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## ARTICLE REVIEW

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# Impact of Compensation on Job Satisfaction Among Healthcare Workers: A Systematic Review

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### ABSTRACT

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<b>Introduction</b>	Job satisfaction among healthcare workers is crucial for workforce retention, organizational stability, and healthcare delivery. Compensation, including salary, incentives, and fringe benefits, is a key driver of job satisfaction. This systematic review examines the impact of compensation on the job satisfaction of healthcare workers, providing actionable insights for improving healthcare organizations.
<b>Methods</b>	This systematic review followed PRISMA guidelines. A comprehensive search of PubMed, ProQuest, and Web of Science was conducted to identify studies published between 2015 and January 2024. Inclusion criteria focused on research examining the relationship between compensation and job satisfaction among healthcare workers. 12 studies met the inclusion criteria. Data were extracted, synthesized, and analyzed to identify themes related to compensation and job satisfaction.
<b>Results</b>	The review identified compensation as a key predictor of job satisfaction among healthcare workers. Despite its significance, widespread dissatisfaction and low satisfaction with compensation were reported across studies. Salary emerged as a critical factor, influencing satisfaction through its role in recognition of value and perceived equity. Incentives, particularly performance-based financing, demonstrated the potential to improve satisfaction by linking monetary rewards to performance metrics, although their effectiveness depended on robust organizational support. Fringe benefits, particularly opportunities for professional development, were found to enhance job satisfaction. Geographic and occupational differences were observed, with higher dissatisfaction in resource-limited settings and variations by location, nationality, and role. These findings highlight the multifaceted impact of compensation on satisfaction.
<b>Conclusions</b>	Equitable compensation strategies must address salary, incentives, and fringe benefits. Regular evaluations, stakeholder engagement, and benchmarking against sector standards are essential steps to enhance job satisfaction, retention, and care quality across diverse healthcare settings.
<b>Keywords</b>	Compensation; Fringe benefits; Healthcare workers; Incentives; Job satisfaction

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## INTRODUCTION

Healthcare workers form the foundation of healthcare systems, playing a vital role in delivering high-quality care and achieving optimal patient outcomes.<sup>1</sup> With the increasing global demand for healthcare services driven by aging populations, the rising prevalence of non-communicable diseases, and the strain from public health emergencies such as the COVID-19 pandemic, maintaining a satisfied workforce is paramount. Job satisfaction is defined as the degree to which individuals feel content and fulfilled in their professional roles. It plays a crucial role in maintaining workforce stability, enhancing productivity, and ensuring high-quality care delivery.<sup>2</sup>

Among various determinants of job satisfaction, compensation stands out as a particularly significant factor.<sup>3</sup> It generally includes three main components: salary, incentives, and fringe benefits. Fringe benefits may consist of both indirect monetary benefits (such as medical coverage and medical certificates) and non-monetary benefits, such as professional development opportunities.<sup>4</sup> Fair and adequate compensation is essential for fostering job satisfaction, which in turn enhances motivation, reduces turnover, and sustains long-term commitment among healthcare workers.<sup>5</sup> However, disparities in salary, insufficient incentives, and inequities in non-monetary rewards remain persistent challenges, particularly in low- and middle-income countries.<sup>6</sup> These issues are further exacerbated by the financial pressures on healthcare systems, creating a delicate balance between workforce needs and organizational constraints.

The relationship between compensation and job satisfaction is well explained through Herzberg's Two-Factor Theory. This framework identifies two key dimensions influencing job satisfaction: motivators, such as achievement, autonomy, and responsibility, which drive intrinsic satisfaction, and hygiene factors, such as compensation and working conditions, which are essential for preventing dissatisfaction.<sup>7</sup> In the context of healthcare settings, compensation serves as a hygiene factor that underpins job satisfaction by addressing the fundamental needs and expectations of healthcare workers. This theory provides a valuable lens for interpreting the compensation-satisfaction relationship by distinguishing between motivators and hygiene factors. This theoretical perspective not only explains the mechanisms behind worker satisfaction but also supports the rationale for systematically examining how compensation operates across diverse healthcare settings.<sup>8</sup> Yet, empirical studies often treat compensation as a single construct, overlooking its multiple components (salary, incentives, and fringe benefits), which may affect satisfaction differently across various healthcare contexts.

Existing research underscores the critical relationship between compensation and job satisfaction, yet significant gaps remain unaddressed. Many studies examine a broad range of factors influencing job satisfaction, with compensation being one among many variables, resulting in a limited focus on the direct relationship between compensation and job satisfaction.<sup>9</sup> This highlights the need for a systematic review that explicitly examines this relationship, providing a deeper understanding of how compensation affects job satisfaction among healthcare workers. In addition, existing literature presents inconsistent findings regarding which compensation components most strongly influence job satisfaction. While some studies emphasize salary as the primary determinant, others highlight the influence of incentives or fringe benefits.<sup>3</sup> These inconsistencies demonstrate the need for a systematic review that isolates and evaluates the impact of each compensation component across various contexts.

This systematic review aims to synthesize existing research to better understand the impact of compensation on job satisfaction among healthcare workers across diverse healthcare settings, including differences in country, healthcare system structures, and clinical roles. Anchored in Herzberg's Two-Factor Theory, this review identifies trends, gaps, and actionable insights to inform compensation strategies that enhance workforce satisfaction and support sustainable health workforce policies.

## METHODOLOGY

### Defining the Review Question

This systematic review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.<sup>10</sup> The research question guiding this review was: "What are the impacts of compensation on job satisfaction among healthcare workers in healthcare settings?". This research question was developed using this framework: i) population: healthcare workers, ii) exposure: compensation (e.g., salary, incentives, and fringe benefits), and iii) outcome: job satisfaction.

### Inclusion Criteria

A thorough search was performed in PubMed, ProQuest, and Web of Science to identify studies examining the association between compensation factors and job satisfaction among healthcare workers in hospital settings. Filters were applied to limit the search to English-language, peer-reviewed articles published between 2015 and January 2024, ensuring the inclusion of the most recent and relevant research on compensation and job satisfaction among healthcare workers. We excluded review articles, conference reports, and studies that did not address the research question. No restrictions were placed on the study design or

population demographics at this stage, allowing for a broad and inclusive review.

Search Strategy

The search strategy employed a combination of keywords and subject headings tailored to each database, as detailed in Table 1.

**Table 1** Search String for Each Database

Database	Search String
PubMed	("human resource management"[All Fields] OR "human resources"[All Fields] OR "human resource practice"[All Fields] OR "HRM"[All Fields] OR "HR practices"[All Fields] OR "personnel management"[All Fields] OR "staff management"[All Fields] OR "employee management"[All Fields]) AND (healthcare[All Fields] OR "health care"[All Fields] OR "medical services"[All Fields] OR "health sector"[All Fields] OR "health system"[All Fields] OR "health organizations"[All Fields]) AND ("job satisfaction"[All Fields] OR "employee satisfaction"[All Fields] OR "work satisfaction"[All Fields] OR "job contentment"[All Fields] OR "employee morale"[All Fields] OR "workplace satisfaction"[All Fields] OR "job fulfilment"[All Fields]) AND ("compensation"[All Fields] OR "salary"[All Fields] OR "wages"[All Fields] OR "incentives"[All Fields] OR "benefits"[All Fields] OR "remuneration"[All Fields] OR "pay structure"[All Fields])
ProQuest	TI(("human resource management" OR "human resources" OR "human resource practice" OR HRM OR "HR practices" OR "personnel management" OR "staff management" OR "employee management") AND (healthcare OR "health care" OR "medical services" OR "health sector" OR "health system" OR "health organizations")) AND ("job satisfaction" OR "employee satisfaction" OR "work satisfaction" OR "job contentment" OR "employee morale" OR "workplace satisfaction" OR "job fulfilment") AND ("compensation" OR "salary" OR "wages" OR "incentives" OR "benefits" OR "remuneration" OR "pay structure"))
Web of Science	TS=("human resource management" OR "human resources" OR "human resource practice" OR HRM OR "HR practices" OR "personnel management" OR "staff management" OR "employee management") AND TS=(healthcare OR "health care" OR "medical services" OR "health sector" OR "health system" OR "health organizations") AND TS=("job satisfaction" OR "employee satisfaction" OR "work satisfaction" OR "job contentment" OR "employee morale" OR "workplace satisfaction" OR "job fulfilment") AND TS=("compensation" OR "salary" OR "wages" OR "incentives" OR "benefits" OR "remuneration" OR "pay structure"))

References were extracted from the databases, and duplicates were eliminated using the Deduplicator tool within the Systematic Review Accelerator.<sup>11</sup> The remaining references and their abstracts were imported into EndNote 20 for further screening.

Assessment of Methodology Quality

The quality of the selected studies was appraised using the Mixed Methods Appraisal Tool (MMAT).<sup>12</sup> The MMAT is a validated tool designed for assessing the methodological quality of studies across various designs, including qualitative, quantitative, and mixed-methods studies. Each included study was evaluated based on its design-specific criteria, including the appropriateness of the methodology, clarity of the research questions, and validity of the measurement tools. Studies were rated as high, moderate, or low quality based on the percentage of MMAT criteria met. A score of 100% was classified as high quality, 60%-80% as moderate quality, and 20%-40% as low quality.

Discrepancies in ratings were resolved through consensus between the two reviewers.

Data Extraction

Two reviewers used a standardized data extraction form using Microsoft Excel for independent data extraction. The extracted data included the following:

- i. Study characteristics: Authors, year of publication, country, study design.
- ii. Population: Healthcare worker types (e.g., nurses, physicians, administrative staff).
- iii. Exposure: Compensation (e.g., monetary and non-monetary).
- iv. Outcome: Job satisfaction measured through validated scales or surveys.
- v. Relevant findings: Associations between compensation and job satisfaction.

Discrepancies in data extraction were resolved through discussions between reviewers or, if necessary, consultation with a third reviewer.

Data Synthesis and Analysis

A thematic synthesis approach was employed to account for the heterogeneity in study designs, populations, and measurement tools. Quantitative data were presented with effect sizes, confidence intervals, and p-values, while qualitative findings were thematically summarized to provide context and deeper insights into the statistical results. The findings were elaborated to address the review objectives.

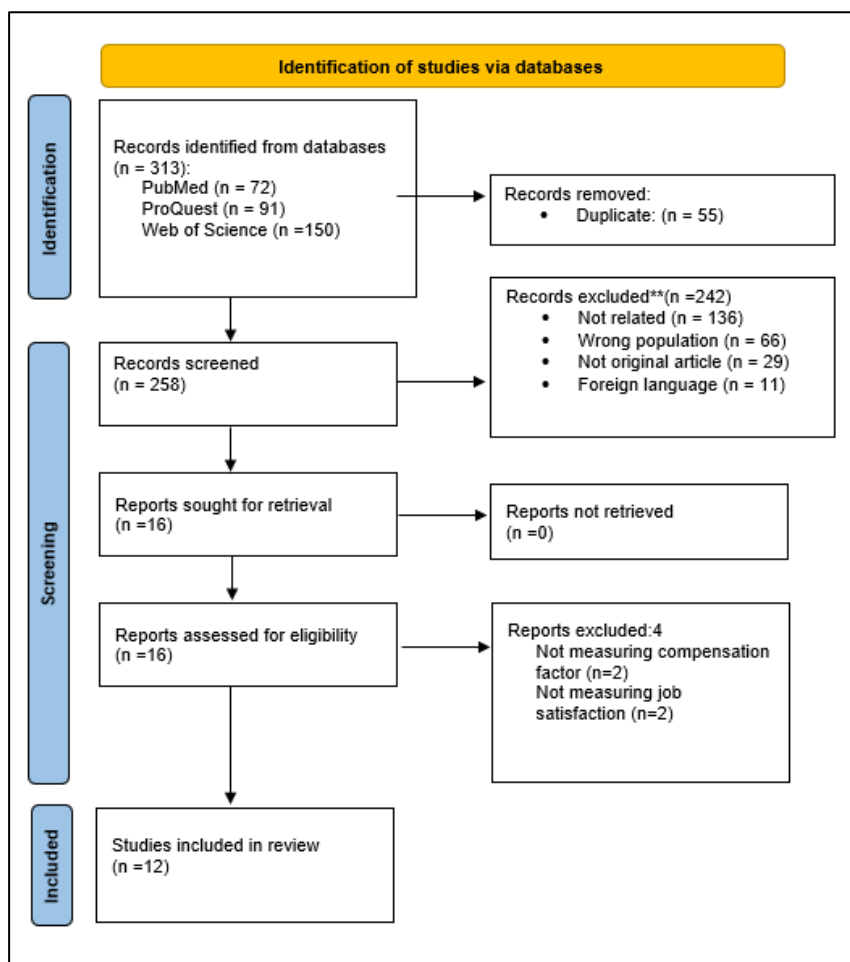
- i. Characteristics of Included Studies
- ii. Association Between Compensation and Job Satisfaction

- Salary as a Key Driver of Job Satisfaction
- Incentives
- Fringe Benefits and Job Satisfaction

- Variability Across Sociodemographic Context

**RESULT**

A total of 313 records were identified through the search, with 72 from PubMed, 91 from ProQuest, and 150 from Web of Science. After removing duplicates (n = 55), 258 records were screened. During this stage, 242 records were excluded, resulting in 16 full-text articles being assessed for eligibility. Among the 15 full-text articles reviewed, a total of 12 studies met the inclusion criteria and were included in the review. The complete process of study selection, including exclusions at each stage, is detailed in the PRISMA flow chart (Figure 1).



**Figure 1** Prisma Flow Chart

Quality Assessment of Individual Studies

Quality assessment of the included studies was conducted using the Mixed Methods Appraisal Tool (MMAT), as summarized in Table 2. The majority of studies (7 of 12; ~60%) scored positively on four or five MMAT criteria, indicating moderate to high methodological quality. Three studies met only two

to three criteria (~25%; moderate quality), and two studies met only one criterion (~15%; low quality). We retained all studies, including those of lower quality, to ensure broad coverage and incorporate diverse methodological perspectives into the analysis.

**Table 2** Quality of Studies Analysis Using the Mixed Method Appraisal Tool (MMAT) Score

1.1	1.2	1.3	1.4	Quantitative Descriptive Studies					Mixed-Method Studies					Total Y %
				4.1	4.2	4.3	4.4	4.5	5.1	5.2	5.3	5.4	5.5	
1.	Najm et al <sup>20</sup>	Y	Y	CT	N	CT	CT	Y						20
2.	Daud et al <sup>24</sup>	Y	Y						Y	Y	CT	Y	CT	60
3.	D. Karaferis et al <sup>22</sup>	Y	Y	Y	CT	Y	CT	Y						60
4.	Kwadwo Owusu et al <sup>16</sup>	Y	Y	Y	CT	Y	CT	Y						60
5.	Al-Qathmi and Zedan <sup>18</sup>	Y	Y	CT	Y	N	CT	Y						40
6.	Firew et al <sup>14</sup>	Y	Y	Y	CT	Y	CT	Y						60
7.	Tawana et al <sup>15</sup>	Y	Y						Y	Y	Y	Y	CT	80
8.	Shen et al <sup>17</sup>	Y	Y						Y	Y	CT	CT	CT	40
9.	Deriba et al <sup>13</sup>	Y	Y	Y	Y	Y	CT	Y						80
10.	Parveen et al <sup>19</sup>	Y	Y	Y	CT	Y	Y	Y						80
11.	Kuburovic et al <sup>23</sup>	Y	Y	Y	Y	Y	CT	Y						80
12.	Atefi et al <sup>21</sup>	Y	Y	Y	Y	Y	Y	Y						100

Note: Y = Yes; CT = Cannot tell; N = No

**Table 3** Characteristics of Included Studies

No	Author (Year)	Country	Study Design	Sample Size	Population	Healthcare Setting
1	Najm et al <sup>20</sup>	Iraq	Quantitative -Cross-sectional	225	Nurses	Public hospitals
2	Daud et al <sup>24</sup>	Malaysia	-Explanatory Sequential design	316	Doctors	Public healthcare facilities
3	Karaferis et al <sup>22</sup>	Greece	Quantitative -Cross-sectional	3,278	Doctors, nurses, and healthcare workers	Public hospitals
4	Kwadwo Owusu et al <sup>16</sup>	Ghana	Quantitative -Cross-sectional	214	Optometrists	Public and private hospitals
5	Al-Qathmi and Zedan <sup>18</sup>	Saudi Arabia	Quantitative -Cross-sectional	100	Medical Laboratory Technologists	Public hospital
6	Firew et al <sup>14</sup>	Ethiopia	Quantitative -Cross-sectional	424	Nurses	Public health centers
7	Tawana et al <sup>15</sup>	South Africa	Mixed-methods -Explanatory Sequential design	405 quantitative; 28 qualitative	Clinical and non-clinical healthcare workers	Public health centers
8	Shen et al <sup>17</sup>	Zambia	Mixed-methods -Sequential design	683 quantitative; 135 qualitative	Clinical and non-clinical healthcare workers	Public healthcare facilities
9	Deriba et al <sup>13</sup>	Ethiopia	Quantitative -Cross-sectional	322	Healthcare workers	Public health centers
10	Parveen et al <sup>19</sup>	Saudi Arabia	Quantitative -Cross-sectional	360	Nurses and healthcare workers	Public and private hospitals
11	Kuburovic et al <sup>23</sup>	Serbia	Quantitative -Cross-sectional	6,595	Physicians, nurses, and medical technicians	Public hospitals
12	Atefi et al <sup>21</sup>	Iran	Quantitative -Cross-sectional	421	Nurses	Public hospital

#### Characteristics of Included Studies

A total of 12 studies were included in this systematic review, representing diverse geographical regions and economic contexts. Five studies were conducted in Sub-Saharan Africa, specifically in Ethiopia,<sup>13, 14</sup> South Africa,<sup>15</sup> Ghana,<sup>16</sup> and Zambia.<sup>17</sup> Four studies originated from the Middle East and North Africa (MENA) region, with research conducted in Saudi Arabia,<sup>18, 19</sup> Iraq,<sup>20</sup> and Iran.<sup>21</sup> Additionally, two studies were carried out in Europe, specifically in Greece<sup>22</sup> and Serbia,<sup>23</sup> along with one study from Southeast Asia, specifically Malaysia.<sup>24</sup>

Most studies employed a cross-sectional study design (n=9), while some used mixed-methods approaches (n=3). The sample sizes ranged from 100 to 6,595 participants, including diverse populations such as nurses, physicians, administrative staff, and general healthcare workers. Detailed characteristics of the included studies, including study design, sample size, and healthcare setting, are presented in Table 3.

#### Findings on Compensation and Job Satisfaction

The relationship between job satisfaction and compensation, including salary, incentives, and fringe benefits, was a primary focus of this systematic review. Table 4 presents the findings from the included studies, detailing how specific compensation practices influence job satisfaction among healthcare workers across various geographical and organizational settings. This table provides a clear summary of the statistical evidence, emphasizing the significance of compensation in shaping satisfaction levels.

Table 4 Association between Job Satisfaction and Compensation

No	Author (Year)	Country	Compensation	Job Satisfaction Related to Compensation	Statistical Analysis and Results
1	Najm et al <sup>20</sup>	Iraq	Salary	<ul style="list-style-type: none"> <li>The overall job satisfaction is 66%.</li> <li>43.6% dissatisfied with salary.</li> </ul>	Descriptive statistics showed dissatisfaction with salary negatively associated with satisfaction ( <i>p</i> -value not reported).
2	Daud et al <sup>24</sup>	Malaysia	Salary Fringe benefits	<ul style="list-style-type: none"> <li>Overall results from this study showed that most respondents are dissatisfied with the salary, incentive, and fringe benefits.</li> </ul>	The bivariate analysis showed there is an association between the salary, incentive, fringe benefits and total level of satisfaction.
3	Karaferis et al <sup>22</sup>	Greece	Salary Fringe benefits	<ul style="list-style-type: none"> <li>Satisfaction with pay was the lowest (mean: 2.12/6).</li> <li>The study found that the overall mean score for fringe benefits among healthcare professionals was 2.67, with a standard deviation of 0.84, indicating a moderate level of satisfaction with this aspect of their employment</li> </ul>	Kruskal-Wallis test identified significant associations between demographic factors and satisfaction ( $p < 0.05$ ).
4	Kwadwo Owusu et al <sup>16</sup>	Ghana	Salary Fringe benefit	<ul style="list-style-type: none"> <li>Salary (<math>\beta = 0.222, p &lt; 0.0005</math>) and Continuing Education Opportunities (<math>\beta = 0.138, p = 0.017</math>) were all significantly associated with higher levels of overall job satisfaction</li> </ul>	Regression analysis showed salary and fringe benefits (educational opportunities) as a significant predictor of satisfaction.
5	Al-Qathmi and Zedan <sup>13</sup>	Saudi Arabia	Salary Incentive Fringe Benefits -Incentive Management System (IMS)	<ul style="list-style-type: none"> <li>51% of respondents strongly agreed that discrepancy in wage allocation or low salary was a significant issue affecting their job satisfaction. This indicates a high level of dissatisfaction among the respondents regarding their salary.</li> <li>48% of respondents strongly agreed that low increment systems (annual raises) were also a factor contributing to their dissatisfaction</li> <li>49% of respondents reported dissatisfaction with the allowances provided</li> <li>49% of respondents indicated that limited opportunities for promotion were a key factor influencing their job satisfaction</li> <li>49% of respondents expressed that the lack of continuing education and professional growth opportunities was a significant factor affecting their job satisfaction.</li> </ul>	ANOVA showed significant dissatisfaction linked to poor salary and promotion opportunities ( $p < 0.05$ ).
6	Firew et al <sup>14</sup>	Ethiopia	Salary Incentives	<ul style="list-style-type: none"> <li>Only 5.9% were satisfied with their salary.</li> <li>Remuneration is positively associated with job satisfaction.</li> </ul>	Logistic regression: AOR = 2.04 (95% CI = 1.36–3.06) for salary predicting satisfaction.

7	Tawana et al <sup>15</sup>	South Africa	Salary	<ul style="list-style-type: none"> <li>Urban workers reported higher satisfaction than rural workers</li> <li>Urban workers derived satisfaction primarily from better pay.</li> </ul>	<p>Pearson correlation: significant association between remuneration and satisfaction (<math>r = 0.344</math>).</p>
8	Shen et al <sup>17</sup>	Zambia	Incentive -Performance-based financing (PBF)	<ul style="list-style-type: none"> <li>The PBF group reported significantly higher satisfaction compared to the control group (<math>\beta = 8.64</math>, <math>p &lt; 0.01</math>), even though the Enhanced Financing group had a more substantial impact on job satisfaction (<math>\beta = 10.31</math>, <math>p</math>-value <math>&lt; 0.05</math>)</li> </ul>	<p>MANOVA: significant differences between PBF and control groups in satisfaction levels.</p>
9	Deriba et al <sup>13</sup>	Ethiopia	Salary, Incentives, Fringe benefit	<ul style="list-style-type: none"> <li>A unit increase in salary and incentives score caused an increment of 0.608 units in job satisfaction score (95% CI, 0.519 to 0.697).</li> <li>A unit increase in developmental opportunities produced 0.447 (95% CI, 0.346 to 0.548) unit increases in job satisfaction scores</li> </ul>	<p>Sufficient salary and incentives had the largest influence on the level of job satisfaction.</p>
10	Parveen et al <sup>19</sup>	Saudi Arabia	Salary	<ul style="list-style-type: none"> <li>Qualified Healthcare Professionals (QHPs) were more satisfied overall than Registered Nurses (RNs).</li> <li>Salary satisfaction differed significantly by profession and nationality.</li> </ul>	<p>A unit increase in salary and incentives score caused 0.459 (95% CI, 0.356 to 0.561) unit increases in job satisfaction scores.</p> <p>MANOVA: <math>F = 19.51</math>, <math>p &lt; 0.001</math> for salary satisfaction by nationality.</p>
11	Kuburovic et al <sup>23</sup>	Serbia	Salary, Fringe benefits	<ul style="list-style-type: none"> <li>The main causes of professionals' dissatisfaction were salary and the opportunities for professional development.</li> </ul>	<p>The article highlights that salary and opportunities for professional development are crucial for job satisfaction.</p>
12	Atefi et al <sup>21</sup>	Iran	Salary	<ul style="list-style-type: none"> <li>Salary positively correlated with satisfaction (<math>r = 0.595</math>).</li> <li>Autonomy and work conditions were stronger predictors of satisfaction than salary.</li> </ul>	<p>Pearson correlation: <math>r = 0.595</math> (<math>p &lt; 0.001</math>) for salary as a predictor of satisfaction.</p>

### Association Between Compensation and Job Satisfaction

Compensation factors, including salary, incentives, and fringe benefits, consistently emerged as critical job satisfaction factors across studies. Statistical analyses revealed strong positive associations between these factors and job satisfaction, with notable variations across socioeconomic and organizational contexts.

#### *Salary as a Key Driver of Job Satisfaction*

Salary has consistently been identified as a key determinant of job satisfaction across multiple studies included in this review. For instance, Firew et al.<sup>14</sup> highlighted salary as a critical driver, reporting an adjusted odds ratio (AOR) of 2.04 (95% CI: 1.36–3.06), indicating its substantial impact on job satisfaction. Similarly, Deriba et al.<sup>13</sup> demonstrated that adequate salary and incentives exerted the most significant influence on job satisfaction, with a unit increase in salary and incentive scores leading to a 0.459-unit increase in job satisfaction scores (95% CI: 0.356–0.561). Further supporting this, Kwadwo Owusu et al.<sup>25</sup> identified salary as a significant predictor of satisfaction, with a standardized coefficient of  $\beta = 0.222$  ( $p < 0.0005$ ). Additionally, Atefi et al.<sup>21</sup> reported a strong positive correlation between salary and job satisfaction ( $r = 0.595$ ,  $p < 0.001$ ). However, this study also highlighted that autonomy and work conditions were more significant contributors to job satisfaction, suggesting that while salary is pivotal, it does not act in isolation but rather within a broader context of workplace factors.

Despite the evident importance of salary, the findings across the reviewed studies consistently revealed widespread dissatisfaction or low levels of satisfaction with salary among healthcare workers. Specifically, four studies<sup>18, 20, 23, 24</sup> reported substantial dissatisfaction with salary among respondents. Moreover, three studies<sup>13, 14, 22</sup> documented low salary satisfaction, further emphasizing the level of dissatisfaction within this domain.

#### *Incentives*

Incentives, whether general or performance-based, were identified as significant determinants of job satisfaction among healthcare workers, although these approaches often represent distinct strategies within organizations.

Performance-based financing (PBF) was particularly highlighted in a study where healthcare workers in the PBF group reported significantly higher satisfaction levels compared to the control group ( $\beta = 8.64$ ,  $p < 0.01$ ).<sup>17</sup> However, the enhanced financing group, which provided additional financial resources aimed at improving working conditions and supplying material resources to health facilities, demonstrated an even greater impact on job

satisfaction, with a coefficient of  $\beta = 10.31$  ( $p < 0.05$ ). These findings suggest that while performance-linked incentives, such as PBF, can enhance satisfaction, broader strategies addressing systemic and environmental factors may yield even greater results.

General incentives, such as allowances, were also found to play a crucial role, although they were often met with dissatisfaction. Al-Qathmi and Zedan<sup>18</sup> reported that 49% of respondents expressed dissatisfaction with the incentives provided, reflecting the limitations of non-performance-based incentives in meeting the expectations of healthcare workers. Deriba et al.<sup>13</sup> further noted that a unit increase in salary and incentives score caused an increment of 0.608 units in job satisfaction score (95% CI, 0.519 to 0.697), indicating that general incentives can still positively influence satisfaction when designed appropriately. These findings highlight the distinct approaches organizations may adopt to improve job satisfaction, each tailored to specific goals and priorities.

#### *Fringe Benefits*

Fringe benefits, particularly opportunities for professional development and continuing education, were consistently highlighted as significant factors influencing job satisfaction among healthcare workers. Many respondents expressed dissatisfaction with these benefits, as reported by Daud et al.,<sup>24</sup> while Karaferis et al.<sup>22</sup> observed a moderate satisfaction level, with a mean score of 2.67 (SD = 0.84). Similarly, Al-Qathmi and Zedan<sup>18</sup> reported that 49% of respondents identified limited opportunities for professional growth as a major factor negatively impacting their job satisfaction.

The importance of career advancement opportunities is further supported by quantitative evidence from various studies. For instance, Kwadwo Owusu et al.<sup>16</sup> found that continuing education opportunities contributed significantly to improved job satisfaction ( $\beta = 0.138$ ,  $p = 0.017$ ). In alignment with this, Deriba et al.<sup>13</sup> demonstrated that an increase in developmental opportunities led to a 0.447-unit increase in job satisfaction scores (95% CI: 0.346–0.548). These findings collectively underscore the crucial role of fringe benefits, particularly those related to professional growth and education, in shaping job satisfaction.

#### *Variability Across Sociodemographic Context*

The relationship between compensation and job satisfaction exhibited notable variability across different socioeconomic and geographic contexts. In resource-constrained settings, dissatisfaction with compensation was prevalent. In Iraq, Najm et al.<sup>20</sup> reported that 43.6% of healthcare workers were dissatisfied with their salaries, which significantly impacted their overall job satisfaction. Similarly, in Serbia, Kuburović et al.<sup>23</sup> attributed wage

dissatisfaction to insufficient resources and limited professional development opportunities

In contrast, in more stable economic contexts, variations in compensation satisfaction were observed based on location and demographic factors. In South Africa, Tawana et al<sup>15</sup> found that urban healthcare workers reported higher satisfaction compared to their rural counterparts, primarily due to better pay ( $r = 0.344$ ). Additionally, in Saudi Arabia, Parveen et al<sup>19</sup> identified significant differences in salary satisfaction based on nationality and professional role, with MANOVA results indicating  $F = 19.51$  ( $p < 0.001$ ).

## DISCUSSION

This systematic review synthesized findings from 12 studies exploring job satisfaction among healthcare workers and its association with compensation. The results highlight a consistent trend of dissatisfaction or low job satisfaction among healthcare workers, driven by various factors related to salary, incentives, and fringe benefits. This reflects the pivotal role of hygiene factors, as described in Herzberg's Two-Factor Theory, in shaping job satisfaction among healthcare workers. Specifically, salary, incentives, and fringe benefits, which are the core hygiene components, consistently emerged as major influences across the included studies. According to the theory, the absence or inadequacy of hygiene factors can lead to significant dissatisfaction.

Salary dissatisfaction was one of the most frequently reported issues, underscoring its significance not only as a financial reward but also as a symbol of professional recognition and equity. Addressing these dimensions is crucial for fostering a satisfied workforce, improving retention, and ensuring the delivery of high-quality healthcare.

### Recognition of Value and Contribution

Healthcare workers routinely engage in physically and emotionally demanding roles, where salary extends beyond its function as mere financial remuneration. It serves as a tangible acknowledgment of their dedication, resilience, and the critical services they render to society.<sup>22</sup> Compensation operates as an extrinsic motivator, affirming their contributions and enhancing intrinsic motivation and professional fulfilment.<sup>26</sup>

This recognition fosters a heightened commitment to their roles and improves overall job satisfaction. However, when salary is perceived as insufficient or misaligned with the demands of the profession, healthcare workers may experience feelings of undervaluation. This perception often erodes satisfaction, elevates absenteeism, and increases turnover rates, which subsequently compromise both the continuity and quality of patient care.<sup>27</sup> Adequately compensating healthcare

workers is thus essential to fostering a stable and satisfied workforce.

### Perceived Equity

Perceived salary equity is a critical determinant of job satisfaction among healthcare professionals.<sup>28</sup> Equity is achieved when compensation is regarded as fair and commensurate with employees' contributions, fostering a satisfied workforce essential for achieving organizational objectives.<sup>29</sup> Conversely, inequities, whether identified within an organization or across the broader industry, can provoke resentment, frustration, and disengagement, leading to diminished job satisfaction, absenteeism, and turnover, ultimately undermining organizational effectiveness.<sup>30</sup>

Salary equity extends beyond financial considerations, functioning as a cornerstone for workforce stability. Equitable and transparent pay systems have been shown to reduce turnover intentions and promote positive workplace behaviors.<sup>31,32</sup> By addressing compensation disparities and fostering fairness, healthcare organizations can enhance employee morale, ensure workforce retention, and improve job satisfaction. Such measures also contribute to the consistent delivery of high-quality patient care, highlighting the strategic value of equitable compensation practices.

Singapore serves as a standout example of effectively addressing salary-related dissatisfaction through targeted reforms. In 2021, the Singaporean government implemented a 5–14% salary increase for public sector nurses and allied health professionals as a recognition of their invaluable contributions, particularly during the COVID-19 pandemic. This initiative resulted in a notable improvement in job satisfaction and a decrease in attrition rates among nurses and allied health professionals. Moreover, it highlighted the government's dedication to valuing healthcare workers, strengthening their loyalty, and boosting workforce morale.<sup>33</sup>

Incentives, encompassing general and performance-based mechanisms, are also recognized as pivotal determinants of job satisfaction among healthcare workers. Performance-based financing (PBF) systems, which link monetary rewards to measurable outcomes, are particularly effective in enhancing satisfaction by fostering accountability and a sense of achievement.<sup>34</sup> General incentives, while also influential, often fail to meet expectations due to design and implementation shortcomings. Addressing these limitations is essential to fully leverage incentives as drivers of job satisfaction in healthcare settings.

PBF models align compensation with specific performance metrics, such as achieving clinical or operational targets, which will motivate

healthcare workers to focus on high-impact tasks aligned with organizational objectives.<sup>17,35</sup> This alignment not only enhances individual performance but also cultivates a sense of fulfilment, contributing to improved job satisfaction. Lessons from other industries, such as sales and manufacturing, provide valuable insights for optimizing PBF models in healthcare. For instance, tiered incentive structures, common in sales and marketing, reward employees based on predefined performance metrics, such as exceeding revenue targets. Adapting this model to healthcare could involve rewarding departments or individuals for achieving health-related outcomes and operational efficiency.<sup>36</sup> For instance, a healthcare organization could introduce tiered bonus structures for healthcare workers who achieve significant improvements in specific patient health outcomes, thereby enhancing job satisfaction and aligning efforts with organizational objectives.

The success of these systems, however, is contingent on robust organizational support. Adequate infrastructure, resources, and managerial oversight are critical to sustaining the long-term effectiveness of PBF systems.<sup>37</sup> Without these foundational supports, the potential benefits may be undermined, leading to frustration or disengagement among healthcare professionals. Strategic planning and transparent implementation are essential for the success of PBF models. Organizations must develop precise mechanisms for evaluating performance, distributing rewards, and addressing worker feedback.<sup>38</sup> Ensuring transparency in incentive allocation fosters trust among employees and enhances the credibility of the system. By addressing these elements, healthcare organizations can optimize their incentive structures to enhance job satisfaction and improve patient care outcomes.

This review also highlights significant dissatisfaction among healthcare workers with fringe benefits, despite these being prominent factors influencing job satisfaction. Fringe benefits encompass indirect monetary incentives, such as healthcare coverage, and non-monetary benefits, both of which play a pivotal role in job satisfaction. The systematic review underscores the substantial influence of non-monetary benefits, particularly opportunities for professional development, on job satisfaction among healthcare workers.

Research indicates that non-monetary incentives, such as professional development opportunities, can enhance job satisfaction and organizational commitment, which are critical for the sustainability of healthcare systems. For instance, Fidan's meta-analysis emphasizes that healthcare professionals find their jobs more meaningful and rewarding when they are provided with avenues for growth and development, suggesting that strategies to enhance job satisfaction should focus on these aspects.<sup>39</sup>

While monetary compensation forms the foundation of job satisfaction, non-monetary benefits are increasingly recognized as critical for sustaining long-term satisfaction. For instance, Alqhtani et al<sup>40</sup> highlight the significant impact of career growth opportunities on reducing turnover and improving satisfaction among nurses. In conclusion, fringe benefits, particularly non-monetary elements, are integral to fostering a satisfied and stable healthcare workforce.

Effective compensation strategies require careful alignment with the diverse needs of healthcare workers and the unique challenges within healthcare settings. The variations in satisfaction levels observed in this review emphasize the need to tailor compensation approaches to address these diverse needs efficiently. For example, Blaauw et al<sup>41</sup> found that job satisfaction varied significantly among different health worker categories, suggesting that tailored compensation packages could effectively address the specific needs of each group. This is further supported by the findings of Dias et al,<sup>42</sup> which indicate that job satisfaction is influenced by factors such as salary, incentives, and professional development, highlighting the importance of customizing compensation to meet the expectations of diverse employee groups. This evidence suggests that a one-size-fits-all approach to compensation is inadequate for addressing the varied needs of healthcare workers and achieving job satisfaction across the workforce.

The continuous evaluation and adaptation of compensation policies are equally crucial for ensuring their relevance and effectiveness. Regular assessments enable organizations to remain competitive and responsive to the evolving expectations and needs of healthcare workers. Research indicates that employee satisfaction is significantly influenced by compensation structures, and thus, organizations must regularly review these policies to ensure they align with the current demands of their workforce.<sup>15</sup> Moreover, the dynamic nature of the healthcare setting necessitates that organizations remain agile in their compensation strategies. As healthcare workers' expectations evolve, organizations that fail to adapt their compensation policies risk losing valuable talent to competitors who offer more attractive packages, especially in the private sector. This adaptability not only fosters a more satisfied workforce but also contributes to improved patient care outcomes, as satisfied employees are more likely to provide high-quality care.<sup>15</sup>

## LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This review provides valuable insights into how compensation affects job satisfaction among healthcare workers; however, some limitations should be acknowledged. First, most included

studies were conducted in middle and high-income countries, with limited representation from low-income settings, which may limit the generalizability of findings across diverse global contexts. Second, the widespread use of cross-sectional study designs hinders the establishment of causal relationships between compensation components and job satisfaction. Third, varied operational definitions and measurement tools for compensation across studies created challenges in drawing direct comparisons.

Future research should include longitudinal studies to better assess the causal pathways between salary, incentives, and benefits and healthcare workers' job satisfaction over time. Additionally, comparative studies spanning low, middle, and high-income countries are needed to explore how economic context influences compensation effectiveness. Finally, cost-effectiveness evaluations of different compensation packages would equip policymakers with evidence-based guidance for resource allocation.

## CONCLUSION

In conclusion, this review confirms that compensation plays a foundational role in shaping job satisfaction among healthcare workers, with salary consistently identified as a key predictor of satisfaction. However, the majority of studies reveal widespread dissatisfaction or low levels of satisfaction with compensation, indicating a significant gap between expectations and reality. For instance, satisfaction often varies across different socioeconomic (resource-constrained setting) and geographic contexts (urban and rural), highlighting the need for tailored compensation approaches. Addressing this issue is critical, as dissatisfaction with salary and related benefits directly impacts motivation, retention, and overall workforce stability.

By holistically addressing the salary, incentives, and fringe benefits and accounting for contextual variations across healthcare settings, policymakers can develop targeted strategies to enhance job satisfaction. To make these reforms actionable, organizations should implement regular evaluations, engage stakeholders, and benchmark compensation practices against sector standards. Ultimately, equitable and comprehensive compensation systems are crucial for supporting healthcare workers, enhancing organizational performance, and ensuring high-quality patient care.

## CONFLICT OF INTERESTS

The authors declare there is no conflict of interest.

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