

Effects Of Occupational Stress on Work–Life Balance Among Healthcare Professionals in Charitable Hospitals in Pune City an Empirical Pilot Study

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Abstract—Healthcare professionals are under immense pressure that often encompasses high workloads, long and unpredictable hours, staffing deficits, administrative tasks, resource limitations and emotionally arduous patient care. Such pressures may extend beyond the professional environment and impact personal, family and social obligations. **Background** This is a pilot study to assess occupational stress and work–life balance among healthcare professionals working in charitable hospitals of Pune City. The study was conducted utilizing a quantitative, descriptive and cross-sectional design. We designed a structured, self-administered questionnaire and used it to collect primary data from 75 healthcare professionals working in six charitable hospitals through stratified random sampling. The sample pilot included doctor, Nurses and Some supportive Healthcare supplemental staff. Acknowledging excessive workload and long working hours were the most important stressors in work-related fatigue based on descriptive and multiple-response analysis 85.5%, followed by resource and equipment constraints (77.3%), emotional demands of patient care (72.0%), insufficient compensation, inadequate supervisor support system queuing 60.0% & 45.3% respectively [30]. A pattern of moderate-to-high occupational stress, moderate work–life balance and an inverse relationship is evident from the preliminary data. Results are encouraging for the potential of a larger study but demonstrate that item-level reliability testing and analyses need to be conducted in the main survey. These insights are primarily preliminary, and can be utilized by hospital administrators in a bid to strengthen staffing methods, supervisory support for body members, charge of cooperation among human resources department and work-scheduling practices.

Index Terms—Charitable hospitals; Healthcare professionals; Occupational stress; Pilot study, Work–life balance.

I. INTRODUCTION

The operation of the delivery of healthcare is driven by our healthcare professionals. They are required to be clinically accurate, emotionally resilient and make rapid decisions while interacting consistently with people on the frontline often in less than certain circumstances. In charitable hospitals, these pressures might be compounded by large patient volumes, scarce financial resources, inadequate personnel and equipment and the requirement to provide low-cost care to at-risk areas.

Pune City has become an important center for medical education and healthcare services. Charity Hospitals play a valuable role in this ecosystem providing treatment to patients unable to afford private care. This does not, however, reduce the pressures their staff members are subjected to in what are often highly leveraged institutions of social importance. Doctors, nurses, laboratory technologists and radiology technologists may have to withstand long shifts, emergency duties, emotions-heavy patient communications and role overload along with little opportunities for recuperation.

Occupational stress occurs when there is believed to be an imbalance between the perceived demands of work and the employee's coping resources. If this type of stress is chronic, it can negatively impact physical and mental health, job satisfaction, organizational commitment, performance and patient care quality. It might even extend into your private life and affect available time and energy for family, leisure-time activities, social relations or personal care. Therefore work–life balance is both a valuable outcome for

employee welfare, as well as an important factor in sustainable hospital functioning.

This current pilot study explores occupational stress and work–life balance in the context of charitable hospital workers in Pune City, India. Its primary role is to explore the efficacy of the study design, preliminary patterns of responses and major sources of occupational stress before proceeding with a full-scale survey as pilot investigation. The results are exploratory and should not be interpreted as causal evidence at the population level.

1.1 Statement of the Problem

Opportunities: Healthcare professionals practicing in charitable hospitals frequently work in resource-constrained environments whilst being responsible for the delivery of timely, ethical and patient-centred care. Heavy workloads, long hours, high emotional labor and poor organizational support may compromise individuals' ability to manage work-life balance. **Background** Charitable hospitals play a vital role in Pune City, however limited focused evidence exists for the impact of occupational stress on work–life balance of its healthcare workforce. Thus, the study provides preliminary empirical support that can drive a focused investigation and direct practices around employee-support.

1.2 Aims of the pilot test

Objective:

1. To identify the contributory factors of occupational stress among health care workers employed in charitable hospitals in Pune City.
2. To characterize the observed base level of occupational stress reported by pilot respondents.
3. To evaluate the initial status of work–life balance among the respondents.
4. To investigate the nature of the relationship between occupational stress and work–life balance, at the descriptive pilot-study level.
5. To evaluate the feasibility of sampling, questionnaire administration and data collection methods for the main study.
6. To find out the statistical analyses that need item-level data of full-scale study such as reliability, correlation and regression analysis.

1.3 Research Questions

Introduction: What are the key contributors to occupational stress in charitable hospitals among various healthcare professionals of Pune City?

What are the baseline levels of work–life balance and occupational stress in the pilot sample?

What is the preliminary direction of association between occupational stress and work–life balance?

Is the research design proposed here appropriate for a broader empirical test?

1.4 All assertions in relation to our main study

H₀ and SD: Occupational stress and work–life balance have no significant relationship with the healthcare professionals working in charitable hospitals of Pune City.

H₁: Occupational stress is negatively associated with work–life balance among healthcare professionals working in charitable hospitals in Pune City.

These hypotheses will then be tested on the complete item-level dataset in a subsequent main study. Formal hypothesis testing is not possible to carry out with the data currently obtained from the pilot material analysed for this report, as item response analyses were limited by not being able to access scale scores or other inferential statistics.

II. LITERATURE REVIEW AND THEORETICAL BACKGROUND

Occupational stress has long been acknowledged as a key problem in occupations which: entail high responsibility, time pressure, emotional labour and contain limited control. Stress, as described by Selye (1956), is the body response without specificity to a particular demand. In their transactional perspective, Lazarus and Folkman (1984) provided one of the few theories that indicated stress is derived from an interaction between environmental demands and a person's appraisal of these demands relative to his or her available resources. Workload role ambiguity, organizational climate and lack of support were found to be significant occupational stressors by Cooper and Marshall (1976).

The Job Demand–Control (JDC) model introduced this idea that strain is more probable when job demands are high in combination with low decision latitude (Karasek, 1979). Nuance is relevant to the work of hospitals, where demand on the workforce can

peak abnormally high but employees have little agency over cases coming through ambulances, what type of emergency services are needed or how their medical system functions either as staffing, infrastructure or institution. Like the Job Demands–Resources model that suggests work stress occurs: job demands (e.g., role conflict, workload) lead to depletion (i.e.

Work–life balance is heavily related to the extent to which an individual can meet both their work and personal life commitments without been in constant conflict. According to Greenhaus and Beutell (1985), work–family conflict is defined as inter-role conflict, meaning that the pressures of both work and family domains are negatively compatible. (2003) argued for balance with respect to "time, involvement and satisfaction across work and family roles" (p. 512). We further differentiated between work-to-family and family-to-work conflict (Netemeyer, Boles & McMurrian 1996), setting an important number for measurements in later studies.

According to the Conservation of Resources perspective (Hobfoll, 1989), individuals try to maintain a pre-existing level of physical and social resources, which are valued by them. These resources can be depleted by heavy workloads, emotional and psychological demands, and inadequate recovery from work exposure; further making it harder to fulfil other roles outside of work. Healthcare professionals are especially vulnerable, since their work entails responsibility for human life, repeated exposure to suffering, shift work and high expectations of responsiveness.

BACKGROUND Existing evidence suggests that high levels of occupational stress are related to work–family imbalance, burnout, job dissatisfaction and turnover intention. Scarcity of resources and obligations are, however, likely to pose unique challenges for charitable hospitals. And, predicated on generalizing the answer to all institutions in Pune City will give contextual evidence and would help construct supportive legislature at any of the institution followed.

2.1 Conceptual Framework

The conceptual foundation of the study is that occupational stress serves as an independent construct and work–life balance as a dependent construct. Workload and working hours, resource covers strain,

emotional needs of the workers, a reasonable reward for Work and professional help contribute profoundly to operating stress. These stressors worsen and the time, energy and psychological resources for personal/family life to be expected decrease which lead to deterioration of work–life balance. Other demographic and professional factors may also moderate this association and need to be investigated in the main study.

III. RESEARCH METHODOLOGY

3.1 Research Design

This study used a quantitative, descriptive and cross-sectional research design. The data were drawn from a cross-sectional survey designed to chargeteref and of respondents' perceptions of occupational stress and work–life balance, in order to explore the preliminary directional association between these two constructs.

3.2 Study Area and Setting

This study was carried out in six charitable hospitals located in Pune City, Maharashtra as a pilot. The institutions were chosen for their provision of affordable healthcare service delivery, as well as areas where there may be high demand and limited resources.

3.3 Target Population

The inclusion criteria addressed healthcare workers involved in clinical-oriented, diagnostic and supportive hospital settings. The upload refers to intended professional groups namely doctors; nurses; laboratory technologists, radiology technologists and other supporting nursing staff.

3.4 Sample Size and Sampling Method

Stratified random sampling was used to get a pilot sample of 75 healthcare professionals from six different charitable hospitals. Stratification was meant to ensure representation by important professional clusters. Doctors, nurses and other support staff were the reported final categories.

3.5 Data Sources and Collection Method

Using a structured, self-administered questionnaire for primary data collection. Secondary source of data were obtained from books, peer-reviewed journal articles,

research-methodology books etc. as well as various relevant academic publications/organizations.

3.6 Variables Covered

Variable Group	Coverage in the Pilot Material
Occupational stress	Workload and working hours; resource and equipment constraints; emotional demands of patient care; compensation; supervisory support.
Work–life balance	Overall ability to manage professional responsibilities alongside personal, family and social life.
Profile variables	Professional category and gender, based on the demographic data supplied in the uploaded material.

3.7 Data Analysis Plan

The analysis of available pilot material comprised frequencies, percentages and descriptive interpretation as well as multiple-response analysis. These are multiple-response percentage caseto be added up add toAccordingly, because each respondent could select more than one Difference. Subsequently, strategy would include internal-consistency reliability of the item-level data collected in the main study, composite-score construction as appropriate and correlation and multivariate techniques.

3.8 Reliability and Validity Status

The uploaded content said the guide is a pilot study designed to test questionnaire reliability and feasibility in a real world setting. No item-level responses, scale composition or a reliability coefficient were given, however. Therefore, none of Cronbach' s alpha or similar reliability statistics can be determined from the information available. Content validity must be documented by experts review (using the appropriate tool) and construct validity & internal consistency will be evaluated via full raw pilot data before questionnaire is finalized for use in main survey.

3.9 Ethical Considerations

In a full-scale study steps are taken to ensure that participation is voluntary, consenting, responses confidential and secure, and reporting only in aggregate. Me, you and they as hospital and employee identities are not to be revealed without permission. They must also assure participants their jobs and professional credibility will not suffer if they choose not to participate.

IV. RESULTS AND DISCUSSION

4.1 Profile of the Respondents

Table 1. Professional Category and Gender of Respondents

Demographi c Variable	Category	Frequenc y	Percentag e
Professional Category	Doctors	30	40.0%
	Nurses	38	50.7%
	Other Supportiv e Staff	7	9.3%
	Total	75	100.0%
Gender	Male	34	45.3%
	Female	41	54.7%
	Total	75	100.0%

Among the 75 healthcare professionals that participated, nurses formed the largest group (38 respondents, 50.7%). Out of these group, 30 (40.0%) respondents were doctors, while 7 (9.3%) belonged to other supportive staff members class. The distribution represents the two primary clinical groups contained in the pilot study, plus support staff. 42 respondents (54.7%) were female and 34 (45.3%) were male in terms of gender.

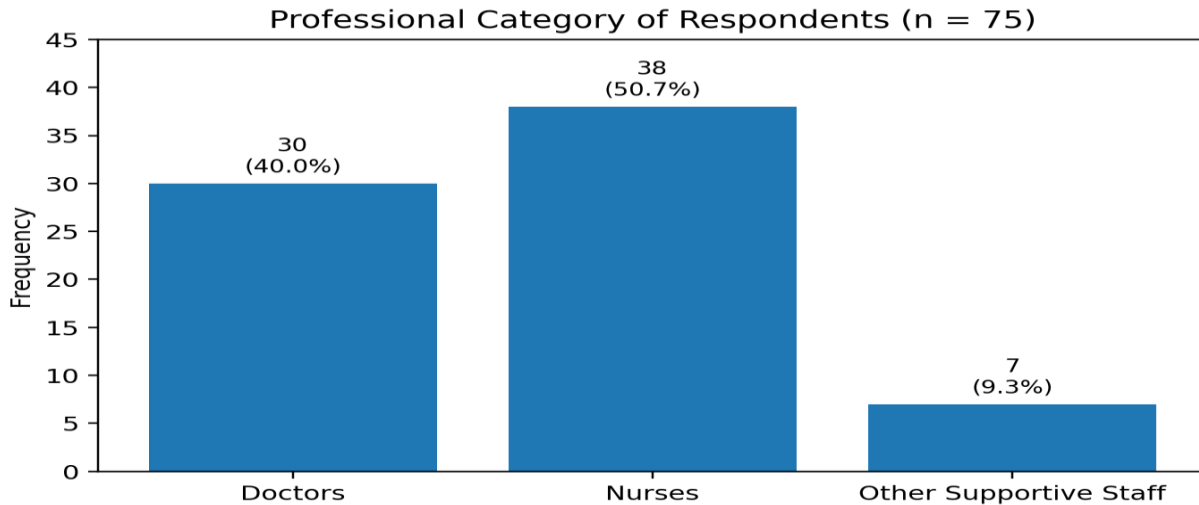


Figure 1. Professional Category of Respondents

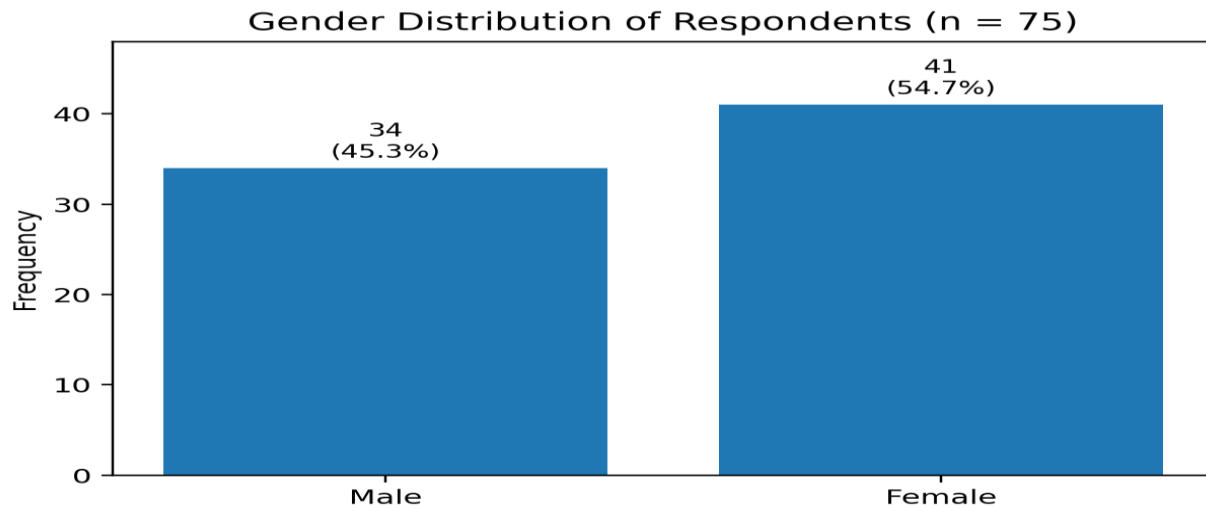


Figure 2. Gender Distribution of Respondents

4.2 High Levels of Workplace Stress

The primary occupational stressors were identified by a multiple-response analysis. The respondents could select more than one, so the percentages add over 100%.

Table 2. Major Sources of Occupational Stress

Occupational Stressor	Frequency	Percentage of Cases
Excessive workload and long working hours	68	90.7%
Resource and equipment constraints	58	77.3%

Occupational Stressor	Frequency	Percentage of Cases
Emotional demands of patient care	54	72.0%
Inadequate compensation	45	60.0%
Lack of supervisory support	34	45.3%

Study Notes: Participants were allowed multiple responses; therefore, total percentages can add to greater than 100%.

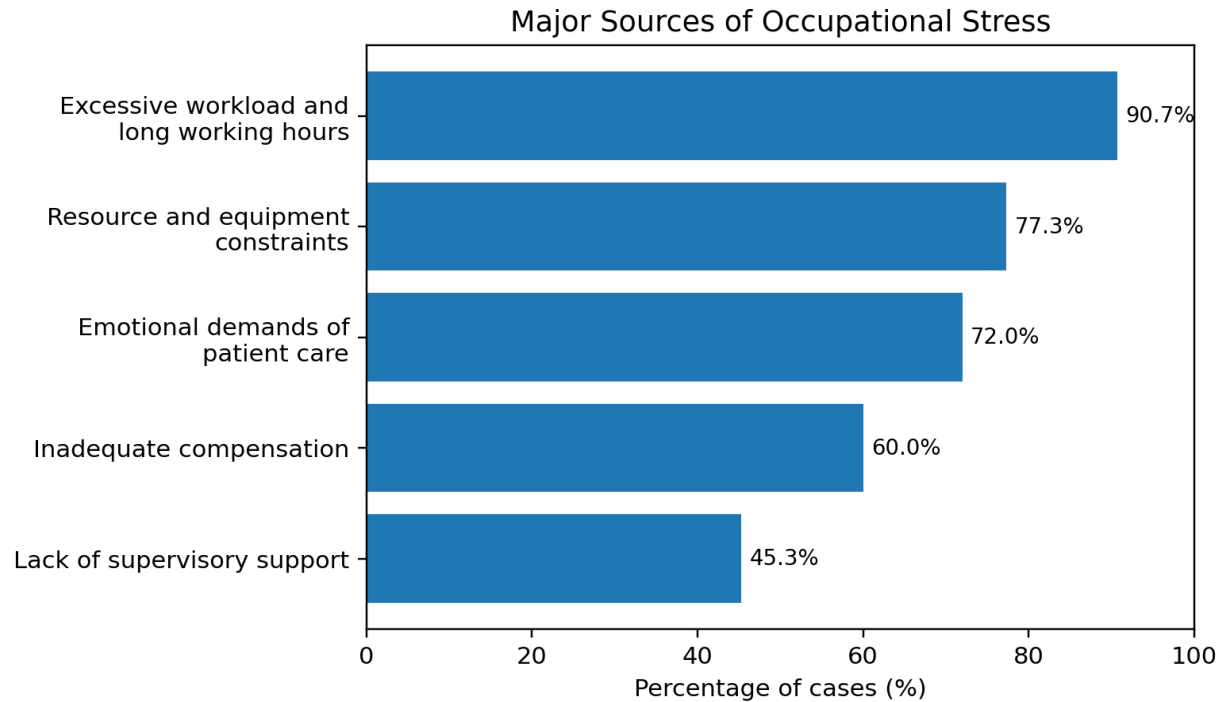


Figure 3. Table 1 Percentage of respondents reporting occupational stressors

Work overload and prolonged working hours ranked as the most common stressor with responses from 68 respondents (90.7%). This means that time pressure and the workload intensity are core issues in the pilot environment. Fifty-eight (77.3%) had reported resources and equipment shortages, which reveals that employees may be forced to deliver care without sufficient institutional backup to ensure safety over the long term. The psychological burden from caring for patients when they were in difficult situations was reported by 54 respondents (72.0%).

Forty-five respondents (60.0%) chose inadequate compensation and 34 respondents (45.3%) reported lack of supervisory support. Workload required greater attention than resources and emotional demands but both of these factors were also reported, if at lower rates relative to workload, by large proportions of the sample. This general pattern suggests that occupational stress is multi-modal and cannot be dealt with only in individual coping programmes. Areas for improvement include organizational factors such as staffing and scheduling; equipment availability, compensation practices and managerial support.

4.3 Preliminary Occupational Stress and Work–Life Balance Pattern

Table 3. Relationship between Work–Life Balance and Occupational Stress (n = 75)

Variable	Pilot Observation
Occupational Stress	Moderate to high
Work–Life Balance	Moderate
Direction of Relationship	Negative association

The exploratory pilot observational main result describes how participants with high occupational stress experienced a greater failure coping than those with lower stress levels, demonstrating also poorer work–life balance. Working hours longer than what was previously mandated for physicians, emergency and on-call duties, staffing shortages and emotionally taxing work may also require professionals to go above and beyond scheduled working time pushing opportunities for rest, family interaction, social participation and personal care outside normal hours of the working day.

Thus, the direction of the observed effect aligns with theoretical expectations under layoff conditions: increased job demands that consume both time and psychological resources are assumed to leave less room for successful role fulfilment outside work. Despite this, the available data were not composite occupational-stress scores, work–life-balance scores, nor was a correlation coefficient or confidence interval or p-value given. It would therefore be more appropriate to describe the result as a tentative negative association rather than as a statistically significant relationship.

4.4 Pilot-Study Feasibility Assessment

Table 4. Feasibility Observations for the Main Study

Pilot Component	Assessment
Sampling feasibility	The pilot obtained 75 responses across six charitable hospitals and included doctors, nurses and supportive staff.
Relevance of variables	The high frequency of reported workload, resource and emotional stressors confirms the practical relevance of the topic.
Questionnaire administration	The use of a structured self-administered instrument appears suitable for collecting standardized perceptions.
Analysis feasibility	Frequencies and multiple-response analysis can be conducted; item-level data are needed for scale reliability and inferential testing.
Main-study refinement	Professional categories should be recorded in greater detail so that laboratory and radiology technologists are not lost within a broad supportive-staff category.

V. DISCUSSION

The initial findings suggest that systemic work conditions underpin healthcare professionals' occupational stress in charitable hospitals. The extremely high reporting of excessive workload and long working hours may indicate that the amount and duration of work might be the most proximate source of strain. When hospital deprived of dividing out the patient influx or unforeseen emergencies, absenteeism shift rotation as well as shortage of nursing personnel. The second most prevalent stressor was a lack of resources and equipment. An example of this is with medical equipment and supplies, where in non-profit institutions, priority for purchases may be lacking because of budget restrictions. These constraints can increase task difficulty in the field as well as cause delays in service delivery and increased sense of responsibility for employees. There were also a reported emotional demands which is not surprising in health care involving illness, pain, uncertainty, family distress and mortality.

The initial negative relationship between work–life balance and occupation stress is theoretically understandable. Workload and long hours increase time burden during non-work activities, whereas emotional exhaustion hinders the quality of engagement. With worries about pay and poor supervisory support this sense of fairness, appreciation and connection to the organization can become even more fragile for employees. These results strengthen the argument that work–life balance should not be understood simply as an issue of individual time management and behaviour, but also as an organizational level outcome influenced by job design and institutional resources.

Simultaneously, it has important limits—or rather low GEV bounds—, a key evidence of the pilot. Specifically, the data provided are purely descriptive; no standardized mean scores, reliability values or inferential statistics have been conducted. The study should thus be regarded as a pilot analysis that guides instrument promotion and proper validation instead of final evidence for impact.

VI. RECOMMENDATIONS

Review of Workload and Staffing: Consider patient-to-staff ratios, amount of overtime, length of shifts and

emergency-duty frequency If feasible, redistribute responsibilities and hire or reassign personnel to high-pressure ZE units.

Transparent and fair shift work: weeks in advance duty rosters, avoid the same shifts in a row, avoid working too short intervals between two shifts.

Resource support: Establish a methodical reporting system for the identification of shortages and prioritization and resolution of equipment, supplies and technical capacities.

Supervisory Practices: Train supervisors on supportive communication, equitable workload distribution, conflict resolution, and providing feedback and recognition.

Adverse Servers and Organisation Counselling: individual psychological dialogue, peer-support groups, leisure-management workshops and referral paths.

Work–life-supportive policies: Flexible scheduling where operationally feasible, planned leave, emergency family leave and measures that prevent unnecessary work after hours

Compensation and recognition: Opens up important conversations around compensation, which should be handled transparently, and ensure that financial remuneration is supported by recognition, professional development opportunities and fair promotion practices.

Using data to monitoring: Operating indicators for occupational stress, burnout, absenteeism, turnover intention and work–life balance on a regular basis, and assess the impact of interventions.

Analysis Plan for the Main Study: Calculate Cronbach's alpha on item-level data, create composite scores, test correlations and regression of OCST on work–life balance controlling for professional and demographic variables.

VII. LIMITATIONS OF THE PILOT STUDY

Generalizability The sample was limited to 75 healthcare professional from six charitable hospitals in Pune City; hence the findings cannot be generalized for all hospital settings or health-care professionals. The cross-sectional design of the study is limited to a snapshot in time making it not possible to determine causation.

There is a professional-category table that aggregates some supportive occupations, so comparisons by occupation are limited.

The stressor table is built from multiple different responders and does not indicate the strength or severity corresponding to each stressor.

No questionnaire data or scale means, standard deviations, reliability coefficients, correlation coefficients or regression results at the item level were provided.

Self-reported answers may be affected by recall, social desirability or momentary working environment conditions.

VIII. MAIN STUDY: PROPOSED STATISTICAL PLAN

Table 5. Recommended Analysis Sequence for the Full-Scale Study

Stage	Recommended Analysis
Data screening	Check missing values, invalid codes, outliers and response patterns.
Descriptive statistics	Report frequencies, percentages, means and standard deviations.
Reliability	Calculate Cronbach's alpha for occupational-stress and work–life-balance scales; inspect corrected item–total correlations.
Construct scores	Compute scale or dimension scores according to the validated questionnaire structure.
Bivariate analysis	Use Pearson or Spearman correlation depending on scale properties and assumptions.
Group comparisons	Compare scores across professional categories, gender, shift type and tenure using suitable parametric or non-parametric tests.
Predictive analysis	Estimate multiple regression with work–life balance as the

Stage	Recommended Analysis
	dependent variable and occupational stress as the principal predictor.
Diagnostics	Assess normality, linearity, homoscedasticity, independence and multicollinearity as applicable.
Reporting	Report effect sizes, confidence intervals and exact p-values, not only statistical significance.

IX. CONCLUSION

Conclusion This pilot study provides the first evidence that health care personnel at charitable hospitals in Pune City appear to experience substantial occupational stress, particularly due to a combination of excessive workload and working hours, limitations on resources and equipment and the emotional demands of patient care. Large numbers of respondents are also impacted by compensation concerns and lack of supervisor support. Descriptive patterns indicated high-moderate levels of occupational stress, moderate levels of work-life balance and a negative relationship between these two constructs.

This is an initial confirmation of a larger study and also lays the groundwork for further study on organizational circumstances that affect employee well-being. Nevertheless, we did not and do not have the data necessary to support a claim of statistical significance; that is because neither item-level scores nor inferential results were provided. Thus, the full dataset should be used to conduct reliability testing, construct validation and correlation and regression analyses in the main study. From a management perspective, workload planning, staffing, resources, supporting supervision as well as counselling and work-life-supportive scheduling are identified priority areas for intervention.

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Appendix A : Reported data in the uploaded pilot material

The summary that follows contains the numeric information used in this manuscript. We include this

separately in order to be transparent and clear about which results were directly supported by the provided pilot-study material.

Indicator	Reported Value
Hospitals covered	6 charitable hospitals
Pilot sample size	75 healthcare professionals
Doctors	30 (40.0%)
Nurses	38 (50.7%)
Other supportive staff	7 (9.3%)
Male respondents	34 (45.3%)
Female respondents	41 (54.7%)
Workload/long hours	68 (90.7%)
Resource/equipment constraints	58 (77.3%)
Emotional demands	54 (72.0%)
Inadequate compensation	45 (60.0%)
Lack of supervisory support	34 (45.3%)
Occupational stress observation	Moderate to high
Work–life balance observation	Moderate
Relationship observation	Negative association

Appendix B. Information Required to Complete Reliability and Hypothesis Testing

- The complete questionnaire, including item wording and response scale.
- One row of data per respondent and one column per questionnaire item.
- Identification of which items belong to each construct or subscale.
- Identification of reverse-coded items, if any.
- Coding for professional category, gender, tenure, department and shift pattern.
- Rules for handling missing responses.