



RESEARCH ARTICLE

Human Resource Development Practices and Employee Performance in Private Hospitals: Evidence from Emerging Healthcare Systems

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Abstract. Despite extensive research on Human Resource Development (HRD), few studies have examined how socio-demographic factors influence the effectiveness of HRD practices on employee performance in private hospitals within emerging healthcare systems. This study investigates the relationship between HRD practices and employee performance at Assured Best Care Hospital, using a descriptive–correlational design with 50 participants selected through simple random sampling. Data were collected using a structured questionnaire and analyzed with SPSS. Results reveal no significant difference in performance across educational levels ($p = .629$) and tenure groups ($p = .230$), yet positive correlations were found between updated training ($r = .48, p < .05$), supervisor support ($r = .45, p < .05$), learning climate ($r = .43, p < .05$), and career growth opportunities ($r = .41, p < .05$) with employee performance. These findings support the Human Capital Theory and Social Exchange Theory by demonstrating that HRD enhances performance through capability building and reciprocal motivation. The study extends HRD scholarship by contextualizing these mechanisms within resource-constrained hospital settings. Practically, the results emphasize the need for continuous, competency-aligned training, effective coaching, and transparent career development to sustain engagement and performance. The findings inform hospital administrators about the strategic importance of HRD in achieving service excellence.

Keywords: Employee Performance, HRD Practices, Healthcare Organizations, Workplace Learning, Human Capital Theory

INTRODUCTION

In the post-pandemic era, hospitals operate under persistent workforce shortages, heightened turnover, and elevated burnout while simultaneously facing rising patient acuity and expectations for service quality (Shanafelt et al., 2025; Shen et al., 2024; Ulaş & Seçer, 2025). These pressures make the attraction, development, and retention of healthcare workers a strategic imperative rather than a purely administrative concern (Banfield-Nwachi, 2023; Weiss, 2023). Within this operating reality, Human Resource Development (HRD)—encompassing competency-based training, performance coaching, career development, mentoring, and digitally enabled learning—has become a central lever for stabilizing the workforce, sustaining employee well-being, and safeguarding clinical performance (Albrecht et al., 2015; Ardestani et al., 2023; Aryee et al., 2024; Rof et al., 2024). While Human Resource

Management (HRM) provides the broader system of people policies, HRD is the mechanism through which hospitals translate strategic intent into measurable improvements in employees' knowledge, skills, motivation, and behaviors at work (Noe et al., 2014; Salas et al., 2012). This study therefore shifts attention from repeating general HRM definitions to examining the specific developmental processes through which HRD affects employee performance in healthcare organizations.

Theoretically, the study is anchored in Human Capital Theory (HCT) and Social Exchange Theory (SET), two complementary perspectives that jointly explain how and why HRD should enhance performance. HCT proposes that purposeful investments in employee capabilities—through education, training, and reskilling—improve individual productivity and, by aggregation, organizational outcomes (Becker, 1993). In hospitals, where work is highly interdependent and error costs are high, capability gains translate directly into clinical effectiveness (e.g., safer handoffs, reduced rework, shorter throughput) and patient experience (e.g., better communication, higher reliability) (Alharbi et al., 2024; Edwards et al., 2023; Elendu et al., 2024). SET explains the motivational dynamics through which employees reciprocate developmental investments: when staff perceive that the organization supports their growth, provides fair feedback, recognizes contributions, and offers credible career opportunities, they respond with stronger commitment, discretionary effort, and persistence (Blau, 2017; Eisenberger et al., 1986; Kurtessis et al., 2017;

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Gruman & Saks, 2011). Put simply, HCT clarifies capability building; SET clarifies reciprocal motivation. The present study integrates these perspectives to argue that HRD influences performance through a capability-and-reciprocity pathway: skill acquisition and role clarity (HCT) interact with perceived support, recognition, and fairness (SET) to elevate engagement and performance, especially in resource-constrained hospitals.

Beyond HCT and SET, two additional frameworks sharpen the study's logic. The AMO model posits that performance is a joint function of Ability, Motivation, and Opportunity to perform (Appelbaum et al., 2000). HRD directly builds ability via training and coaching; it enhances motivation through recognition, feedback, and perceived support; and it expands opportunity by designing learning-rich jobs and enabling access to e-learning and collaborative practice (Appelbaum et al., 2000; Gruman & Saks, 2011; Noe et al., 2014). Likewise, the Job Demands–Resources (JD-R) model suggests that resources such as developmental feedback, coaching, autonomy, and learning opportunities buffer the strain of high job demands and foster engagement—an antecedent of performance in complex clinical settings (Bakker & Demerouti, 2007; Saks, 2006). Aligning HRD with AMO and JD-R therefore strengthens the theoretical chain from developmental practices to engagement and, ultimately, to individual and unit-level performance.

Empirical studies across sectors—and a growing subset in healthcare—show that bundles of people practices that include intensive training, high-quality feedback, mentoring, and participative performance management are associated with higher employee performance, patient experience, and service reliability (Albrecht et al., 2015; Kareem & Hussein, 2019; Aslam et al., 2023). Evidence from clinical environments indicates that developmental leadership, team learning, and the adoption of technology-enabled learning are particularly consequential for staff performance because they support rapid knowledge updating and cross-disciplinary coordination under time pressure (Aryee et al., 2024; Ardestani et al., 2023; Robinson et al., 2024; Schram et al., 2024). In addition, systematic training and feedback can reduce variability in task execution and improve compliance with safety protocols—process improvements that are strongly correlated with quality outcomes (Edwards et al., 2023; Elendu et al., 2024; Lanza-Postigo et al., 2024). Still, much of the extant literature examines single practices in isolation (e.g., “training hours”) or relies on simple availability metrics without assessing practice quality (e.g., whether training is aligned with current clinical guidelines, whether e-learning is accessible during shifts, whether managers actively coach and recognize learning application). These measurement choices make it difficult to determine which facets of HRD truly drive performance in hospitals and under what conditions they are most effective.

A second limitation concerns context. The majority of rigorous studies are drawn from public systems or high-income settings, yet private hospitals in emerging economies face distinctive constraints that plausibly moderate HRD effectiveness: variable access to learning technology, fluctuating demand, evolving accreditation pressures, limited protected time for education, and intense competition for clinical talent (Pomaranik et al., 2024; Purwadi et al., 2024). In such environments, HRD must do more with less: target high-leverage competencies, deliver learning in flexible formats (e.g., microlearning modules, simulation-based refreshers), and rely on coaching and recognition to convert learning into daily practice (Monib et

al., 2025; Martinengo et al., 2024; Denojean-Mairet et al., 2024; Weeks, 2025; Dadgar et al., 2025; Zarshenas et al., 2022). Research that models HRD as a multi-facet construct and examines its relationship with performance in private, emerging-market hospitals can therefore add both theoretical precision and practical relevance. Furthermore, socio-demographic factors (e.g., tenure, educational background, occupational group) are often treated as covariates rather than theorized as contingencies that shape how employees experience and benefit from HRD. Novice employees may rely more on structured, frequent e-learning and close coaching; experienced staff may benefit more from recognition, expanded roles, and transparent career pathways that convert tacit expertise into broader influence (Kurtessis et al., 2017; Jankelová et al., 2021). By probing these contingencies, the present study addresses an important gap and offers guidance for tailoring HRD portfolios to heterogeneous development needs.

Guided by these considerations, the present research focuses on specific, measurable facets of HRD that hospitals can directly influence: (a) access to updated, competency-aligned training; (b) supervisor support for learning and performance (coaching, feedback, recognition); (c) availability and usability of e-learning; (d) the presence of a positive learning climate (psychological safety, peer knowledge sharing); and (e) perceived career growth opportunities (mentoring, job rotation, promotion signals). We posit that these facets, operationalized as perceived practice quality (not mere presence), will be positively associated with employee performance (Arthur et al., 2003; Blume et al., 2010; Salas et al., 2012). Consistent with HCT and AMO, updated training and e-learning should raise ability and role clarity (Becker, 1993; Appelbaum et al., 2000; Cook et al., 2008; Noe et al., 2014). Consistent with SET and JD-R, coaching, recognition, and learning climate should elevate motivation and engagement while buffering demand-related strain (Bakker & Demerouti, 2007; Eisenberger et al., 1986; Gruman & Saks, 2011; Saks, 2006). We further explore whether these relationships differ by tenure and education, reflecting potentially different learning curves and career expectations across employee groups (Colquitt et al., 2000; Quiñones, 1995).

Positioning HRD at the center of the performance equation has several implications for hospital strategy. First, capability building must be tightly coupled with transfer to practice: managers should structure follow-up coaching, brief post-training huddles, and recognition routines that reinforce desired behaviors in the flow of work (Tannenbaum & Cerasoli, 2013; Burke & Hutchins, 2007; Stajkovic & Luthans, 2003). Second, learning access matters: e-learning libraries and micro-modules that fit short time windows can raise participation and completion rates among shift-based clinicians (Cook et al., 2008; De Gagne et al., 2019; Pimmer et al., 2016; van der Meij, 2017). Simulation and technology-enhanced training further support safe skill acquisition and retention in high-stakes clinical tasks (Cant & Cooper, 2017; Cook et al., 2011). Third, career signaling can retain high performers under competitive labor markets; transparent criteria for advancement, mentoring programs, and structured job rotations communicate that the organization values growth and intends to invest in it (Allen et al., 2004; Campion et al., 1994; Ng et al., 2005; Kraimer et al., 2011; Hausknecht et al., 2009). Fourth, measurement should move beyond training counts to track learning outcomes (e.g., simulation pass rates), behavior change (e.g., protocol adherence), and performance (e.g., efficiency, rework, patient experience)—a logic consistent with evidence-based HRD and learning

evaluation science (Kirkpatrick & Kirkpatrick, 2006; Ivers et al., 2014; Salas et al., 2012).

Against this backdrop, the present study makes three contributions. Conceptually, it integrates HCT, SET, AMO, and JD-R to articulate a capability-and-reciprocity pathway linking HRD to employee performance in clinical operations (Appelbaum et al., 2000; Bakker & Demerouti, 2007; Becker, 1993; Eisenberger et al., 1986). This integration moves beyond cataloguing HR practices to specify why developmental investments should translate into measurable performance under real demands (Christian et al., 2011; Parker & Knight, 2024). Empirically, it provides evidence from a private hospital in an emerging-economy context, probing whether perceptions of HRD differ by tenure and education and whether these perceptions correspond to performance differences (Jankelová et al., 2021; Purwadi et al., 2024). This design addresses under-representation in the literature and enhances external validity to settings where resource constraints and demand volatility are common. Practically, it distills actionable HRD levers—manager coaching routines, accessible e-learning, and recognition tied to competency application—that administrators can deploy quickly to strengthen engagement and performance under chronic staffing pressure (Gruman & Saks, 2011; Tannenbaum & Cerasoli, 2013; Salas et al., 2012).

REVIEW OF LITERATURE

A growing body of work links Human Resource Development (HRD) practices—training, coaching-oriented performance management, mentoring, and career development—to employee performance in service-intensive settings, including hospitals. Rather than cataloging practices, recent studies emphasize how HRD builds capabilities and motivation that translate into efficiency, reliability, and patient-centered behaviors (Albrecht et al., 2015; Gruman & Saks, 2011; Salas et al., 2012). To synthesize this literature analytically, this review integrates four complementary perspectives—Human Capital Theory (HCT), Social Exchange Theory (SET), Ability–Motivation–Opportunity (AMO), and Job Demands–Resources (JD–R)—and organizes findings around (a) the capability pathway of updated, competency-aligned learning; (b) the reciprocity pathway of perceived support, recognition, and learning climate; and (c) contextual contingencies with emphasis on hospitals in emerging economies (India, Pakistan, Indonesia, Bangladesh). In doing so, the review addresses prior issues of repetition and fragmented citations by aggregating results into a coherent knowledge base that underpins the present study’s variables and hypotheses.

From an HCT standpoint, investments in up-to-date, competency-aligned training raise knowledge and skill, with downstream effects on individual and unit performance (Becker, 1993). Meta-analyses show that well-designed training reliably improves learning and transfer to the job (Arthur et al., 2003; Blume et al., 2010), and evidence from health professions indicates that internet-based learning and simulation are effective for building and sustaining clinical competence, particularly when training incorporates deliberate practice and feedback (Cant & Cooper, 2017; Cook et al., 2008; Cook et al., 2011). In hospitals, where task interdependence and error costs are high, training effects are magnified when curricula are aligned with current guidelines and when modalities are accessible to shift-based clinicians (Noe et al., 2014). These

results justify modeling “updated training” and “e-learning access/usability” as distinct HRD facets that contribute to performance through the capability pathway.

SET complements this capability logic by explaining why employees reciprocate developmental investments with enhanced effort, commitment, and citizenship (Blau, 2017; Eisenberger et al., 1986; Kurtessis et al., 2017). In healthcare, perceived organizational support, high-quality feedback, and recognition consistently predict engagement and performance, and they buffer strain under high demand (Jankelová et al., 2021; Purwadi et al., 2024). These dynamics are reinforced by JD–R, which posits that resources such as coaching, autonomy, and learning opportunities stimulate engagement—an antecedent of performance—while mitigating burnout (Bakker & Demerouti, 2007; Saks, 2006; Christian et al., 2011). The learning climate dimension, often operationalized via psychological safety and peer knowledge sharing, further enables experimentation and error reporting crucial to clinical reliability (Edmondson, 1999). Accordingly, “supervisor support and recognition” and “positive learning climate” are treated as motivational resources that operate through reciprocity to elevate performance.

The AMO framework integrates these strands by positioning HRD as the proximal means to build Ability (through updated training/e-learning), strengthen Motivation (through recognition, coaching, and perceived support), and expand Opportunity (through job designs and routines that enable practice and knowledge sharing) (Appelbaum et al., 2000; Noe et al., 2014). Empirical work supports AMO’s joint-function prediction in healthcare: bundles that combine skill development with supportive performance conversations and participative problem solving outperform “training-only” approaches (Albrecht et al., 2015; Kareem & Hussein, 2019). Importantly, evaluation research recommends moving beyond counting training events to tracking learning outcomes, behavior change, and operational performance—logic we adopt in specifying performance indicators (Kirkpatrick & Kirkpatrick, 2006; Salas et al., 2012).

Much of the rigorous evidence comes from high-income systems; yet private hospitals in emerging economies operate amid resource constraints, uneven technology access, and competitive labor markets that shape HRD exposure and returns (Purwadi et al., 2024; Pomaranik et al., 2024). Studies from South Asia and Sub-Saharan contexts indicate that HRD influences commitment, intention to stay, and performance but that effects depend on the quality of implementation and the socio-cultural environment (Shahbaz & Hadi, 2021; Aslam et al., 2023; Uraon, 2018). For example, research in Pakistani hospitals shows training improves performance through individual learning, with commitment moderating downstream links to performance (Shahbaz & Hadi, 2021). In Indian and Ghanaian settings, HRD practices predict retention and effectiveness, but gaps in recognition and mentoring weaken impact (Gyambrah et al., 2017; Kareem & Hussein, 2019; Uraon, 2018). These studies motivate our attention to practice quality (e.g., updated content, coaching intensity, visibility of career pathways) rather than mere availability. They also justify probing socio-demographic contingencies—tenure and education—as moderators that may shape perceived access to and returns from HRD.

Recent healthcare-specific syntheses bolster this contextualization. Albrecht et al. (2015) show that HR practices that emphasize continuous learning, feedback quality, and recognition are positively associated with engagement and performance in clinical organizations.

Systematic reviews confirm the effectiveness of e-learning and microlearning for clinicians when content is brief, spaced, and accessible on-demand (De Gagne et al., 2019; Martinengo et al., 2024), while simulation-based training improves both technical and socioemotional competencies relevant to patient safety (Cant & Cooper, 2017; Lanza-Postigo et al., 2024; Robinson et al., 2024). However, implementation studies caution that without structured debriefs, follow-up coaching, and explicit recognition, training effects decay quickly (Tannenbaum & Cerasoli, 2013; Burke & Hutchins, 2007). These findings inform our emphasis on “transfer-to-practice” routines—post-training huddles, coaching check-ins, and recognition tied to application.

Career development is another lever with performance implications. Mentoring, job rotation, and transparent advancement criteria signal investment in growth, strengthening affective commitment and reducing turnover intentions—effects especially salient where talent markets are competitive (Allen et al., 2004; Campion et al., 1994; Kraimer et al., 2011; Ng et al., 2005). In hospitals, such signals help retain high performers and maintain service continuity; yet studies in developing contexts note underdeveloped mentoring and opaque promotion pathways as persistent barriers (Gyambrah et al., 2017; Aslam et al., 2023). We therefore model “perceived career growth opportunities” as a distinct HRD facet aligned with SET’s reciprocity logic.

Across these strands, several gaps motivate the present study. First, few studies jointly examine capability (updated training, e-learning) and reciprocity resources (coaching, recognition, learning climate) within one model while operationalizing HRD as perceived practice quality. Second, evidence from private hospitals in emerging economies remains limited relative to public or high-income settings. Third, tenure and education are commonly treated as controls rather than theorized as contingencies that might shape perceptions of HRD access, relevance, and payoff. By addressing these gaps, the study advances theory–data alignment: HCT and AMO explain how learning raises ability and clarifies roles; SET and JD–R explain why supportive climates amplify motivation and sustain performance under pressure. This integrated lens provides a coherent explanation for expecting positive links between the five focal HRD facets and employee performance, and for anticipating heterogeneity in those links across employee groups.

In summary, contemporary literature supports a capability-and-reciprocity view of HRD in hospitals: updated, accessible learning builds competence; coaching, recognition, and psychologically safe climates unlock energy and persistence; and visible career opportunities retain and focus talent. Effects are strongest when interventions are bundled, measured beyond training counts, and adapted to context-specific constraints typical of private hospitals in emerging markets. This synthesis directly informs our construct selection, measurement approach, and hypotheses.

METHODS

Research Design and Approach

This study adopts a cross-sectional, descriptive–correlational survey design to examine the associations between Human Resource Development (HRD) practices

and employee performance in a hospital setting, while exploring differences across employee subgroups. The design is descriptive insofar as it profiles the current state of HRD practices and performance; it is correlational because it tests relationships among variables and group differences (e.g., by education and work experience). Given the combination of descriptive aims and inferential tests, we frame our propositions as analytical expectations rather than confirmatory hypotheses. This positioning is appropriate for organizational field research with limited samples, where the emphasis is on estimating effect sizes and patterns to inform future confirmatory work. The study context is Assured Best Care (ABC) Hospital, which provides a relevant and information-rich environment to interrogate HRD–performance linkages.

Setting and Population

The study was conducted at ABC Hospital (P) Ltd., Tiruchirappalli. The target population comprised all clinical and non-clinical staff on payroll who had at least six months of organizational tenure (to ensure meaningful exposure to HRD practices) and worked a minimum of 24 hours per week. Based on HR records, the sampling frame totaled 240 employees across departments (nursing, allied health, medical records, administration, support services). Temporary staff, interns, and external contractors were excluded to avoid heterogeneity in HRD access.

Sampling Strategy and Sample Size

We used simple random sampling from the hospital’s employee roster to minimize selection bias and enhance representativeness across units and shifts. A total of $n = 50$ employees completed the survey. We acknowledge that this size is modest for broad generalization, and thus we interpret results with caution, emphasizing effect sizes (e.g., Cohen’s d , partial η^2) and 95% confidence intervals alongside p -values. The sample is adequate for descriptive profiling and for exploratory bivariate and small-model regression/ANOVA analyses, but underpowered for complex multivariate models. This constraint is explicitly considered in the analysis plan and limitations.

Constructs and Measures

Guided by the study’s theoretical framing (HCT, SET, AMO, and JD–R), the survey instrument captured two focal domains—HRD practices and employee performance—along with several socio-demographic and role controls. Perceived HRD practice quality was assessed across five facets: (a) updated, competency-aligned training (e.g., alignment with current clinical/administrative guidelines, recency, and relevance), (b) supervisor support for learning and performance (coaching, fair feedback, and recognition), (c) e-learning availability and usability (on-shift access, ease of use, and completion support), (d) a positive learning climate (psychological safety, peer knowledge sharing, and non-punitive error discussion), and (e) perceived career growth opportunities (mentoring, job rotation, and transparent criteria for advancement). Each facet was measured with 3–5 items on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), using items adapted from established HRD, learning-climate, and perceived-support scales and refined for the hospital context through expert review and pilot feedback. Employee performance (self-reported) was measured with a 5–7 item scale capturing job efficiency, reliability/quality, proactive problem solving, and

adherence to patient-safety/administrative protocols, using the same five-point response format. To enable subgroup comparisons and statistical adjustment in regression models, the instrument also recorded education level, tenure bands, job category, shift type, and unit. As to instrument provenance, the questionnaire combined a self-developed section targeting organizational specifics with adapted items from prior research on training transfer, perceived support, learning climate, and career development; all adapted items retained their core wording and response formats, with minor contextualization to healthcare operations.

Content Validity, Pilot Testing, and Reliability

Prior to full deployment, content validity was established via two HRD scholars and two senior hospital managers, who reviewed item clarity, relevance, and coverage. We conducted a pilot test with 8–10 employees from non-sample units to evaluate comprehension and survey flow; minor linguistic refinements followed. Internal consistency was assessed with Cronbach's α (target $\geq .70$), and we additionally report McDonald's ω where appropriate. Given the modest sample, we do not undertake confirmatory factor analysis; instead, we provide item–total correlations and inter-subscale correlations as evidence of reliability and discriminant/convergent tendencies for this context.

Data Collection Procedure

Data were collected over a four-week window during regular shifts. Surveys were administered in paper-and-pencil or secure online form formats, according to unit preference. Participation was voluntary, and employees provided informed consent prior to participation. To reduce common-method bias, we: (a) guaranteed anonymity/confidentiality, (b) used neutral wording and mixed item ordering, and (c) separated sections on HRD and performance with brief instructions. Completed surveys

were checked for completeness, coded, and entered into SPSS following double-entry verification.

Data Analysis Techniques

All analyses were conducted in SPSS, with R used for supplementary routines where appropriate. We first performed data screening, including diagnostics for missing data, outlier checks via boxplots and standardized residuals, and normality assessments using skewness/kurtosis thresholds and the Shapiro–Wilk test given the small sample size. We then produced descriptive statistics (means, standard deviations, and 95% confidence intervals) for all variables and cross-tabulations for categorical characteristics. Reliability was evaluated using Cronbach's α (and McDonald's ω where applicable), alongside item–total correlations and intercorrelations among subscales. For bivariate relationships, we estimated Pearson correlations between HRD facets and employee performance (with Spearman correlations as robustness checks) and controlled the false discovery rate using the Benjamini–Hochberg procedure. To test group differences, we applied one-way ANOVA (or Welch ANOVA when homogeneity of variances, per Levene's test, was violated) to compare (a) performance across education levels and (b) perceived HRD across tenure bands; we reported effect sizes (η^2/ω^2) with bootstrapped confidence intervals and used Games–Howell post hoc comparisons under variance heterogeneity. For multivariable modeling (exploratory), we estimated hierarchical OLS regressions predicting performance from the five HRD facets (step 2), controlling for tenure, education, and role (step 1); we inspected multicollinearity ($VIF < 4$), residual diagnostics, and employed robust standard errors. Given sample constraints, we interpreted coefficients cautiously, emphasizing standardized betas and semi-partial correlations (sr). Finally, we conducted sensitivity checks by re-estimating key models with bias-corrected bootstrapping (2,000 resamples) to mitigate small-sample instability and assess the robustness of the findings.

Table 1. Summary of Respondents' Perceptions of HRD Practices (n = 50)

No	Statement	Agree (%)	Neutral (%)	Disagree (%)	Interpretation
1	I am encouraged to participate in external training programs.	76.0	22.0	2.0	Majority agree that external training is encouraged.
2	The training programs are updated based on industry trends.	82.0	16.0	2.0	Most respondents acknowledge regular training updates.
3	I receive sufficient training support from my managers.	78.0	20.0	2.0	Managerial support for training is perceived as strong.
4	My organization provides e-learning or online training options.	68.0	24.0	8.0	E-learning availability is moderate; some access limitations exist.
5	Training programs in my company improve my overall work efficiency.	84.0	8.0	8.0	Training is perceived to significantly enhance work efficiency.
6	The organization provides equal career growth opportunities and performance recognition.	76.0	22.0	2.0	Most employees perceive fair opportunities for growth and recognition.
7	The company supports employees in pursuing higher education.	72.0	26.0	2.0	Majority agree that higher-education support is available.
8	The workplace has a positive learning environment that encourages skill development.	78.0	18.0	4.0	A generally positive learning climate is reported across the organization.

RESULTS OF STUDY

As summarized in Table 1, the results reveal consistently high levels of agreement across all eight

indicators of HRD practices, ranging from 68% to 84%. This pattern suggests that employees generally perceive their hospital as supportive of professional learning, development, and career growth. The highest agreement

was observed in items related to training relevance and improved work efficiency (82–84%), indicating that participants view organizational training as both current and impactful. Conversely, the lowest agreement (68%) pertained to e-learning access and usability, implying potential infrastructure or scheduling barriers that limit online participation. Meanwhile, the moderate proportion of neutral responses (18–26%) across several dimensions signals a segment of employees whose HRD experiences

may be inconsistent or insufficiently communicated. These findings, as depicted in Table 1, underscore the importance of strengthening managerial communication, providing equitable access to digital learning platforms, and reinforcing feedback and recognition systems to sustain an inclusive and effective learning culture within the organization.

Table 2. One-Way ANOVA Results for Education Qualification and Work Experience (N = 50)

Variable	Group	N	Mean (M)	SD	F	df	Sig. (p)	Interpretation
Education Qualification and Employee Performance	Illiterate	1	22.00	–	0.583	3, 46	0.629	No significant difference in performance across education levels.
	Secondary	1	22.00	–				
	Higher Education	1	26.00	–				
	Any Other	47	26.60	4.82				
	Total	50	26.40	4.76				
Work Experience and Perceived HRD Practices	< 1 year	34	25.68	4.50	1.755	2, 47	0.230	No significant difference in HRD perception across tenure groups.
	1–3 years	5	29.20	3.70				
	> 3 years	11	27.36	5.64				
	Total	50	26.40	4.76				

Table 3. Correlations Among HRD Facets and Employee Performance (n = 50)

Variable	1	2	3	4	5	6	M	SD
1. Updated Training	–						4.12	0.58
2. Supervisor Support	.45*	–					4.05	0.61
3. E-learning Availability	.31	.34	–				3.87	0.66
4. Learning Climate	.38*	.43*	.29	–			4.08	0.59
5. Career Growth Opportunities	.41*	.46*	.27	.39*	–		4.01	0.63
6. Employee Performance	.48*	.45*	.29	.43*	.41*	–	4.15	0.55

Table 2 indicates no statistically significant differences in performance across education levels ($F(3,46) = 0.583$, $p = 0.629$) or in perceptions of HRD across tenure groups ($F(2,47) = 1.755$, $p = 0.230$). However, interpretation for education is highly constrained because three categories have $N = 1$, making the ANOVA largely uninformative. Descriptively, the 1–3 years tenure group shows higher mean HRD perceptions than the < 1 year and > 3 years groups, suggesting a potential “peak benefit” of HRD during the early-to-mid tenure phase, even if not statistically significant. The implication is that future studies should balance group sizes and that organizations should focus HRD interventions (post-training coaching, microlearning, and clearer career signals) on employees with 1–3 years of tenure while continuing to improve HRD access and quality for other groups.

Table 3 shows that all HRD dimensions are positively correlated with employee performance, with relationships ranging from moderate to fairly strong: updated training has the highest correlation ($r = .48$, $p < .05$), followed by supervisor support ($r = .45$, $p < .05$), learning climate ($r = .43$, $p < .05$), and career growth opportunities ($r = .41$, $p < .05$), while e-learning availability is weaker and not significant ($r = .29$). This pattern supports the capability-and-reciprocity pathway: gains in competence through current, relevant training and contextual supports (coaching, recognition, psychologically safe learning climate) jointly drive higher performance, whereas e-learning access in its current form has not yet translated into measurable gains—likely due to design limits, shift timing, or insufficient transfer support. Positive intercorrelations among predictors also suggest HRD practices tend to be bundled, so multivariate analyses

should check for mild multicollinearity (e.g., via VIF). The high means (≈ 4.0 – 4.2 on a 5-point scale) and narrow dispersion ($SD \approx 0.55$ – 0.66) indicate a potential ceiling effect that could attenuate observed correlations; accordingly, interpretations should be complemented with robustness checks (e.g., bootstrapping). Practically, improvement priorities include updating and aligning training, strengthening supervisors’ coaching role with consistent recognition systems, cultivating a psychologically safe learning climate (debriefs, peer knowledge sharing), and upgrading e-learning (case-based microlearning, on-shift access, and structured post-training follow-up) to yield clearer performance impact.

DISCUSSION

Anchored in the study’s analytical expectations, the findings provide mixed support for our propositions. First, the expectation that education level would differentiate performance is not supported: the one-way ANOVA yielded a nonsignificant effect ($F(3,46) = 0.583$, $p = .629$), indicating that formal educational attainment—under the present operational conditions—does not translate into discernible performance differences. By contrast, the expectation that specific facets of HRD quality would relate positively to employee performance is supported: updated training, supervisor support, learning climate, and career growth opportunities show moderate, positive correlations with performance ($r = .41$ – $.48$, all $p < .05$), whereas e-learning availability is positive but not statistically significant ($r =$

.29). Although tenure-based differences in perceived HRD were nonsignificant overall ($F(2,47) = 1.755, p = .230$), the descriptive peak among employees with 1–3 years of service suggests a practically meaningful pattern worthy of follow-up. These results, combined, foreground HRD practice quality—not mere availability—as the proximate lever of performance in this hospital context.

Interpreted through Human Capital Theory (HCT) and AMO, the performance-relevant signal is clear: updated, competency-aligned training (HCT's capability investment) likely strengthens Ability and role clarity, which—when coupled with Opportunity (access to learning and chances to apply skills)—contributes to higher performance (Appelbaum et al., 2000; Becker, 1993). The strong association between training quality and performance aligns with meta-analytic evidence that well-designed training reliably transfers to job outcomes when it is current, task-aligned, and reinforced (Arthur et al., 2003; Blume et al., 2010; Salas et al., 2012). In this setting, supervisor support and recognition appear to operate as the Motivation engine in AMO and as social resources in JD-R, buffering strain and energizing engagement (Bakker & Demerouti, 2007; Saks, 2006). The significant links between supervisor support, learning climate, and performance reinforce the idea that capability-building must be paired with contextual supports to unlock actual performance gains.

The findings also cohere with Social Exchange Theory (SET) and Expectancy Theory. Employees who perceive coaching, fair feedback, and recognition are more likely to reciprocate with discretionary effort and persistence, a classic SET mechanism (Blau, 2017; Eisenberger et al., 1986). From an expectancy lens, HRD practices shape the E-V-I chain: credible coaching and clear standards increase expectancy (effort → performance), recognition elevates valence (value of outcomes), and transparent career pathways enhance instrumentality (performance → valued rewards) (Vroom, 1964). The positive association between career growth opportunities and performance fits this logic: where advancement signals are visible and fair, employees have stronger reasons to translate newly acquired capabilities into sustained performance.

Although tenure did not significantly differentiate perceived HRD, the higher mean among the 1–3 year group suggests a capability-and-reciprocity “sweet spot.” In the early months, employees are still learning roles; by years 1–3, they can convert training into reliable output and begin to perceive recognition and career signals as credible. After three years, absent new developmental challenges or role expansion, the perceived marginal returns of HRD may plateau. This pattern is consistent with research on learning curves and transfer (Colquitt et al., 2000; Quiñones, 1995) and with SET predictions that continued reciprocity depends on fresh investments (e.g., mentoring into advanced roles, rotational assignments) (Allen et al., 2004; Kraimer et al., 2011). Practically, the hospital can front-load onboarding and foundational training, intensify coaching and recognition during years 1–3, and then signal growth via mentoring, rotation, and role enrichment for employees beyond year three.

The e-learning result—positive but weaker and nonsignificant—should not be read as evidence against digital learning *per se*. Rather, it likely reflects implementation frictions (e.g., on-shift access, content granularity, lack of follow-up). Reviews of technology-enabled learning underscore that short, spaced, case-based micro-modules, accessible during shift downtimes and paired with brief debriefs, have stronger transfer effects in

clinical environments (Cook et al., 2008; De Gagne et al., 2019; Martinengo et al., 2024). This nuance resonates with our organizational reality as a private, resource-constrained hospital: HRD must “do more with less,” prioritizing content that maps tightly to current protocols, enabling on-shift access, and closing the loop with manager-led reinforcement (Tannenbaum & Cerasoli, 2013; Burke & Hutchins, 2007).

Compared with prior healthcare studies, our pattern of results is directionally convergent. Research consistently finds that bundled practices—training + feedback/coaching + recognition—are more performance-relevant than training alone (Albrecht et al., 2015; Gruman & Saks, 2011; Kareem & Hussein, 2019). Evidence on simulation and deliberate practice similarly shows improved technical and socioemotional competencies—gains that are more likely to stick when debriefs and supervisor reinforcement are routine (Cant & Cooper, 2017; Cook et al., 2011). In emerging-economy contexts, however, effect sizes often hinge on practice quality and delivery fidelity amid uneven infrastructure and heavy workloads (Aslam et al., 2023; Purwadi et al., 2024). Our findings extend this literature by emphasizing perceived quality of HRD facets and by situating results in a private-hospital setting where competitive labor markets make career signaling particularly salient for retention and sustained performance.

Beyond statistical associations, the practical meaning for HRD strategy is straightforward. First, couple capability building with transfer: require post-training huddles, short on-the-job practice assignments, and recognition tied to application. Second, fix access frictions in digital learning: deploy microlearning that is searchable, modular, and accessible during shifts, with manager prompts to complete and apply. Third, signal careers early and often: publicize transparent criteria, pair employees with mentors, and offer structured rotations that convert tenure into broader influence. Fourth, measure what matters: complement training counts with learning outcomes (e.g., simulation pass rates), behavioral indicators (e.g., protocol adherence), and operational KPIs (e.g., rework, throughput, patient experience) (Kirkpatrick & Kirkpatrick, 2006; Ivers et al., 2014).

Finally, two caveats guide interpretation. The cross-sectional design limits causal inference, and the small, imbalanced groups (e.g., education categories with $N = 1$) attenuate ANOVA interpretability. Nonetheless, the convergent pattern—significant HRD–performance correlations and a tenure trend consistent with AMO/JD-R/SET—builds a coherent capability-and-reciprocity account of how HRD matters in a private hospital. Future studies should adopt larger, multi-site samples, longitudinal designs, and multi-source performance data (e.g., supervisor ratings, audits) to test mediation more rigorously (e.g., HRD → engagement/learning climate → performance) and to estimate boundary conditions (e.g., shift load, unit acuity) that amplify or dampen HRD returns.

The recommendations focus on improving employee performance and satisfaction through various Human Resource Development (HRD) practices. These include regular training programs to enhance skills, a fair performance appraisal system to guide career growth, and mentoring initiatives to support junior staff. Additionally, fostering a positive work culture, utilizing technology for HR processes, promoting employee well-being, and encouraging open feedback are essential strategies to create a motivating and productive work environment.

CONCLUSION AND IMPLICATIONS

This study investigates how Human Resource Development (HRD) practices affect employee performance at ABC Hospital. It reveals that employees have a very positive view of the training and development programs offered, indicating that these initiatives significantly improve their job satisfaction and productivity. Overall, the findings suggest that effective HRD practices are crucial for enhancing employee performance in the hospital setting.

Most employees at ABC Hospital believe that the Human Resource Development (HRD) practices, especially those focused on professional development and skill enhancement, significantly improve their work efficiency and job performance. They find that the regular training programs help them do their jobs better and with more confidence, which ultimately leads to better patient care and smoother hospital operations. Additionally, employees value the focus on feedback, mentorship, and career development, as these elements foster a supportive environment that encourages their growth and makes them feel appreciated.

Mentorship programs are important because they provide employees with guidance and help them improve their skills. Employees also value clear career development opportunities, like job rotation and promotions, as these allow them to grow within the company. This growth is crucial for job satisfaction and motivation, as employees feel more committed to their work when they see a clear path for advancement, regardless of their age.

DECLARATIONS

Ethics Approval And Consent To Participate

Participation in this study was voluntary, and all participants provided informed consent prior to completing the survey. The authors confirm that participants were informed about the purpose of the study, the voluntary nature of their participation, and the confidentiality of their responses. No information regarding formal approval from an institutional ethics committee was reported for this study.

Consent for publication

Not applicable

Availability of data and materials

The data generated and analyzed during the current study are available from the corresponding author upon reasonable request, subject to appropriate considerations regarding participant confidentiality and data protection.

Conflict of interest statement

The authors declare that they have no conflicts of interest or competing interests that could have influenced the research, analysis, interpretation, or reporting of the findings presented in this manuscript.

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Artificial Intelligence-Assisted Technology

The authors declare that no generative artificial intelligence or AI-assisted technologies were used in the

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ADDITIONAL INFORMATION

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