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# Beyond Compliance: A Comprehensive OSH-Based Evaluation of Hospital Staff Welfare in India

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***Abstract***

Occupational safety and health bracket (OSH) is a critical yet underexplored dimension of hospital infrastructure in India, despite increasing global emphasis on employee welfare. Many Indian hospitals continue to under prioritise staff experiences related to safety, mental health and harassment. This study addresses this gap by exploring hospital staff welfare through four key lenses: exposure to workplace hazards, adequacy of safety provisioning, mental well-being, and incidence of workplace bullying rather than focusing only on structural safety. The research places equal emphasis on emotional and social dimensions of employee welfare. Emphasizing the emotional and social dimensions of employee welfare, the study employs a survey-based quantitative methodology involving 73 hospital employees across various t departments and experience levels. Using a quantitative methodology, responses were analysed using statistical tests using t-tests, ANOVA, and correlation analysis to assess statistically significant differences across gender work, experience, department, and working hours. Findings reveal that male employees, and those with 4 to 10 years of experience reported significantly higher levels of bullying, indicating possible issues with hierarchy or departmental culture. While differences in safety provisioning were not statistically significant, observed patterns indicate potential under-provisioning in specific departments. Rental scores were uniform across all groups, which may reflect either genuine consistency or lack of awareness/reporting around psychological distance. Exposure to work place hazard, show significant gender based differences highlighting the need for targeted interventions. Overall the study reveals that even in hospitals that appear to comply with basic safety norms, fall short in addressing how safety and well-being are experienced by staff in practice. These findings underscore the necessity for a more inclusive, employee centric approach to (OSH) in the Indian healthcare system that integrates both physical and mental wellbeing as essential components of staff welfare.

***Keywords****; Occupational Safety and Health (OSH), Hospital staff welfare, Workplace bullying, Mental health, Safety provisioning*

## *1. Introduction*

Occupational safety and health OSH refers to a set of guidelines and regulations that aim to ensure the safety and well-being of workers, focusing on preventing hazards that can affect their physical and mental health. OSH is of significant importance as it not only protects workers but also enhances productivity by reducing workplace injuries, illnesses, and absenteeism. The need for effective OSH regulation is critical, particularly in sectors with a high risk environment such as healthcare where workers are exposed to a wide range of occupational hazards. The importance of OSH is further highlighted by its direct links with human rights. The international labour organisation ILO emphasises decent work, which includes ensuring that the workers have safe and healthy working conditions, (decent work, 2025b). This is a fundamental human right that every worker should be able to enjoy, ensuring dignity and health are protected in the workplace, (decent work, 2025b). OSH guidelines first emerged in 1970 when the Occupational Safety and Health Act (OSH Act) was signed into law in the United States, creating the Occupational Health and Safety Administration (OSHA) was tasked with setting and enforcing standards to protect workers across different sectors, including construction, manufacturing, agriculture, healthcare, and more (Michaels & The George Washington University, 2018). Since then, OSH frameworks have been adopted globally, influencing workplace safety standards in various countries.

The relevance of OSH varies across industries, with each sector facing unique hazards. For instance, the construction industry contends with physical safety hazards, such as falls and equipment-related injuries (Razavi & Staab, 2010). The manufacturing sector primarily addresses chemical and machinery-related risks (Michaels, 2018), while healthcare settings are particularly concerned with biological hazards, like exposure to bloodborne pathogens, ergonomic risks from patient handling, and the growing issue of workplace violence (De Simone, 2015). As healthcare settings are diverse, with workers facing a variety of exposure risks, OSH guidelines must be adapted to meet the specific challenges of each healthcare sub-sector (Tripathy, 2014).

In India, the implementation of OSH standards has been uneven, especially in sectors like healthcare, where resource limitations and underreporting of occupational hazards are prevalent. Despite the existence of laws such as the Factories Act, 1948 and the Mines Act, 1952, enforcement remains inadequate, particularly in the informal sector and in smaller healthcare facilities (Gurumurthy and Sigamani, 2014). Healthcare workers in India face multiple occupational risks, including infectious diseases, musculoskeletal strain, and psychosocial stressors, all of which compromise their well-being and productivity (Almost et al., 2018). These issues become more specific as one moves into specific healthcare domains; for example, in eye care hospitals, where high-risk factors like exposure to infectious diseases and ergonomic strain from long surgeries are common, the implementation of OSH guidelines remains inconsistent (Tripathy, 2014).

The existing scholarship makes it evident that although OSH guidelines are recognized, implementation remains limited in India, especially in eye care hospitals. Gaps identified include the lack of adequate training, the non-availability of protective gear, and the underreporting of workplace injuries (Gurumurthy and Sigamani, 2014). These issues contribute to unsafe working conditions and high turnover rates among healthcare workers in India (De Simone, 2015). While international studies emphasize the importance of strong enforcement and employee participation (Michaels, 2018), India's healthcare industry struggles with underfunded enforcement bodies and limited workforce engagement in OSH practices (Tripathy, 2014).

This study focuses on the implementation of OSH guidelines specifically in the eye care sector in India, examining the extent to which these standards are applied, the challenges faced in their application, and outlines the experiences of healthcare workers to these measures. Using a largely quantitative method involving the use of a structured survey, this study collected responses from medical professionals employed across different departments in one particular eye hospital.

Eye hospitals, as specialized healthcare facilities, introduce an additional layer of complexity in occupational health. In these settings, healthcare workers are exposed not only to the common risks of the healthcare industry but also to unique hazards, including radiation exposure from diagnostic equipment and chemicals used in eye treatments, such as those in laser surgeries and injections. The risks associated with ophthalmic procedures require strict adherence to safety protocols, yet many eye care hospitals in India are still struggling with insufficient enforcement of these protocols, placing workers at an increased risk of injury and illness. (Tripathi, 2014). While OSH guidelines are broadly applicable to the healthcare sector, it is crucial to recognise that specific departments or specialisations require tailored safety measures. For example, the ophthalmology department with its unique set of hazards, necessities specialised OSH guidelines to protect its workers from specific risk such as radiation exposure and chemical handling (Ramchandra and Sani, 2014). These specialised OSH guidelines are essential for addressing the unique challenges healthcare workers face in such settings, which differ from those found in general healthcare environments (De Simone, 2015). Additionally, while studies have highlighted the broad gaps in the implementation of OSH guidelines globally, particularly in the healthcare sector, specific research on the status of these guidelines in eyecare hospitals in India is limited, (Rai et al., 2021). The survey for the study will focus on hospital staff exposure to workplace hazards, the adequacy of safety measures and their overall satisfaction with existing protocols. This research aims to bridge the gap between existing safety framework and their practical application by offering nuanced and actionable recommendations that can improve worker health, safety enforcement, and worker well-being in Indian eyecare hospitals.

## *2. Literature Review*

### 2.1 The Concept of Occupational Health and Safety (OSH)

Occupational safety and health (OSH) refers to the science of anticipating, recognizing, evaluating and controlling hazards arising in or from the workplace that could impair the health and well-being of workers. It is a fundamental aspect of workplace dignity, particularly in high risk sectors like healthcare (British safety Council, 2024). Globally, the development of OSH guidelines was codified with the creation of The Occupational Safety and Health Administration (OSHA) in the United States in 1971, following the enactment of occupational safety and health act (1970). OSHA played a revolutionary role by reducing workplace injuries through enforceable guidelines, inspiring countries across the globe to adopt similar frameworks. The International Labour Organisation also classifies OSH as a core component of “decent work", reinforcing its status as a basic human right (ILO, 2020). However, despite the universal relevance of OSH principles, implementation remains uneven across sectors and countries. As (Michaels, 2018) argues the existence of policy alone does not guarantee protection unless accompanied by strong leadership, funding, and accountability mechanisms. In India, the case of the healthcare sector illustrates the urgency of these concerns, as it faces chronic under-resourcing, regulatory ambiguity and shortage of OSH-specific guidelines tailored to healthcare’s unique risks.

### 2.2 OSH Guidelines in Healthcare Settings

Healthcare workers (HCWs) are especially vulnerable to occupational health risk such as exposure to infectious agents, ergonomic strain from repetitive movement, and emotional trauma due to patient loss or high-pressure environments, (Romate and Rajkumar, 2020) underscore the intense psychological and physical burden placed on HCWs in Indian public hospitals, especially during the COVID-19 pandemic. These included excessive workload, PPEshortages and an absence of institutionalised emotional support systems. Global literature has long emphasized the role of OSHA-like structures in mitigating such risks in general hospital settings, but their transferability to specialized institutions like eye hospitals remains questionable. Tripathy (2014) highlights that exposure to radiation, anesthetics, and surgical chemicals in eye care units, necessitate the implementation of bespoke OSH protocols beyond standard national

regulations. A 2018 study in Ontario's acute care hospitals explored the integration of six leading indicators, such as management commitment, communication, and proactive health surveillance, into OSH management systems (Almost et al., 2018). This model, though developed for high-income settings, offers a replicable and scalable template for countries like India, especially when tailored to specific hospital types and risk environments.

(Baylina et al., 2018) also affirm the strong link between occupational health promotion and patient safety, arguing that safeguarding healthcare workers' well-being directly improves service quality and reduces preventable clinical errors.

### 2.3 Challenges and Gaps in OSH Implementation in Healthcare Sectors in India

While Indian legislation has evolved to include occupational safety through the Factories Act (1948) and more recently the Occupational Safety, Health and Working Conditions Code (2020), enforcement remains inconsistent, particularly in the healthcare sector. (Gurumurthy and Sigamani, 2014) emphasize that most OSH enforcement remains confined to formal manufacturing sectors, overlooking healthcare institutions that operate in both formal and informal settings. The informal sector comprises over 90% of India's workforce, and within healthcare, this includes contract-based staff, janitors, nurses, and paramedics, many of whom are excluded from basic workplace protections (Jhabvala, 2013). These workers often lack legal recognition, access to grievance mechanisms, or social security, making them disproportionately vulnerable to occupational hazards. Tripathy (2014) further notes the inadequacy of surveillance systems to monitor work-related injuries in this sector, leading to a policy vacuum where health risks are neither measured nor mitigated. The absence of leading indicators, over-reliance on lagging ones (such as incident reports), and cultural barriers, such as resistance to change or hierarchical management, impede efforts to build a proactive OSH culture. (Juba & Cardiff Metropolitan University, 2024b) point out that caregivers, particularly in India and other developing nations, face systemic neglect due to a lack of protective legislation, insufficient institutional training, and minimal investment in preventive frameworks, further deepening their vulnerability.

### 2.4 Role of Leadership and Organizational Commitment

Leadership is consistently identified as a driving force behind the success or failure of OSH implementation. Weisfeld and Stack (2002) assert that organizational leadership plays a critical role in modeling safety-oriented behavior and creating open communication channels that enable staff to report risks without fear of reprisal. Ramachandran and Sigamani (2014) observed that Indian hospitals with active senior management engagement in OSH practices witnessed better outcomes in terms of both injury prevention and staff morale. In contrast, hospitals that failed to prioritize OSH at the leadership level reported frequent violations of safety protocols, underreporting of incidents, and an overall culture of neglect. A Canadian study by (Almost et al.,2018) also showed how the introduction of leading indicators, like senior management commitment and continuous improvement transformed workplace safety culture by shifting the focus from reactive strategies to root-cause prevention. These findings collectively underline that OSH is not merely a bureaucratic compliance exercise but a reflection of leadership values and institutional ethics.

### 2.5 OSH Guidelines and the Psychological Well-being of Healthcare Workers

Mental health is often the most overlooked component of workplace safety, despite growing global evidence that psychological well-being is tightly interwoven with employee productivity, satisfaction, and retention. Romate and Rajkumar (2020) provide compelling evidence from Indian hospitals during the pandemic, where healthcare workers faced extreme emotional exhaustion and anxiety due to inadequate institutional support. The psychological aspect of OSH must therefore be regarded as a central and not peripheral concern. Razavi and Staab (2010) in their cross-national analysis of care work, emphasize that

paid care workers globally face wage penalties, job insecurity, and low societal valuation that deepen stress and demotivation. This is especially true in gendered care sectors such as nursing and elder care, where female workers are underpaid and undervalued. The authors called for state-level reforms and stronger social safety nets to address this systemic neglect. In the Indian context, where healthcare workers often operate without clear contracts, grievance mechanisms, or access to psychological resources, this becomes even more pressing.

## *3. Research Question*

The research question for this study are:

1. What is the level of Occupational Safety and Health (OSH) implementation in the eye hospital?
2. To what extent are employees aware of the existing protocols for OSH and do they feel protected?
3. Do structural shortcomings in the implementation of OSH frameworks impact the physical, psychological, and social well-being of hospital staff in Indian healthcare settings?

## *4. Research Method*

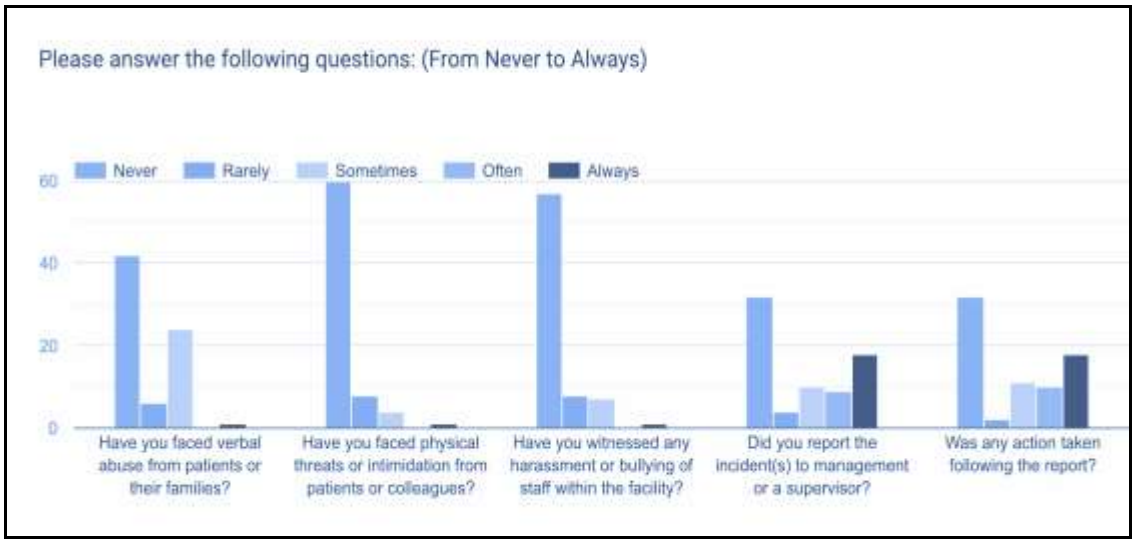
● This research employed a quantitative design with a structured questionnaire to examine occupational safety and health (OSH) among hospital employees in an eyecare hospital in Jaipur. The survey was created to explore questions such as employees' exposure to hazards in the workplace, employee safety protocols, training methods, mental health support, mechanisms for giving feedback, and methods for reporting hazards.

A convenience sampling method, a type of non-probability sampling, was used because of logistical challenges of surveying hospital staff during working hours. The sample for the study consisted of 73 participants, 50 males and 23 females, from across various departments such as the Outpatient Services (OPD), Surgery, Diagnostics, Pharmacy, Nursing, Reception, Biomedical Engineering, Business Development, Administration, Marketing, and General Services. Respondents were selected based on their availability and willingness to participate. Data was collected through a self-administered online questionnaire, which remained open for a period of two weeks. The survey featured Likert Scale and multiple-choice questions designed to find responses for critical questions like exposure to physical, chemical, and biological hazards; adequacy of training; employees' mental health care; waste awareness; and incident reporting processes. The survey was administered online to accommodate the paucity of time among respondents and to ensure least possible disruption of hospital operations and enhance response convenience. Besides the survey, semi-structured interviews were conducted with three managers from various branches to add qualitative information that could place the survey results in perspective.

The quantitative data was statistically analyzed using the descriptive and inferential statistical methods to detect significant trends and cross tabulate patterns. The study was conducted using ethical standards; respondents were clearly informed about the purpose of the study. Participation was voluntary, and respondents were assured of confidentiality and anonymity. No identifiable data were gathered, and all data were safely stored and used for the purpose of research only.

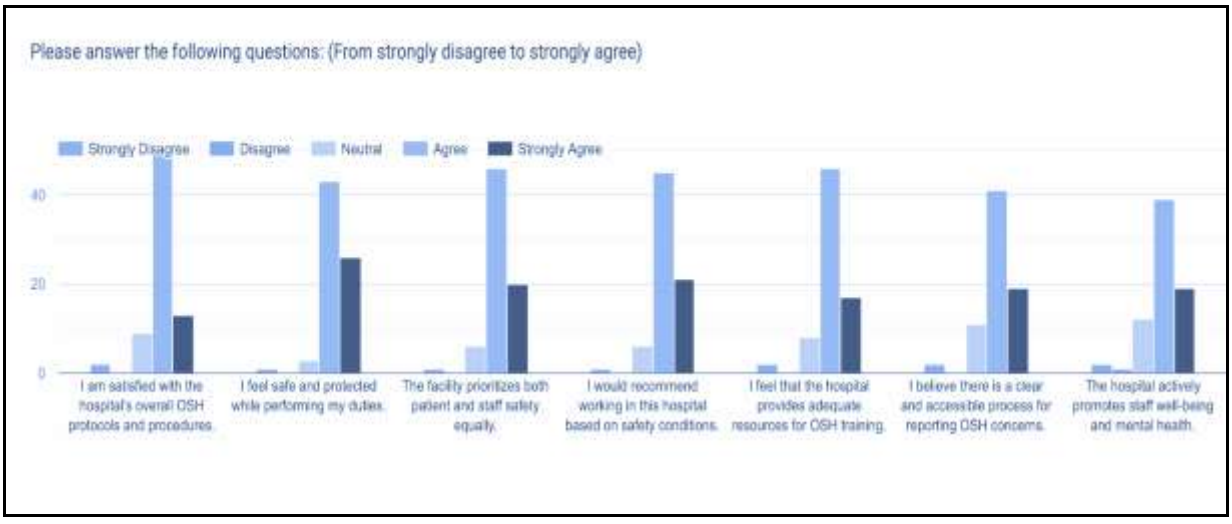
## 5. *Research Findings*

**Graph 1: Frequency of Workplace Abuse, Incident Reporting, and Perceptions of Safety Protocols among Hospital Staff**




This graph illustrates the frequency of workplace abuse and staff responses regarding reporting and institutional follow-up. The majority of respondents reported sometimes experiencing verbal abuse (blue bars) and witnessing harassment within the facility, indicating a recurring but not constant issue. However, reporting of these incidents to management remains low, with the "never" category being the most frequent response for both incident reporting and subsequent action taken. This trend suggests that while workplace abuse is a prevalent issue, institutional mechanisms for reporting and follow-up may be weak, underutilized, or distrusted by staff.

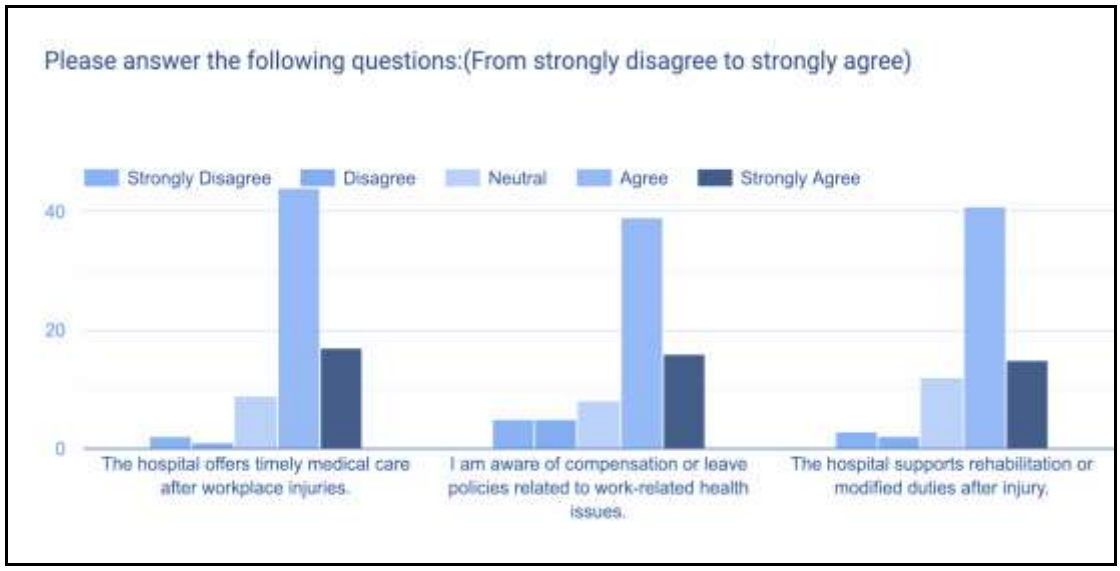
**Graph 2: Staff Awareness and Satisfaction Regarding Post-Injury Care and Support**




This chart assesses staff awareness and perceptions of OSH (Occupational Safety and Health) protocols and support systems. The most common response across all items is "agree" (green bars), indicating general satisfaction with OSH procedures, training resources, and clarity of reporting systems. A notable number of staff also strongly agree that the hospital promotes mental health and well-being,

suggesting growing institutional awareness of psychosocial support. However, a small but visible proportion of disagree and strongly disagree responses across statements point to gaps in

**Graph 3: Staff Perceptions of Post-Injury Medical Support, Compensation Awareness, and Rehabilitation Policies**




This graph shows how hospital staff perceive the availability of post-injury medical support, compensation policies, and rehabilitation opportunities. Across all three categories, "agree" is the dominant response, especially regarding timely medical care and rehabilitation options. This implies that most staff members recognize the existence of support systems after injuries. However, the "neutral" and "disagree" responses,particularly on compensation and leave awareness,highlight a potential lack of clarity or communication about entitlements, even if policies exist.

## *6. Research Analysis*

For a more nuanced understanding of the findings, the responses have been categorised into four distinct variables, namely, exposure, provisioning, mental health and experiences of workplace harassment.

### 6.1 Exposure

To test for exposure of OSH among respondents, a t-test for independent samples was conducted to examine the relationship between gender and exposure to occupational safety and health parameters.

**Hypotheses**

- Null hypothesis: There is no difference between the Female and Male groups with respect to Average (E).
- Alternative hypothesis: There is a difference between the Female and Male groups with respect to Average (E).

Level of Significance: 0.05

**Table 1: Descriptive Statistics**

| Group | n | Mean | Standard Deviation | Standard Error |
|---|---|---|---|---|
| **Female** | 23 | 1.87 | 0 | 0 |
| **Male** | 50 | 1.87 | 0 | 0 |

**Table 2: Levene's Test of Variance Equality**

| Statistic | Value |
|---|---|
| F | Infinity |
| df1 | 1 |
| df2 | 71 |
| p | aN |
| Brown-Forsythe | NaN |

**Table 3: T-Test for Independent Samples**

| Test | t | df | p-value | Cohen’s d |
|---|---|---|---|---|
| **Equal Variances** | 6.97 | 71 | < .001 | 1.76 |
| **Unequal Variance** | 4.69 | 22 | < .001 | 1.18 |

A two-tailed t-test for independent samples (equal variances not assumed) revealed a significant difference between female and male groups in respect to the dependent variable Average (E) was statistically significant, t(22) = 4.69, p = <.001. This indicates that the null hypothesis which suggested that there was no difference in the mean value between the two groups was rejected. The Cohen's d value of 1.18 represents a large effect size.

### 6.2 Provisioning

**A** one-way ANOVA was conducted to examine the relationship between average provisioning (P) and the Department/Area of Work of hospital staff. This analysis was designed to determine whether provisioning scores differed significantly across different departments within the hospital.

**Hypotheses**

- Null hypothesis: There is no difference between the 5 categories of the independent variable Years of Work Experience in Healthcare with respect to Average (P).
- Alternative hypothesis: There is a difference between the 5 categories.

**Table 4: Descriptive Statistics**

| Group | n | Mean | Standard Deviation |
|---|---|---|---|
| **<1 year** | 7 | 4.10 | 0.08 |
| **1-3 years** | 25 | 4.08 | 0.06 |
| **4-6 years** | 19 | 4.14 | 0.26 |
| **7-10 years** | 10 | 4.29 | 0.49 |
| **10+ years** | 12 | 4.09 | 0.08 |
| **Total** | 73 | 4.13 | 0.23 |

**Table 5: ANOVA Results**

| Source | Sum of Squares | Degrees of Freedom | Mean Square | F | p-value |
|---|---|---|---|---|---|
| **Between Groups** | 0.35 | 4 | 0.09 | 1.65 | 0.171 |
| **Residual** | 3.6 | 68 | 0.05 | – | – |
| **Total** | 3.95 | 72 | – | – | – |

**Table 6: Effect Size**

| Effect Size | Value |
|---|---|
| **Eta squared ($\eta^2$)** | 0.09 |
| **Cohen's $f^2$** | 0.29 |

The eta squared (η2) value is 0.09, representing the proportion of the variance in the dependent variable that is explained by the difference between the treatment levels. In this context, 8.85% of the variance in the dependent variable can be explained by the differences between the levels of the treatment. The eta squared value of 0.09 suggests a medium to large effect size.

### 6.3. Mental Health Analysis

**To test the relationship between working hours and mental health among respondents, an ANOVA** test was conducted for independent samples

**Hypotheses:**

- Null Hypothesis: There is no significant difference in mental health scores between individuals working different numbers of hours
- Alternative Hypothesis: There is a significant difference in mental health scores between individuals working different numbers of hours (8-12 hours, 6-8 hours, and less than 6 hours).

- Independent Variable (IV): Working hours per day - The independent variable is the number of hours individuals work each day, categorized into three groups: 8-12 hours, 6-8 hours, and less than 6 hours.

- Dependent Variable (DV): Mental health - The dependent variable is the mental health score, which measures the mental well-being of the individuals based on their reported working hours.

**Table 7: Descriptive Statistics**

| Group | n | Mean | Standard Deviation |
|---|---|---|---|
| **8-12 hrs** | 56 | 3.38 | 0 |
| **6-8 hrs** | 12 | 3.38 | 0 |
| **<6 hrs** | 5 | 3.38 | 0 |

**Table 8: ANOVA Results for Mental Health Scores and Average Working Hours**

| Source | Sum of Squares | Degree of Freedom | Mean Square | F |
|---|---|---|---|---|
| **Between Groups** | 0 | 2 | 0 | 35 |
| **Residual** | 0 | 70 | 0 | – |
| **Total** | 0 | 72 | 0 | – |

**Table 9: Effect Size**

| Effect Size | Value |
|---|---|
| **Eta squared ($\eta^2$)** | 0.5 |
| **Cohen's $f^2$** | 1 |

The p-value of <.001 is the common significance level of 0.05.Indicating a statistically significant difference between the different groups 8-12 Hours, 6-8 Hours and Less than 6 Hours. In other words, the variability between the groups of Average Working Hours per Day is significantly greater than the variability within the companies, based on the data provided. Therefore, the null hypothesis is rejected.

### 6. 4. Workplace Harassment

A T-test for independent samples was conducted to examine the relationship between scores for workplace harassment and gender.

**Hypotheses**

- Null Hypothesis: There is no significant difference in workplace harassment scores between males and females.
- Alternative Hypothesis: There is a significant difference in workplace harassment scores between males and females.

**Table 10: Descriptive Statistics**

| Group | n | Mean | Standard Deviation | Standard Error |
|---|---|---|---|---|
| **Female** | 23 | 1.97 | 0.2 | 0.04 |
| **Male** | 50 | 2.19 | 0.44 | 0.06 |

**Table 11: T-test Results for Workplace Harassment and Gender**

| Test | t | df | p-value | Cohen's d |
|---|---|---|---|---|
| **Equal Variances** | -2.29 | 71 | 0.025 | 0.58 |
| **Unequal Variances** | -2.94 | 70.99 | 0.004 | 0.74 |

A two-tailed t-test for independent samples (equal variances not assumed) showed that the difference between Female and Male with respect to the dependent variable Average (B) was statistically significant, t(70.99) = -2.94, p = .004, 95% confidence interval [-0.37, -0.07]. Thus, the null hypothesis that there was no difference in the mean value between the two groups was rejected. The Cohen's d value of 0.74 represents a medium effect size.

A second ANOVA was conducted for independent samples to examine the relationship between workplace harassment scores and years of experience.

**Hypotheses**

- Null Hypothesis: There is no significant difference in workplace harassment scores (Avg B) between individuals with different years of experience
- Alternative Hypothesis: There is a significant difference in workplace harassment scores (Avg B) between individuals with different years of experience.
- Independent Variable (IV): Years of Experience - The independent variable is the number of years of experience, categorized into different groups such as 1-3 years, 4-6 years, 7-10 years, and 10+ years.
- Dependent Variable (DV): Workplace HarassmentScore (Avg B) - The dependent variable is the workplace harassment score, which measures the extent of harassment experienced by individuals, based on their years of experience.

**Table 12: Descriptive Statistics**

| Group | n | Mean | Standard Deviation |
|---|---|---|---|
| **<1 year** | 7 | 1.92 | 0.04 |
| **1-3 years** | 25 | 2.01 | 0.29 |
| **4-6 years** | 19 | 2.23 | 0.47 |
| **7-10 years** | 10 | 2.51 | 0.52 |
| **10+ years** | 12 | 1.98 | 0.15 |
| **Total** | 73 | 2.12 | 0.4 |

**Table 13: ANOVA Results**

| Source | Sum of Squares | Degrees of Freedom | Mean Square | F | p-value |
|---|---|---|---|---|---|
| **Between Groups** | 2.56 | 4 | 0.64 | 5.01 | 0.001 |
| **Residual** | 8.7 | 68 | 0.13 | – | – |
| **Total** | 11.27 | 72 | – | – | – |

**Table 14: Effect Size**

| Effect Size | Value |
|---|---|
| **Eta squared ($\eta^2$)** | 0.23 |
| **Cohen's $f^2$** | 0.29 |

The p-value of .001 is smaller than the common significance level of 0.05. This indicates that there is a statistically significant difference between the different groups 1-3 years, <1 year, 4-6 years, 7-10 years and 10+ years. In other words, the variability between the groups of Years of Work Experience in Healthcare is significantly greater than the variability within the companies, based on the data provided. Therefore, the null hypothesis is rejected. The eta squared (η2) value is 0.23, representing the proportion of the variance in the dependent variable that is attributable to the treatment effect. In this context, 22.75% of the variance in the dependent variable can be explained by the differences between the levels of the treatment. The eta squared value of 0.23 suggests a large effect size.

## *7. Discussion*

The above analysis illustrates the structural shortcomings in the implementation of Occupational Safety and Health (OSH) frameworks in Indian eye hospitals, and makes it evident that the problems are most commonly in the form of exposure to physical hazards, high levels of workplace harassment either in terms of mistreatment by patients or increased pressure at work, which is often coupled with a noticeable absence of psychological support systems. These findings support our hypothesis and highlight that formal OSH compliance does not guarantee comprehensive staff well-being, especially in high-stress, specialized healthcare environments.

The present findings align with those of (Ramachandran and Sigamani, 2014), who emphasized the inadequacy of enforcement and the lack of contextualized OSH frameworks in India's healthcare sector. Similarly, (Rai et al.,2021) observed that healthcare workers in low and middle-income countries, including India, often operate in hazardous conditions without sufficient protective systems or institutional support. The findings support these conclusions, showing that staff in specialized hospitals, like those focused on ophthalmology, continue to report exposure and emotional strain, even when core safety guidelines are in place.

Echoing the findings of (Guerin & Sleet, 2020), this study reiterates that sustainable occupational safety is not solely dependent on formal protocols, but also on behavioral reinforcement, leadership modeling, and organizational culture all of which remain underdeveloped in the Indian hospital context. Although compliance mechanisms may exist on paper, the absence of a culture that reinforces safety through behavior, mentorship, and example leaves workers vulnerable to repeated risk exposure and burnout.

The existing literature has also drawn attention to mental health as an often overlooked, yet critical component of workplace safety. (Romate and Rajkumar,2020) identified emotional strain and psychological neglect as prevalent among healthcare workers, particularly during periods of heightened stress such as pandemics. The above results also further reinforce these conclusions. Even in specialized hospitals such as ophthalmology institutions, where core safety guidelines may be in place, staff continue to report physical exposure and emotional strain. Although this study did not directly measure the impact of stress on productivity or patient care, the psychological strain reported by participants likely contributes to the dissatisfaction and diminished morale observed. (Caruso, 2013) reinforces this by showing that long work hours and inadequate rest, both normalized in healthcare, are strongly associated with burnout and impaired performance, underscoring the urgent need for rest chambers, regulated shifts, and psychosocial safeguards in hospital environments.

Taken together, these insights point to the need for a more holistic understanding of occupational safety, especially one that moves beyond checklists and compliance toward sustained attention to workers' lived realities. The persistence of emotional strain, harassment, and inadequate support mechanisms even in relatively well-resourced hospitals suggests that safety must be conceptualized as both a structural and relational concern. Addressing these issues requires not only institutional reforms but also shifts in workplace culture, leadership sensitivity, and mechanisms for grievance redressal. As India continues to invest in healthcare infrastructure and workforce expansion, embedding psychosocial safety within OSH protocols will be essential for ensuring not just compliance, but dignity, retention, and long-term well-being for healthcare professionals.

## *8. Conclusion*

This study sought to critically examine the structural and operational shortcomings in Occupational Safety and Health (OSH) practices within Indian eye hospitals, revealing that formal compliance alone does not ensure staff well-being. While existing safety frameworks may address physical hazards, our findings highlight persistent emotional fatigue, workplace bullying, and a lack of psychological support, which are largely under acknowledged in the existing scholarship, policy and practice. By applying a mixed-method approach and statistical analysis across a diverse respondent base, the study moves beyond surface-level metrics to foreground the relational and affective dimensions of occupational safety.

The study however has a few limitations. First, the focus on eye hospitals, while medically significant, may not represent the broader diversity of India's healthcare system. Second, while Likert scale responses capture patterns across domains such as exposure, provisioning, mental health, and workplace harassment, they may not fully convey the nuances of individual lived experiences. Third, although the sample size is methodologically appropriate, it may limit the generalizability of the results. Despite these limitations, the study centers psychosocial dimensions, such as workplace harassment, bullying, emotional strain, and workplace culture, that are often excluded from formal OSH assessments. Including both early-career and experienced healthcare workers also allowed for a more layered understanding of how safety concerns differ by tenure.

Despite limitations in scope and generalizability, the research offers valuable insights into how OSH frameworks must be reimagined to include mental health, gender sensitivity, and institutional accountability. Ultimately, creating safer healthcare workplaces in India will require not just compliance, but a shift toward cultures of care, dignity, and psychosocial resilience.

## *9. Recommendations*

- Multilingual OSH Guidebook for Nationwide Standardization

Develop a centralized, multilingual Occupational Safety and Health (OSH) guidebook, mandated across all healthcare facilities, including informal sectors. Available in all 22 scheduled Indian languages, it should include sector-specific modules (e.g., ophthalmology), visual aids, and culturally relevant case studies to ensure comprehension and compliance at all workforce levels.

- Fatigue Management Protocols & Restorative Spaces
  Mandate evidence-based fatigue management systems, including rotational shift caps, mandatory rest intervals, and on-site wellness/rest chambers with ergonomic seating and sensory isolation. These safe zones will reduce cognitive overload, prevent burnout, and support emotional regulation, particularly for emergency and surgery teams.
- Decentralized OSH Audit Cells
  Establish regional OSH audit cells under state health ministries that conduct surprise spot-checks, facilitate anonymous reporting, and benchmark hospital performance using digital dashboards. Integrating real-time feedback loops would enhance transparency and ensure continuous quality improvement.
- AI-Powered Risk Detection & Wearable Sensors
  Deploy wearable health-tech devices for staff (e.g., smart badges or wristbands) that track vitals, proximity to biohazards, and cumulative stress exposure. Data collected can feed into AI dashboards to forecast high-risk zones and initiate real-time alerts, creating a responsive safety net.
- Embedded Psychological First-Aid Units
  Institutionalize on-site psychological first-aid (PFA) units within hospitals, staffed by trauma-informed counselors. These units can provide confidential, walk-in support and early interventions for stress, harassment, or crisis-induced distress—thereby normalizing mental health care as part of routine OSH.
- Policy Reforms & Informal Sector Inclusion
  Expand the Occupational Safety, Health and Working Conditions Code (2020) to formally include contractual and informal healthcare workers, particularly in private eye care institutions. Introduce graded penalties for non-compliance and link OSH performance to funding or accreditation outcomes.
- Simulation-Based Safety Training & Virtual Reality Modules
  Integrate VR/AR-based safety simulations into staff induction and refresher programs to improve engagement and retention. These immersive experiences can replicate emergencies (e.g., chemical exposure, aggressive patients) and allow for hands-on learning in a controlled setting.
- Intersectional Risk Audits & Gender-Sensitive Safety Mapping
  Require intersectional OSH audits that analyze differential risks by gender, age, caste, and contract type. Use geo-mapping tools within hospital premises to identify safety blind spots for women and marginalized staff, especially in night shifts and isolated wings.
- Integration with Public Health Surveillance
  Link hospital-level OSH indicators with broader public health surveillance systems, enabling early detection of outbreaks, occupational injuries, or emerging psychosocial risks. This would position OSH not merely as a compliance measure but as a health systems resilience tool.
- Hospital Safety Innovation Labs
  Establish in-house safety innovation hubs within hospital chains to pilot adaptive technologies, redesign workflows, and co-create solutions with staff. These labs would institutionalize a bottom-up culture of safety, fostering continuous improvement through iterative feedback.

***References***

1. Almost, J. M., VanDenKerkhof, E. G., et. al. (2018). A study of leading indicators for occupational health and safety management systems in healthcare. BMC Health Services Research, 18(1). https://doi.org/10.1186/s12913-018-3103-0

2. Decent work. (2025b, May 22). International Labour Organization. https://www.ilo.org/topics-and-sectors/decent-work

3. De Simone, S. (2015). Wellbeing at work: A survey on perception of health care workers. Rivista Internazionale Di Scienze Sociali, 123(4), 395–412. http://www.jstor.org/stable/26151498

4. Jhabvala, R. (2013). Informal Workers & the Economy. Indian Journal of Industrial Relations, 48(3), 373–386. http://www.jstor.org/stable/23510784

5. Lahariya, C., & Menabde, N. (2015). India′s draft National Health Policy, 2015: Improving policy to implementation effectiveness. Journal of Family Medicine and Primary Care, 4(3), 291. https://doi.org/10.4103/2249-4863.161299

6. Michaels, D., & The George Washington University. (2018). Testimony of Professor David Michaels. In House Education and the Workforce Committee, Subcommittee on Workforce Protections, United States House of Representatives, A More Effective and Collaborative OSHA: A View From Stakeholders. https://democrats-edworkforce.house.gov/imo/media/doc/DMichaels%20Testimonyw.attachments2%2027%202018.pdf

7. Ramachandran, G., & Sigamani, P. (2014). Occupational health and safety in India: The need for reform. Economic and Political Weekly, 49(47), 26–28. http://www.jstor.org/stable/24481023

8. Rai, R., El-Zaemey, S., Dorji, N., Rai, B. D., & Fritschi, L. (2021). Exposure to occupational hazards among health care workers in low- and middle-income countries: A scoping review. International Journal of Environmental Research and Public Health, 18(5), 2603. https://doi.org/10.3390/ijerph18052603

9. Razavi, S., & Staab, S. (2010). Underpaid and overworked: A cross-national perspective on care workers. International Labour Review, 149(4), 407–422. https://doi.org/10.1111/j.1564-913x.2010.00095.x

10. Romate, J., & Rajkumar, E. (2022). Exploring the experiences, psychological well-being and needs of frontline healthcare workers of government hospitals in India: A qualitative study. Humanities and Social Sciences Communications, 9(1). https://doi.org/10.1057/s41599-022-01093-9

11. Stefania, S.D. (2015). Wellbeing at Work: A Survey on Perception of Healthcare Workers. Rivista Internazionale di Scienze Sociali , Ottobre-Dicembre 2015, Anno 123, No. 4 (Ottobre-Dicembre 2015), pp. 395-412. https://sci-hub.se/https://www.jstor.org/stable/26151498

12. Tripathy, J. (2014). Commentary: Occupational health hazard in India: Need for surveillance and research. Current Science, 106, 668–669

13. NIOSH alert: preventing needlestick injuries in health care settings. (1999). https://doi.org/10.26616/nioshpub2000108

14. Health Workforce (HWF). (2020, July 7). Global strategy on human resources for health: Workforce 2030. https://www.who.int/publications/i/item/9789241511131

15. Magalhães, L. M. C. A., Da Silva Costa, K. T., Capistrano, G. N., Leal, M. D., & De Andrade, F. B. (2022). A study on occupational health and safety. BMC Public Health, 22(1). https://doi.org/10.1186/s12889-022-14584-w

16. Guerin, R. J., & Sleet, D. A. (2020). Using behavioral theory to enhance occupational safety and health: Applications to health care workers. American Journal of Lifestyle Medicine, 15(3), 269–278. https://doi.org/10.1177/1559827619896979

17. Caruso, C. C. (2013). Negative impacts of shiftwork and long work hours. Rehabilitation Nursing, 39(1), 16–25. https://doi.org/10.1002/rnj.107

18. Baylina, P., Barros, C., Fonte, C., Alves, S., & Rocha, Á. (2018). Healthcare workers: Occupational health promotion and patient safety. Journal of Medical Systems, 42(9). https://doi.org/10.1007/s10916-018-1013-7

19. Publications Office of the European Union. (2011). Occupational health and safety risks in the healthcare sector. Publications Office of the EU. https://op.europa.eu/en/publication-detail/-/publication/b29abb0a-f41e-4cb4-b787-4538ac5f0238/language-en

20. Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. Journal of Personality and Social Psychology, 57(6), 1069–1081. https://doi.org/10.1037/0022-3514.57.6.1069

21. JCDR (n.d.) Anxiety, Depression, Mental health, Occupation, Social function, Somatic symptoms. https://jcdr.net/article_fulltext.asp?issn=0973-709x&year=2014&volume=8&issue=9&page=WC01&issn=0973-709x&id=4835

22. Juba, O. & Cardiff Metropolitan University. (2024). Occupational Health and Safety Challenges Faced by Caregivers and the Respective Interventions to Improve their Wellbeing. International Journal of Innovative Science and Research Technology, 3225–3229. https://doi.org/10.38124/ijisrt/IJISRT24JUN1000

23. Pramusiwi, W. M., Hariyono, W., & Ruliyandari, R. (2024). Analysis of Occupational Safety and Health (OSH) Risks in Hospitals: Literature review. Media Publikasi Promosi Kesehatan Indonesia (MPPKI), 7(8), 2051–2061. https://doi.org/10.56338/mppki.v7i8.5654

24. Saha, R. K. (2018). Occupational health in India. Annals of Global Health, 84(3), 330–333. https://doi.org/10.29024/aogh.2302

25. Hanumanthayya, M., Bamne, S. N., Nath, J., Sahoo, A. K., & Sharma, A. K. (2023). Healthcare management approaches for improving employee occupational safety. Dialnet. https://dialnet.unirioja.es/servlet/articulo?codigo=10035684