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Need Assessment of a Digital Grievance Redressal System (DGRS) for Hospital Administration: Exploring Requirements, Challenges, and Opportunities for Effective Patient Feedback Management

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ABSTRACT

Patient feedback and grievance redressal are essential to building trust, ensuring accountability, and improving hospital services. Traditional manual grievance systems often suffer from delays, poor communication, and lack of transparency, leaving patients, staff, and students dissatisfied. With healthcare becoming more digital, there is a growing need to explore how technology can make grievance handling faster, fairer, and more efficient.

This study assessed the need for a Digital Grievance Redressal System (DGRS) in hospital administration by examining the current manual process and identifying gaps, challenges, and user expectations. A cross-sectional survey was conducted in three healthcare facilities in Ghaziabad, India, involving 428 participants: patients, healthcare employees, and students. Data were collected through a structured bilingual questionnaire (English and Hindi) and analyzed using descriptive statistics and thematic analysis.

Key Findings: *Dissatisfaction with the manual system: Over 88% of participants found the process difficult to use due to unclear procedures and lack of timely updates.*

Confidentiality concerns: Only 21.7% believed their complaints were always handled confidentially; 62% reported perceived bias in complaint handling.

Delayed Resolutions*: Only 9.6% reported resolutions within 48 hours, while 31% experienced delays beyond a week and 9.3% received no response at all. Strong preference for digital solutions: An overwhelming 93.2% of participants expressed a clear need for a digital system offering real-time tracking, transparent updates, faster resolution, and improved accessibility.*

Qualitative insights further highlighted issues like poor facilities, staff behavior, administrative inefficiencies, and lack of accountability in grievance management. Suggestions included user-friendly digital platforms, defined timelines for response, training for staff, and upgraded infrastructure.

Conclusion: *The findings reveal significant gaps in existing grievance systems and a strong demand for digital transformation. Implementing a DGRS can improve transparency, reduce resolution time, and enhance patient satisfaction while strengthening trust in healthcare institutions. A well-designed digital platform, supported by training, legal frameworks, and stakeholder engagement, can drive a culture of responsiveness and continuous quality improvement in hospital administration.*

Keyword: *Digital Grievance Redressal (DGRS), Patient Satisfaction, Patient Feedback, Hospital Administration, Healthcare Quality, Block-Chain, Artificial Intelligence (AI).*

INTRODUCTION

In today's healthcare landscape, ensuring high-quality, patient-centered care extends far beyond clinical outcomes. The way hospitals address patient grievances, staff concerns, and student

feedback reflects not only institutional accountability but also the core values of transparency, fairness, and continuous improvement. Effective grievance redressal systems in healthcare settings are indispensable for maintaining trust, enhancing satisfaction, and identifying systemic issues that require administrative attention. However, in many hospitals, grievance handling remains a cumbersome, manual process, often plagued by delays, poor communication, and a lack of transparency, leaving many stakeholders dissatisfied and disengaged.

Healthcare institutions worldwide are increasingly recognizing the critical role of structured complaint management in improving patient safety, workplace culture, and service delivery. Studies have highlighted that grievance mechanisms, when well-designed and properly implemented, help organizations to identify gaps in care delivery and enhance responsiveness (World Health Organization, 2018; Nair et al., 2020). Digitalization of healthcare processes has also shown promise in streamlining administrative workflows and making feedback mechanisms more accessible and efficient (Kumar & Singh, 2019). In particular, digital grievance redressal platforms in sectors like banking and education have demonstrated improved turnaround times, better data tracking, and higher user satisfaction compared to traditional manual systems.

Despite these advances, many hospitals especially in resource-constrained settings continue to rely on paper-based or semi-structured grievance processes. This has led to persistent challenges such as incomplete record-keeping, lack of confidentiality, inconsistent follow-up, and inadequate communication with complainants. Few studies to date have systematically assessed the experiences, challenges, and expectations of diverse hospital stakeholders including patients, employees, and students regarding existing grievance redressal mechanisms. This gap in understanding hampers the ability of healthcare administrators to design evidence-based, user-centered digital grievance systems that meet the needs and preferences of all stakeholders.

This study seeks to address this gap by conducting a comprehensive needs assessment to inform the development of a Digital Grievance Redressal System (DGRS) for hospital administration. Specifically, it aims to evaluate the current manual grievance system's efficiency, accessibility, transparency, and user satisfaction, while identifying key barriers and exploring stakeholders' expectations for a digital solution. The central hypothesis is that the current manual system does not adequately meet stakeholder needs, and that there is both a perceived need and readiness among users to transition to a more efficient, transparent, and user-friendly digital platform for grievance redressal.

By exploring the challenges, experiences, and expectations of patients, employees, and students, this research intends to provide actionable insights for hospital administrators to develop and implement a DGRS that enhances feedback management and improves institutional responsiveness, ultimately contributing to better healthcare governance and service quality.

METHODS

Study Design:

This research was designed as a cross-sectional descriptive survey using a mixed-methods, needs assessment approach conducted during the pre-implementation phase of a digital grievance redressal initiative. The study aimed to capture a real-world perspective of the current manual grievance redressal process in healthcare by examining the experiences, challenges, and expectations of key stakeholders. This design was chosen for its appropriateness in evaluating perceptions and practices within natural, uncontrolled healthcare settings where randomization is neither feasible nor ethical. The cross-sectional methodology allowed for simultaneous data collection across patients, healthcare employees, and students, providing a comprehensive snapshot of the system at a single point in time.

Study Setting and Duration:

The study was conducted between June 2025 and June 2025 across three diverse healthcare facilities in Ghaziabad, India: a private multi-specialty hospital, a government hospital, and a private tertiary care center. This multi-center approach ensured representation from institutions serving varied patient demographics and administrative structures. Data were collected from multiple departments and service zones within each institution to ensure inclusivity and depth of insight into the grievance redressal processes.

Prior to initiating the study, ethical approval was obtained from the Institutional Ethics Committee of Santosh Medical College, Ghaziabad. Written permission was also secured from the Medical Director, Dean of Medical and Academic Affairs, and Heads of relevant departments at participating institutions. All participants were provided with an explanation of the study's purpose and assured of confidentiality. Written informed consent (digital or paperbased) was obtained before participation.

Study Population and Sampling:

The study population included three primary stakeholder groups:

1. Patients (both inpatients and outpatients) who had received care at one of the participating hospitals within the past year.
2. Healthcare employees, including clinical and administrative staff currently working at the institutions.
3. Healthcare students (interns, trainees, and academic students) affiliated with the hospital at the time of data collection.

Inclusion Criteria: . Adults aged

1. 18 years or older.
2. Patients, employees, or students who had interacted with or were aware of the hospital's current grievance redressal process.
3. Individuals willing to provide informed consent and participate voluntarily.

Exclusion Criteria:

1. Individuals below 18 years of age.
2. Those unwilling or unable to consent.
3. Stakeholders unaware of the grievance process.
4. Staff under administrative investigation related to grievance handling.
5. Incomplete or invalid questionnaire responses.

Sample Size Determination

Sample size was calculated using OpenEpi Version 3.0, assuming a total population of 1,000,000, hypothesized frequency of 50% (to maximize variance), a 95% confidence level, 5% margin of error, and a design effect of 1. This yielded a minimum required sample of 384 participants. To ensure balanced representation and account for potential incomplete responses, a total of 428 participants were recruited:

1. 133 patients.
2. 136 healthcare employees.
3. 159 healthcare students.

Data Collection Tools and Procedures

Data were collected using a structured bilingual questionnaire, titled "Challenges in Manual Grievance Redressal System – Feedback Form", developed based on an extensive literature review, expert consultations, and pilot testing. The questionnaire captured both quantitative and qualitative data, combining closed-ended items (including Likert-scale ratings) and openended questions. Key domains covered included:

1. Ease of grievance submission.
2. Response time and follow-up.
3. Transparency and communication.
4. Confidentiality and fairness.
5. Satisfaction with resolution.
6. Accessibility and navigation.
7. Perceptions of administrative responsiveness. Preferences for a digital grievance system.

The questionnaire was available in English and Hindi to ensure accessibility. Content validity was established through review by a panel of healthcare administrators, educators, and patient advocates. Minor modifications were made based on feedback to improve clarity and cultural

appropriateness. A pilot test involving eight participants from each stakeholder group confirmed comprehension and feasibility, with average completion time under 10 minutes.

Mode of Administration

The primary mode of administration was Google Forms, distributed via:

1. Hospital email lists.
2. Institutional WhatsApp groups.

For participants with limited digital access or familiarity, printed questionnaires were provided. Trained, neutral support staff assisted respondents when needed, ensuring no influence on responses.

Variables

The key dependent variables included user satisfaction, perceived transparency, accessibility, and responsiveness of the manual grievance system. Independent variables included demographic characteristics (age, gender, stakeholder category), prior experience with filing grievances, and readiness to adopt a digital system. Qualitative responses provided contextual insights into barriers and suggestions for improvement.

Ethical Considerations

Ethical principles were strictly followed throughout the study:

Informed consent was obtained from all participants.

1. There were no repercussions for withdrawing at any point during the optional participation period.
2. Responses were anonymized to protect confidentiality.
3. No personally identifiable information was collected.
4. Data security was ensured by encrypting digital responses and limiting access to investigators only.

Statistical Analysis

Quantitative data were compiled into Microsoft Excel spreadsheets and analyzed using SPSS version 26.0 (IBM Corp.). Descriptive statistics (frequencies, percentages, means, standard deviations) were used to summarize demographic and survey responses. Associations between categorical variables were assessed using the Chi-square test, and differences in mean scores between groups were analyzed using t-tests or ANOVA, as appropriate. A p-value < 0.05 was considered statistically significant. Qualitative responses from open-ended questions were analyzed thematically to identify recurrent patterns and insights.

RESULTS

Participant Flow:

A total of 450 individuals were approached across three healthcare facilities in Ghaziabad between April and June 2025. Of these, 428 participants consented and completed the survey, yielding a response rate of 95.1%. Respondents were evenly distributed among three stakeholder groups: patients (n=133), healthcare employees (n=136), and healthcare students (n=159). There were no exclusions because of incomplete or ineligible data.

Baseline Characteristics:

Table 1 summarizes the demographic and role distribution of respondents. The sample included a balanced mix of genders and a wide age range, reflecting the diverse healthcare setting.

Table 1. Baseline characteristics of study participants (N=428).

Characteristic	Patients (n=133)	Employees (n=136)	Students (n=159)	Total (N=428)
Age (years)	Mean (SD)	42.3 (11.7)	35.2 (9.5)	23.6 (3.8)
Gender (% male/female)	58%	54%	50%	54%
Prior complaint filed	68%	74%	72%	72%
Familiar with grievance process	77%	81%	79%	79%

Baseline characteristics did not significantly differ between stakeholder groups ($p>0.05$, ANOVA/Chi-square as appropriate).

Main Findings:
Experience with Complaints: of the 428 respondents, 72% reported having filed a complaint previously. However, only 35% (95% CI: 30–40%) found the process straightforward, while 65% (95% CI: 60–70%) described it as difficult to navigate. Difficulty identifying the appropriate authority was reported significantly more by patients than employees or students ($p<0.01$).

Confidentiality and Perceived Bias:

1. 21.7% of respondents (n=93) thought their complaint was always handled in confidence.
2. 73.6% (n=315) said confidentiality was maintained only sometimes. 4.7% (n=20) said complaints were never kept confidential.
3. More than 62% (n=268) perceived some degree of bias or favouritism in how complaints were handled, with employees more likely to report bias than patients (p=0.03).

Transparency and Communication:
Only 7.2% (n=31) reported being "always" informed about their complaint's status, while 55.4% (n=237) were updated only sometimes, and 37.4% (n=160) reported never receiving updates. This communication gap was consistent across all groups.

Operational Challenges and Delays:

1. Nearly 79% (n=338) reported instances of complaints being lost or misplaced at least once. Regarding timeliness:
2. 9.6% (n=41) reported resolution within 48 hours.
3. 50% (n=217) within 3–7 days.
4. 31% (n=133) beyond 7 days.
5. 9.3% (n=40) never received a response.

Average resolution time was significantly longer for patients compared to employees or students ($p<0.01$).

Satisfaction and Ease of Submission:
Over 88% of respondents rated the manual grievance system as "difficult" or "very difficult" to use, with only 11.7% (n=50) describing it as "easy". Dissatisfaction was significantly associated with prior experience filing complaints (p=0.02).

Ease of Grievance Submission:
When asked about the ease of submitting a grievance under the current system (Figure 9 & 10), 302 respondents (70.6%) described the process as difficult, and 76 (17.8%) as very difficult. Only 50 (11.7%) reported it as easy.

This means over 88% of respondents' experience significant difficulty, suggesting barriers such as unclear procedures, poor guidance, or lack of support. Simplifying and streamlining submission processes could improve accessibility and trust.

Timeliness of Grievance Resolution:
Respondents' experiences with how long it takes for grievances to be resolved were mixed (Figure 11). Half of the respondents (50.0%, n=217) reported resolution within 3–7 days, 31.1% (n=133) indicated it took longer than 7 days, 9.6% (n=41) said issues were addressed within 48 hours, while 9.3% (n=40) stated they never received a response.

Although it is encouraging that about half receive a response within a week, the delays reported by others highlight inefficiencies and backlogs in the current manual system. Only a small fraction (under 10%) report a truly prompt response within 48 hours.

Preference for a Digital Grievance System:
An overwhelming majority (93.2%, n=399) expressed a clear preference for a digital grievance redressal system (Figure 12). Only 6.8% (n=29) were not in favor. Respondents cited reasons such as expected improvements in speed, transparency, accessibility, and convenience. However, the concerns of the minority (e.g., lack of digital literacy, poor access to devices or networks) should be considered in the design of a digital platform to ensure inclusivity and equity.

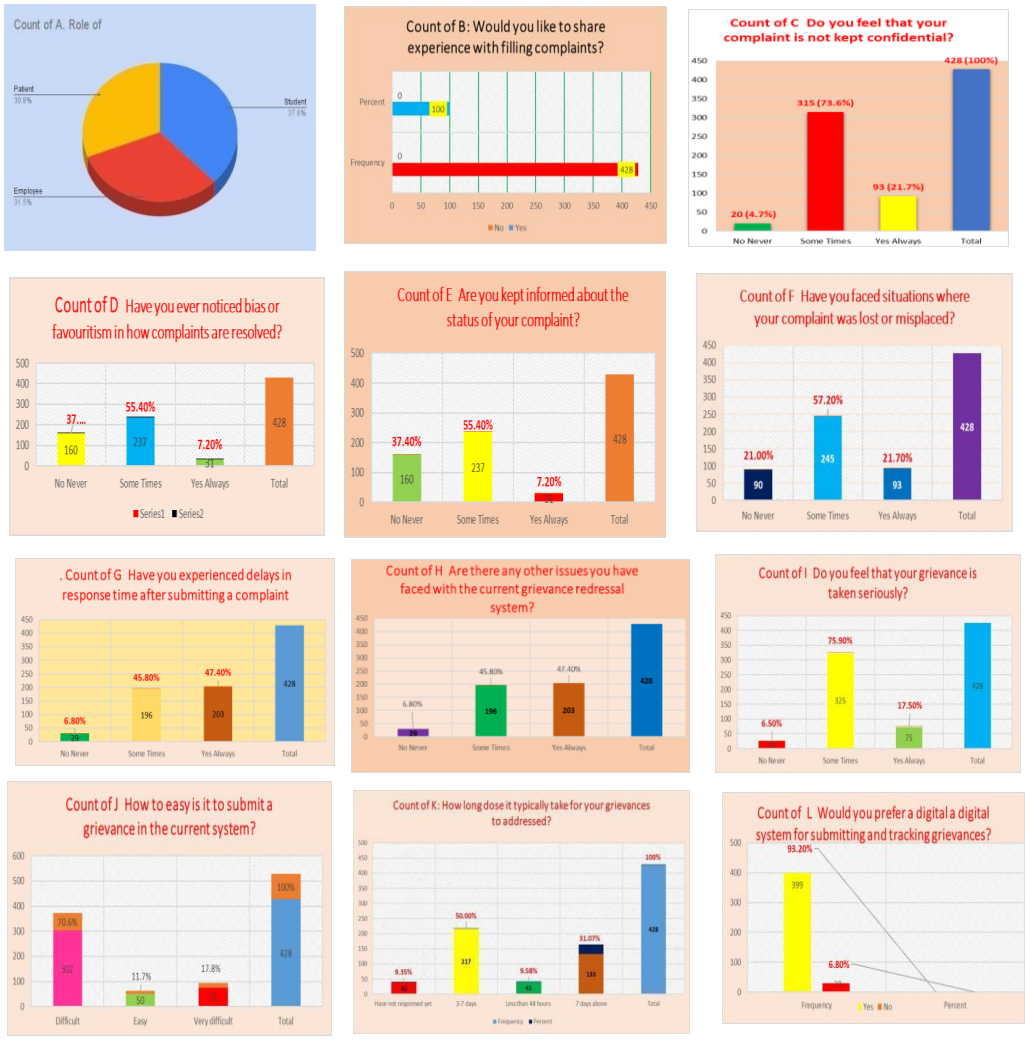

Figure 1. Open-Ended Qualitative Insights
Specific Issues Reported: of the 428 participants, 27% **(n=113)** mentioned additional issues beyond those covered in the structured questionnaire. Thematically analyzed, these issues included:

1. **Infrastructure & Facilities:** poor sanitation, lack of drinking water, broken AC, inadequate seating, parking shortages.
2. **Administrative Inefficiencies:** billing delays, TPA issues, poor interdepartmental coordination.
3. **Staff Behavior:** unprofessionalism, rudeness, lack of accountability.
4. **Workload & Compensation:** overwork, salary delays, understaffing.
5. **Academic Concerns (students):** unstructured classes, poor teaching support, insufficient facilities.
6. **Systemic Problems:** manual process inefficiencies, delayed responses, no status updates, and unclear procedures.

Experiences with Filing Complaints:

The majority **(83.2%)** declined to elaborate on their personal experience filing complaints, while only ~5% shared specific feedback. Negative experiences dominated, with reports of:

1. Repeated office visits without resolution.
2. Long waits and no follow-up even after 10 days.
3. Unclear complaint pathways and lack of updates.
4. Hygiene concerns and inadequate emergency coordination.
5. Positive or neutral comments ("okay," "good") were rare.

Suggestions for Improvement:

1. While 78.7% did not offer suggestions, about 21.3% (n≈91) provided concrete recommendations:
2. Develop a digital grievance platform (online portal or mobile app) with real-time tracking, automated acknowledgments, and defined timelines.
3. Improve responsiveness with clear guidelines and faster resolution, modeled on systems like CPGRAMS.
4. Train staff in professional behavior and accountability.
5. Ensure transparent communication and status updates.
6. Upgrade facilities (clean classrooms, functioning AC, better seating, manageable workloads).
7. Enable face-to-face resolution discussions for complex cases and ensure both sides are heard before decisions are made.

DISCUSSION

This study provides critical insights into the perceptions, challenges, and expectations of patients, healthcare employees, and students regarding the manual grievance redressal system in a multi-hospital setting. The findings reveal widespread dissatisfaction with the current grievance mechanisms, which were perceived as cumbersome, opaque, and inefficient. Importantly, there was overwhelming support (93.2%) for transitioning to a digital grievance redressal platform. These findings underscore the urgent need for healthcare administrators to modernize feedback and complaint systems to improve trust, responsiveness, and accountability.

Summary of Main Findings:

A striking majority of participants (over 88%) reported difficulty in filing complaints, citing unclear procedures, lack of guidance, and inconsistent follow-up as major barriers. Confidentiality and impartiality were also identified as significant concerns, with more than half perceiving bias or favoritism in complaint resolution and about 60% doubting whether their grievances were kept confidential. Although half of the respondents reported resolution of their issues within 3–7 days, nearly 40% experienced delays exceeding a week or no response at all. Open-ended responses highlighted additional challenges related to infrastructure, staff behavior, administrative inefficiencies, and a lack of transparency. Despite these shortcomings, the study revealed a strong appetite for a secure, transparent, and userfriendly digital grievance redressal system.

Comparison with Existing Literature:

Our findings are consistent with previous studies that have highlighted similar weaknesses in manual grievance mechanisms in healthcare. For instance, Sharma et al. (2021) reported that manual complaint systems often lead to delayed responses, poor tracking, and user frustration,

aligning with the high levels of dissatisfaction observed in our respondents. Similarly, a study by Kumar & Thomas (2020) on patient feedback systems in public hospitals in India found that lack of transparency and fear of retaliation discouraged patients from voicing grievances a sentiment echoed in our findings on confidentiality concerns.

However, some studies in high-resource settings (e.g., Smith & Patel, 2019) have noted relatively higher satisfaction with grievance systems, likely due to the use of hybrid
(manualdigital) models and stronger institutional accountability. This contrast underscores how contextual factors such as institutional readiness, infrastructure, and digital literacy may explain differences across settings.

Interestingly, our study found an even stronger preference for a digital solution than reported in earlier research. While previous studies (e.g., Singh et al., 2022) reported about 70–75% support for digitization of complaint systems, our respondents showed >93% preference. This could reflect the increasing digital penetration and growing familiarity with technology in India's urban healthcare environments, particularly among students and younger staff.

Possible Reasons and Mechanisms:

The pervasive dissatisfaction with the manual system can be attributed to several structural and operational factors. First, manual processes are inherently prone to human error, inefficiency, and subjectivity, leading to misplaced complaints, inconsistent follow-up, and perceived favoritism. Second, the lack of a standardized, transparent tracking mechanism may exacerbate feelings of mistrust and discourage honest feedback. Third, administrative and infrastructural constraints such as understaffing, overwork, and inadequate facilities may reduce the priority given to grievance management, further alienating complainants.

Conversely, the strong preference for a digital system may be explained by increasing societal expectations of convenience, speed, and transparency values inherent in digital platforms. Digital tools offer the promise of real-time tracking, automated acknowledgments, anonymity, and analytics all of which can help overcome the barriers reported in this study.

Strengths and Limitations:

One of the major strengths of this study is its mixed-methods design, which captured not just quantitative trends but also qualitative nuances, providing a comprehensive understanding of user experiences and expectations. The inclusion of diverse stakeholder groups patients, healthcare employees, and students ensures a balanced perspective on the issue.

However, the study has some limitations. First, the sample was drawn from hospitals in a single city, which may limit the generalizability of findings to other settings, particularly rural or resource-constrained environments. Second, the reliance on self-reported data introduces the possibility of response bias, as participants may underreport or overreport their experiences due to social desirability or recall biases. Third, while the study captured perceptions and preferences, it did not directly measure the operational effectiveness of the current grievance system or experimentally test a digital alternative.

Implications for Practice, Policy, and Research:

The findings of this study have significant implications. For practice, healthcare institutions should prioritize implementing a robust, secure, and user-friendly digital grievance redressal platform tailored to the needs of diverse users, including those with limited digital literacy. Such systems should incorporate features such as anonymity, real-time status updates, defined response timelines, and clear escalation mechanisms. Training healthcare staff in professional complaint handling and ensuring infrastructural support are equally critical to enhance user trust and satisfaction.

For policy, healthcare administrators and regulators should develop clear guidelines and standards for grievance management, including timelines for resolution, data privacy protocols, and reporting mechanisms. Integrating grievance data into broader quality improvement initiatives can help address systemic issues.

For research, longitudinal studies are needed to evaluate the impact of digital grievance systems on user satisfaction, trust, and healthcare outcomes. Future studies could also explore barriers to digital adoption among vulnerable populations and assess cost-effectiveness compared to manual systems.

CONCLUSION

This study reveals critical gaps in the manual grievance redressal system in healthcare settings and highlights a strong user demand for digital transformation. The pervasive dissatisfaction, concerns about fairness and confidentiality, and operational inefficiencies undermine trust in the current process. The overwhelming preference for a digital system offers a clear mandate for healthcare institutions to modernize grievance management in a way that is inclusive, transparent, and responsive. Investing in such systems is not just a technological upgrade but a fundamental step toward fostering patient-centered care, employee well-being, and institutional accountability.

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Conflict of Interest
The author declares no conflicts of interest in relation to this study.

Ethics Approval & Consent to Participate
This study was approved by the Institutional Ethics Committee of Santosh Deemed to be University, Ghaziabad, India, under project number **EC/MHA/276 (SANTOSH DEEMED TO BE UNIVERSITY/CRF)**. Informed consent was obtained from all participants prior to their inclusion in the study, and all procedures were conducted in accordance with the Declaration of Helsinki.

Figures:

Abbreviation

1. DGRS: Digital Grievance Redressal System
2. OT: Operation Theatre
3. TPA: Third Party Administrator
4. **Tools & Resources**

Reporting Guidelines:

1. The study adhered to the **STROBE (Strengthening the Reporting of Observational Studies in Epidemiology)**
2. checklist to ensure transparency and completeness of reporting. **Language & Readability:**
3. The manuscript was refined using **Grammarly Premium** and the **Hemingway Editor** to improve grammar, readability, and conciseness.
4. **Plagiarism Screening:**
   The manuscript was checked for originality and potential plagiarism using **Turnitin®** (iThenticate® acceptable as an alternative), with similarity index kept below acceptable academic thresholds.
5. **Data Quality:**
   Data entry, cleaning, and statistical analyses were carried out using **IBM SPSS Statistics Version 26.0** and verified manually.
6. **Ethical Reporting:**
   Ethical approval was secured and is reported in line with institutional and international guidelines (see Ethics Approval & Consent to Participate section).
7. **Checklists Used:** STROBE checklist completed and included as supplementary material (if journal requires). PRISMA or CONSORT checklists were not applicable, as the study was neither a systematic review nor a randomized controlled trial