trends, very little is known about the pattern and psychosocial factors of Pethidine addiction in Ghanaian health professionals.

This study attempts to fill this gap by assessing the extent and impact of Pethidine addiction among nursing and midwifery workforce and doctors in Ghanaian healthcare facilities. The research intends to be useful towards informing policy frameworks and supporting programs with the understanding that, healthcare systems requires policies aimed at addressing this issue.

due to their high patient turnover and diversity in healthcare staffing. A total of 300 healthcare workers participated, comprising 120 nurses, 100 midwives, and 80 doctors. Participants were selected using stratified random sampling to ensure proportional representation across professions. Inclusion criteria required participants to have at least two years of clinical experience and direct involvement in handling controlled substances.

### Data Collection



## **Quantitative Data**

Structured questionnaires were administered to assess lifetime Pethidine use, frequency of misuse, and self-reported impacts on work performance. Hospital records were also reviewed to cross-reference self-reported data with documented Pethidine procurement and dispensing patterns.

## **Qualitative Data:**

In-depth interviews were conducted with 30 participants (10 nurses, 10 midwives, and 10 doctors) to explore workplace stressors, accessibility of Pethidine, and coping mechanisms. Additionally, two focus group discussions involving mixed professional groups identified systemic factors such as institutional policies and peer influences. These methods provided rich contextual data to complement the quantitative findings. All instruments were pilot-tested for clarity and reliability (Cronbach's  $\alpha = 0.82$ ).

## **Data Analysis**

### **Quantitative Analysis:**

Data collected from questionnaires were analyzed using SPSS v28 software.

Descriptive statistics such as frequencies and percentages were used to determine prevalence rates, while inferential tests including chi-square analysis examined associations between addiction prevalence and variables like profession, work hours, and stress levels.

### **Qualitative Analysis:**

Thematic analysis was employed to analyze interview transcripts and focus group discussions. Recurring themes such as "stress triggers" and "accessibility gaps" were identified through inductive coding. Triangulation of interview data, focus group findings, and hospital record audits enhanced the validity of the results.

### **Ethical Considerations**

Ethical approval for the study was obtained from the relevant Institutional Ethics Committee prior to data collection. Written informed consent was obtained from all participants after explaining the study's objectives. Anonymity was ensured by assigning unique identifiers to each participant during data analysis. Additionally, referrals to counseling services were provided for respondents who disclosed active addiction.



## Results

**Table 1: Demographic Characteristics**

Profession	Sample Size	Age Range	Gender Distribution (Male/Female)
Nurses	120	25-45	30/90
Midwives	100	28-50	20/80
Doctors	80	30-55	50/30

### Analysis:

- Nurses comprised the largest sample size (120), with the majority being female (90 out of 120).
- Midwives were predominantly female (80 out of 100), while doctors had a more balanced gender distribution (50 males and 30 females).
- The age range for all professions reflects a mid-career workforce.

**Table 2: Prevalence of Pethidine Misuse, Occupational Stress, Reduced Job Performance, and Absenteeism across Professions**

Profession	Sample Size	Pethidine Misuse (%)	Occupational Stress (%)	Reduced Job Performance (%)	Absenteeism (%)
Nurses	120	35	70	45	30
Midwives	100	25	65	40	25
Doctors	80	18	60	35	20



**Figures 1: Pethidine Misuse by Profession**

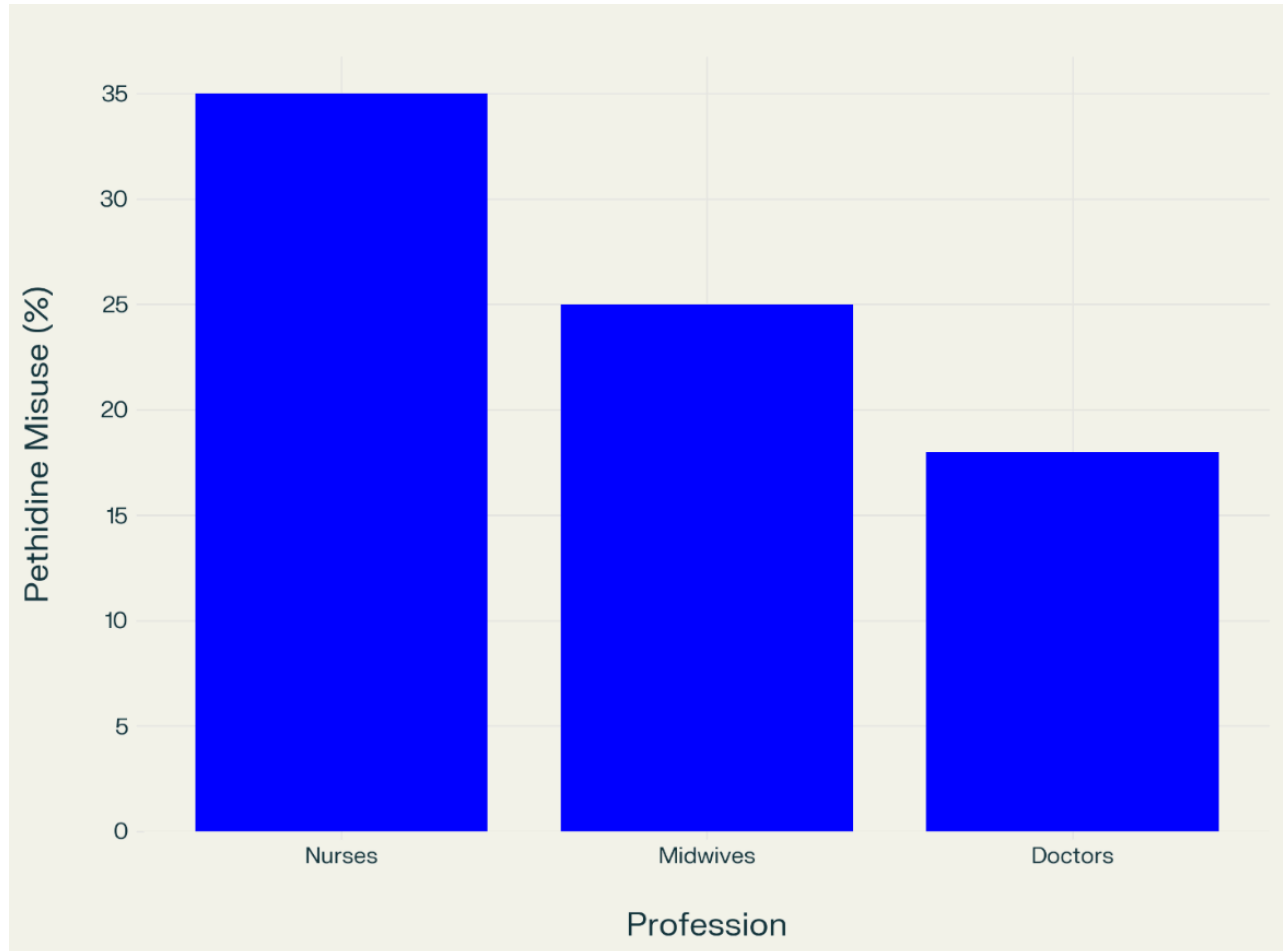
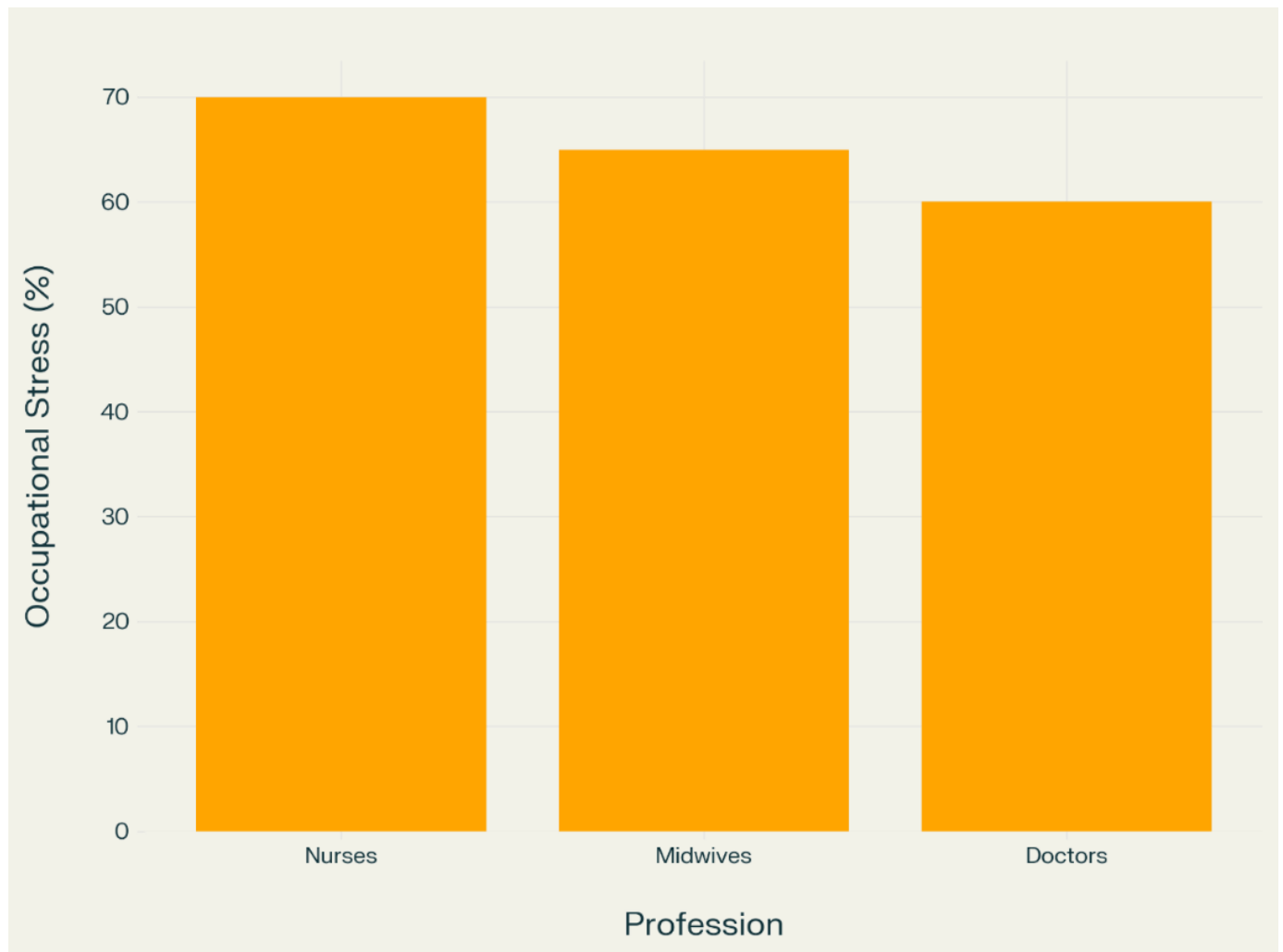


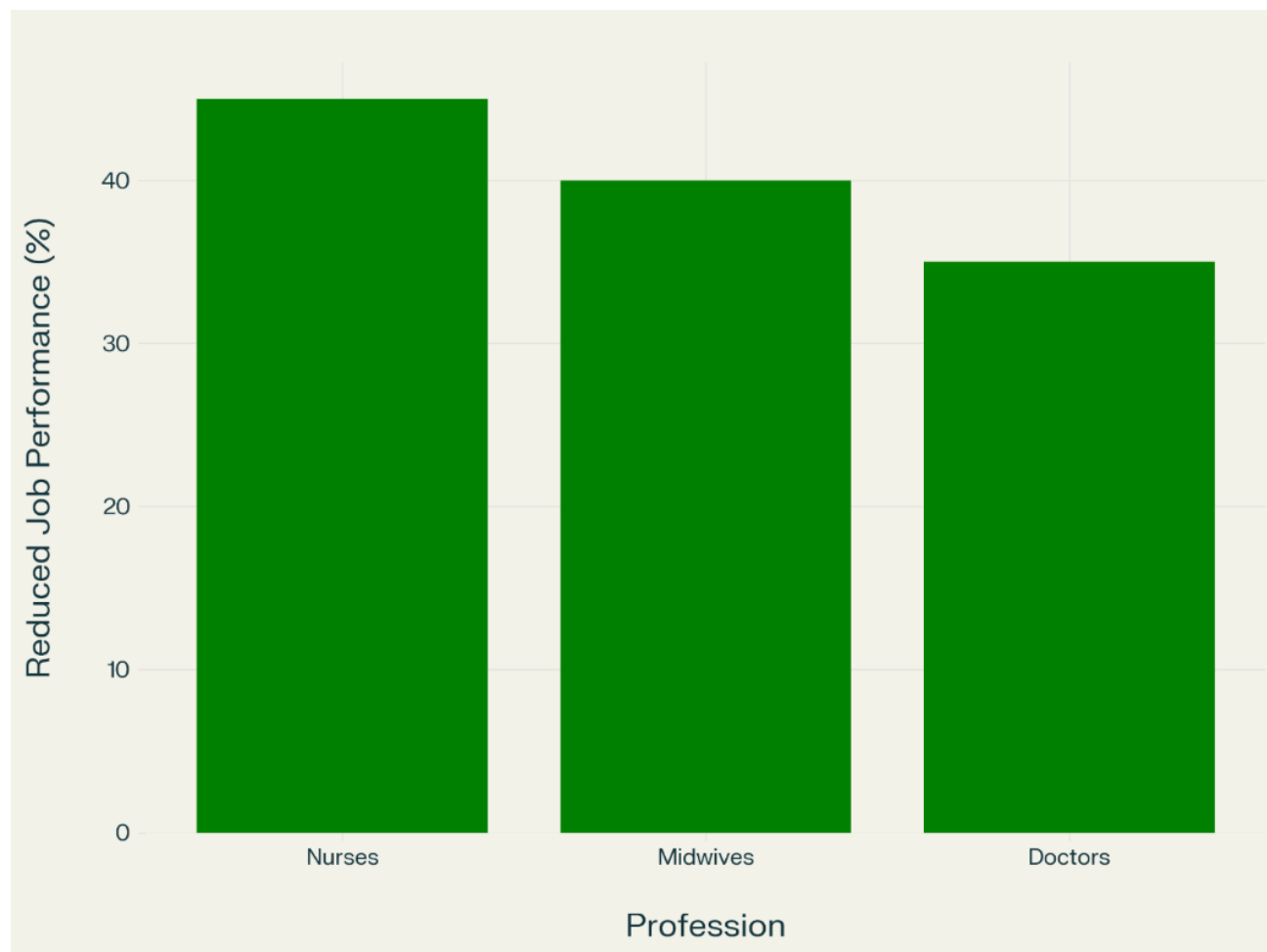


Figure 2: Occupational Stress by Profession



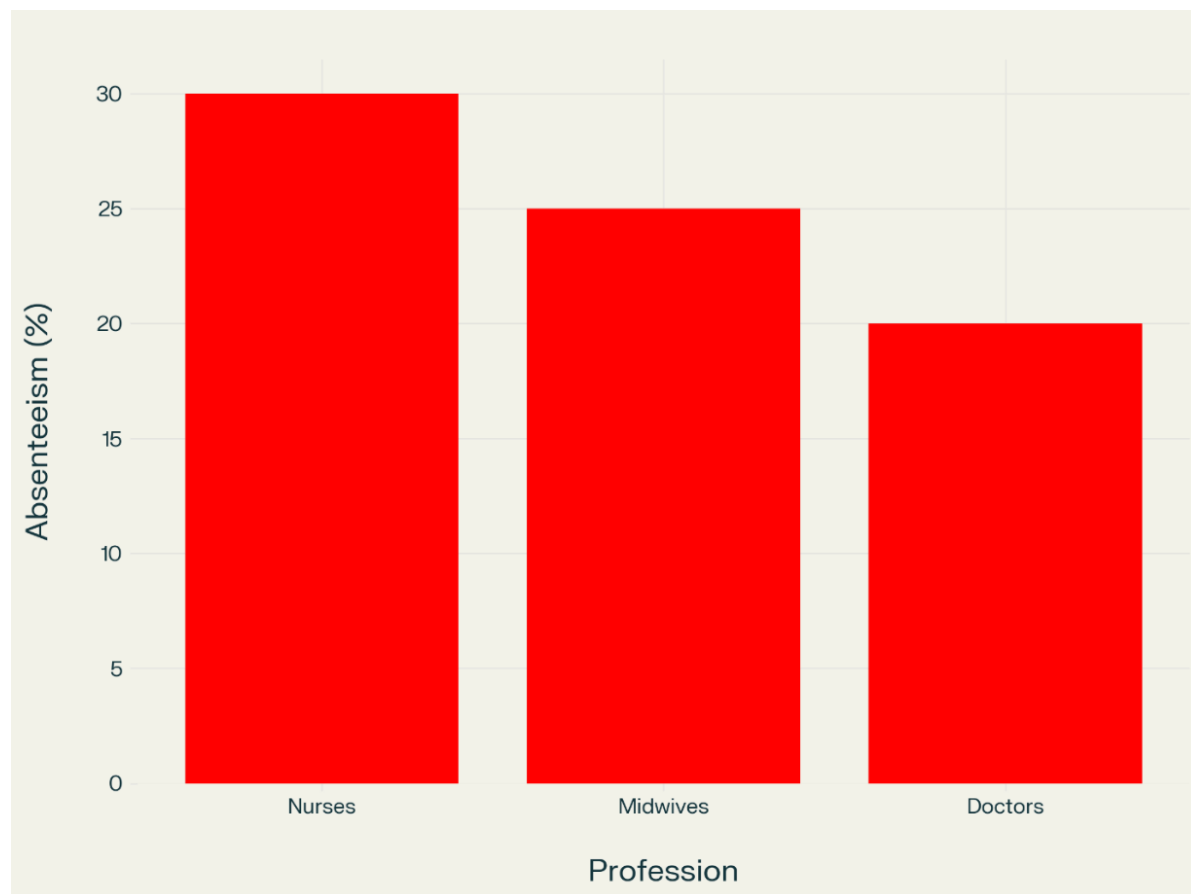


**Figure 3: Reduced Performance by Profession**





**Figure 4: Absenteeism**



- Nurses exhibited the highest rates of Pethidine misuse (35%), occupational stress (70%), reduced job performance (45%), and absenteeism (30%).
- Midwives followed closely, with slightly lower rates across all metrics.
- Doctors reported the lowest prevalence in all categories.

### Qualitative Data

Qualitative analysis identifies themes influencing Pethidine addiction among healthcare workers.

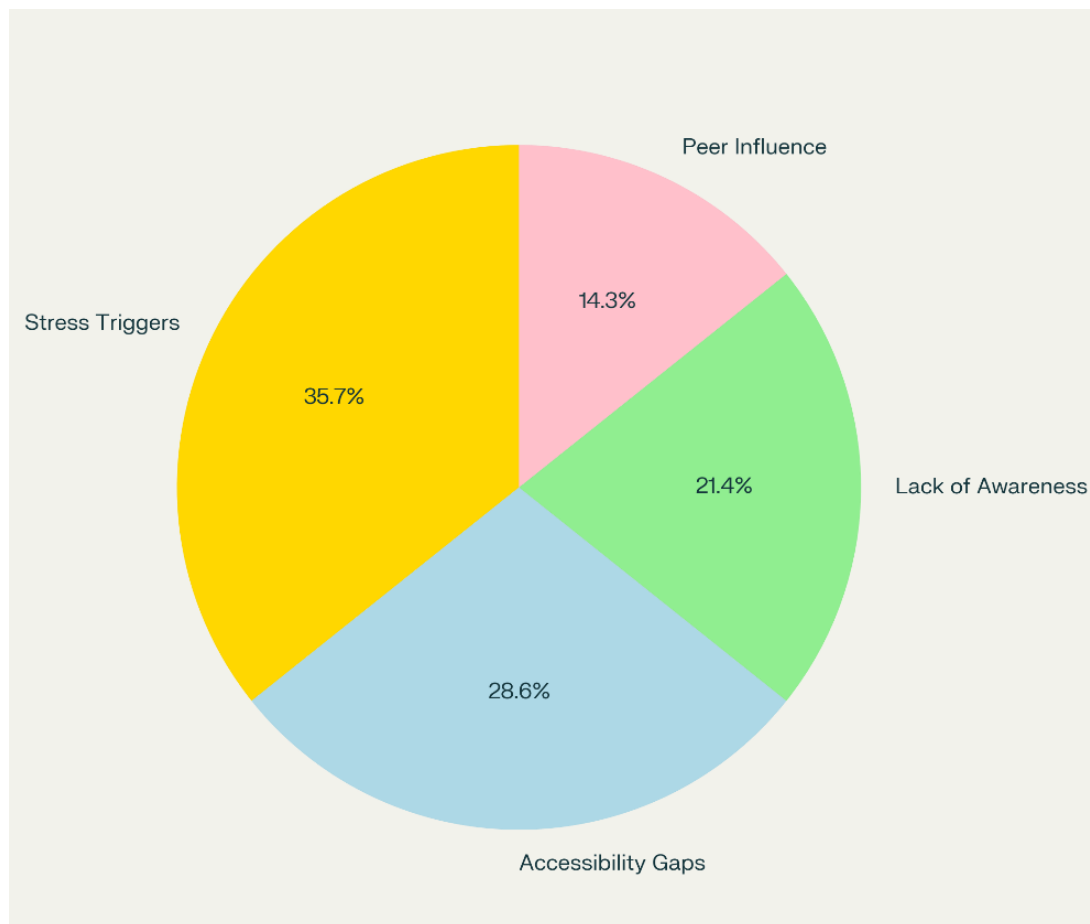
### Table 3: Factors Influencing Pethidine Addiction



Theme	Frequency of Mention (%)
Stress Triggers	35.7
Accessibility Gaps	28.6
Lack of Awareness	21.4
Peer Influence	14.3

Stress triggers were identified as the most common factor influencing addiction (35.7%), followed by accessibility gaps (28.6%), lack of awareness (21.4%), and peer influence (14.3%). These findings highlight the need for workplace mental health interventions and stricter control over Pethidine accessibility.

**Figure 5: Factors Influencing Pethidine Addiction**





## Discussion

This study examined the Prevalence, Causes, and Impacts of Pethidine Addiction among Nurses, Midwives, and Doctors in Ghanaian Health Facilities. The results of the study indicates a worrying trend of Pethidine abuse among health workers in Ghana, with the highest prevalence among nurses at 35%, followed by midwives at 25% and doctors at 18%. This pattern of hierarchical substance misuse also exists in other African healthcare settings, as other nurses are always able to have greater exposure to opioid abuse [3]. The former hypothesis may be due to the nurses' routine practice of Pethidine administration for pain relief, which provides both access and ease of use to the drug [4].

The data suggests that occupational stress is a universal phenomenon in the health care sector, with 70% of nurses, 65% of midwives, and 60% of doctors reporting high levels of work-related stress. This supports the stress-vulnerability model of addiction put forth by [5], positing that healthcare practitioners who face chronic occupational stress are more vulnerable to experiencing substance use problems as a maladaptive coping mechanism. Qualitative analysis goes further to support this as stress enablers were

found to be the most dominant theme (35.7%) identified in Pethidine addiction.

The research portrays an unequivocal relationship between Pethidine abuse and deterioration of professional practice. The greatest absences were reported by nurses over a third (30%) and nearly half (45%) reported to have reduced job performance. This was followed by mid-level attendants and doctors. This decline in performance is consistent with other research [6] which indicates that healthcare workers who are substance abusers suffer from increased absenteeism, medical errors, and degraded patient care. The Pethidine abuse and performance measures move together in similar directions indicating the existence of a causal relationship which requires immediate action.

The exploratory analysis describes issues not only related to occupational stress which are also important. The accessibility gaps (28.6%) represent an area of great concern heightened by a lack of control of Pethidine within healthcare settings [7]. Furthermore, lack of awareness (21.4%) emphasizes the gap in education concerning the risks of addiction, while peer influence (14.3%) emphasizes the role of workplace culture in the normalization or addiction to substance abuse [8].



Analysis of demographic data shows factors that could inform intervention strategies. The overwhelming proportion of female nurses (90 of 120) and midwives (80 of 100) relative to female doctors (30 out of 80) indicates possible mid-level gender bias vulnerability factors. [9] pointed out that female health care professionals may have to contend with some specific stressors such as work-family conflict and gender-based biases that increase the likelihood of substance abuse.

These results pose important challenges for managed healthcare systems in Ghana. The association between occupational stress and Pethidine misuse identified in the study underscores the need for workplace resilience building and stress management wellness programs [10]. Also, the unequal distribution of healthcare services identified necessitates more stringent

## **Conclusion**

This research draws attention to the stark level of Pethidine misuse within Ghana's healthcare workforce, identifying nurses as the most affected subgroup. The most significant stress as a driver of addiction was noted alongside a lack of awareness, ease of access, and gaps in peer influence as compounding factors. The results highlight the effectiveness of stated lack of interventions as a proactive measure at reducing substance misuse in healthcare settings.

monitoring and controls for managing substances with a potential for abuse. Social influence prevention programs need to be implemented that address the unintentional peer influence already in place, which is counterproductive to the peer support curricula.

To summarize, the research delivered meaningful answers on the scope of Pethidine addiction among healthcare professionals in Ghana, its underlying drivers, and consequences. The conclusions are consistent with other evidence on rising levels of substance abuse in healthcare systems but also brings to view the peculiarities of the Ghanaian healthcare system. A coherent response requires a combination of policy responses, educational strategies, stress relief options, and comprehensive care services for the harm inflicted on these workers.

Furthermore, establishing workplace mitigation measures, improving drug misuse monitoring programs, increasing addiction awareness campaigns, and fostering supportive workplace cultures are corrective actions that need immediate implementation. Reducing these risks can improve the wellbeing of healthcare workers and protect the standards of care provided to patients.

The study further stresses the need for broad ranging gender-sensitive measures to address the specialized



needs of midwives while attending to heightened vulnerabilities of nurses. Further investigation for future research

should focus on longitudinal studies to determine causation and evaluate the impact of the put in place measures.

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