

Effect of Nurse Managers Training Program About Performance Appraisal on Staff Nurses' Perception of Its Fairness and Collaboration Behavior

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Abstract

Background: Performance reviews have an impact on worker motivation, interactions with managers, and when workers believe reviews are fair, they encourage cooperative conduct. **Aim:** The study aimed at investigating the effect of nurse managers training program about performance appraisal on staff nurses' perception of its fairness and collaboration behavior. **Design:** Quasi-experimental strategy was implemented. **Setting:** The Oncology Institute, Minia University Kidney and Urology Hospital and Minia University Liver Hospital, Minia governorate, Egypt. **Sample:** Convenient sample of available on-duty head nurses (n = 41) and staff nurses (n = 324) worked in the afforded hospitals at data collection time. **Tools:** Three tools were used: 1- Head Nurses Knowledge of Performance Appraisal Questionnaire, 2-Perceived Fairness of Performance Appraisal Scale, and 3-Nurse-Nurse Collaboration Scale. **Results:** Through post training-measures (post & follow-up tests) 90.2% head nurses are well-informed about performance appraisal, in addition, 76 % and 87.3% staff nurses reported high levels of perception regard performance appraisal fairness as well collaboration behavior in arrow after the training program implementation. **Conclusion:** Head nurses' knowledge level increased significantly between the pre/post and follow up program periods. In addition, marked improvement monitored in nurses' perception of performance appraisal fairness as well as collaboration behavior in post and follow up program phases than before. **Recommendations:** Evaluate staff nurses' opinions on teamwork and fairness of appraisals on a regular basis. Nurse supervisors should regularly take refresher courses to stay current on best practices in performance evaluations.

Key words: *Collaboration, Fairness, Nurse Managers, Performance Appraisal & Staff Nurses*

Introduction

Healthcare is expanding into various areas of patient management, such as administration, quality, technology, research, informatics and data analytics. Its focus is no longer limited to direct patient care. This shift has become the new norm across the continuum of care. Performance appraisals (PAs) play a vital role in helping healthcare organizations enhance the quality of patient care (Derrick, 2021).

Healthcare management research have shown that performance reviews remain an essential element of human resource management (HRM), significantly influencing employee productivity and job satisfaction. HRM professionals and organizations regard performance evaluation policies as valuable tools for career development, aiding both managers and employees in advancing within the hospital (Moradi, 2017). Scholars, researchers, and practitioners consider performance appraisals critical HR tools for evaluating employee performance (Abdullah & Malik, 2022).

PA is a vital and foundational aspect of performance management, involving the systematic evaluation of an employee's work performance and the establishment of performance criteria within the

organizational framework. Through appraisals, employees gain a clearer understanding of advancement expectations. However, developing an effective PA strategy and system has posed challenges for both managers and employees in addressing behavioral, cognitive, and motivational factors. Achieving optimal performance standards in the long run necessitates evaluating employee performance, addressing performance-related concerns, and simultaneously providing corrective feedback-a process often regarded as difficult (Amenyenu, 2019) PA is a systematic process employed by organizations to assess actual performance against established performance standards through objective activities that include cognitive components. As a crucial aspect of management, performance appraisals serve multiple purposes, ranging from administrative decisions (such as rewards, promotions, and demotions) to employee development facets (including training and personal as well as professional growth) (Hamna, et al., 2022). In the realm of organizational management, PA is deemed essential because employees are likely to exhibit positive behavior when they perceive the process as fair; conversely, a lack of fairness can lead

to negative outcomes. Therefore, in the dynamic environment of organizational success and failure, the performance appraisal system has become more significant than other strategies, enabling companies to achieve a competitive edge (Abdullah & Malik, 2022).

Contemporary management literature highlights the importance of fairness in the employee performance appraisal process, as organizations recognize that enhancing employee performance is essential for sustaining corporate success. Stakeholders' perceptions of performance equity are vital considerations as companies work to elevate their execution levels and manage employees and stakeholders effectively (Abdurezak & Tigist, 2021).

Evaluating employees should involve every formal process and method designed to measure their traits, competencies, contributions, and potential (Soltani & Wilkinson, 2020). Newman, et al., (2020) indicate that procedural justice relates to the fairness of the decision-making processes used by upper management. Fair practices are employed to boost employee satisfaction, commitment to their work, trust in management, and overall cooperation (Kim & Beehr, 2020). Employees are concerned about how their supervisors treat them personally, even while supporting organizational policies. Ensuring interactional justice within the organization involves decision-makers treating their subordinates fairly on an interpersonal level (Ambrose, et al., 2021).

Understanding employee perceptions of performance appraisal systems is fundamental to gauging their effectiveness within organizations. The concept of organizational justice involves employees' sense of fairness in the workplace, which can be assessed through three key dimensions: distributive justice (focused on outcomes), procedural justice (focused on processes), and interactive justice (focused on interpersonal relationships). Understanding employee responses to the performance appraisal process, particularly when fair value practices are employed, is greatly affected by their perceptions of organizational justice (Zohaib et al., 2021).

The significant role that performance evaluations play in strategic human resource management (HRM) have been frequently highlighted within healthcare management. Recent findings indicate that employees often hold adverse views regarding the fairness and accuracy of these assessments, leading them to perceive the process as a mere routine that hampers both individual effectiveness and organizational growth. To achieve excellence, meet organizational objectives, and maintain competitiveness, organizations are increasingly seeking integrated

performance assessment and management solutions that minimize bias (Amenyenu, 2019).

The way health services are delivered is undergoing significant changes, with a shift toward care-focused solutions aimed at enhancing health outcomes, reducing costs, and providing superior care. The primary objective of this transformation is to minimize hospital stays by offering excellent care (Çelik Durmuş & Gezer, 2022). A key aspect of this change is the emphasis on collaboration in healthcare delivery, which is viewed as crucial for ensuring optimal patient care. Given the limited financial and human resources within healthcare systems, collaboration among healthcare professionals is increasingly seen as a promising approach to improving patient outcomes and service quality. Nurses, representing a large share of the health workforce in numerous countries, are essential members of care teams (World Health Organization, 2017).

In today's healthcare environment, independent practice has largely been replaced by a cross-disciplinary, team-based approach. This model brings together professionals from diverse educational backgrounds, training, and expertise to work toward shared goals. Without cooperation among healthcare providers, the risks of inadequate care, medication and surgical errors, higher patient mortality, and increased staff turnover are greatly elevated, particularly in complex medical settings (Lee, 2019; Hadi-Moghaddam, 2021; Ma et al., 2023).

Additionally, inter-professional teamwork is critical in healthcare, where most tasks are performed by teams. Delivering effective health care requires multiple interactions and collaborations among professionals with varying levels of education and expertise (Melkamu, et al., 2020). Care team participants work in tandem to accomplish patient care aims (Ma, Park & Shang, 2018). Through collaboration, professionals can align their efforts toward achieving clear and shared health objectives (W/Selassie et al., 2022).

In healthcare settings, professional collaboration is vital for improving shared decision-making, reducing errors, optimizing resources, coordinating patient care, achieving complex goals, and enhancing both patient outcomes and the quality of care. Effective teamwork is founded on cooperative workplace dialogues that encourage the sharing of information and expertise, along with performance feedback. Successful collaboration among nurses can boost their performance, confidence, and self-esteem (Ahmad, et al., 2021).

Creating a healthy work environment relies heavily on strong nurse leadership. Training programs designed to improve nurse managers' performance

appraisal skills are aimed at ensuring fair evaluations, enhancing communication, and fostering transparency (Christodoulou, et al., 2020). Vidya & Kothai (2020) found that nurse managers who received such training were better equipped to conduct performance reviews effectively, encourage teamwork, and ultimately improve job satisfaction while reducing staff turnover.

Significance of the study:

Although PA is a crucial tool for efficient management, not much research has been done to evaluate its effect on employee attitudinal outcomes because to perceived developments, unfairness, and accuracy issues. For an appraisal to be effective, employees must have confidence that the process and their engagement with the appraiser were fair. Therefore, the way that rates respond to appraisal procedures and how they view the fairness of the appraisal system may be a useful measure of the efficacy of the appraisal process (Mokwadi, 2019). According to Abdullah & Malik (2022), the appraisal system may fail because of employees' discontent with the fairness of their appraisals and their sense of unfairness in performance reviews. Earlier, Morley & Cashell (2017) stressed that, nurse's capacity for teamwork is seen as a key component of their skill set (Çelik Durmuş, & Gezer, 2022).

In spite, a thorough analysis of the literature from both domestic and foreign sources revealed that no research has looked at the relationship between performance appraisal training and nurses' perceptions of justice and cooperation. Consequently, the reason of this study was to investigate how staff nurses' perceptions of fairness in appraisals and collaborative behavior were affected by nurse supervisors' performance appraisal training program.

Study Aim: The present study aimed at investigating the effect of nurse managers training program about performance appraisal on staff nurses' perception of its fairness and collaboration behavior.

Research Hypothesis:

1. Head nurses' knowledge about performance appraisal will be higher after implementing the training program than before program implementation.
2. Staff nurses' perception of performance appraisal fairness will increase after implementing the training program for the head nurses than before program implementation.
3. Collaboration behaviors among staff nurses will be higher after implementing the training program than before program implementation.
4. There will be a relation between head nurses' total knowledge, nurses' perception of appraisal

fairness, and collaboration behavior during the different times of testing.

Operational Definition:

Nurse Manager: in the context of current study a nurse manager is a Registered Nurse (RN) graduated from bachelor's degree of nursing science and employed as a first line manager \ head nurse of a specified clinical unit in each of the studied hospitals.

Subject and Method

Design: This study utilized a quasi-experimental research design.

Setting: This study was conducted at three hospitals included Oncology Institute, Minia University Kidney and Urology Hospital as well as Minia University Liver Hospital, located at Minia city, Minia governorate, Egypt.

Subjects: The available on-duty head nurses worked in the afforded hospitals (n = 41) and the convenient staff nurses worked in the same hospitals are included in the study, Oncology Institute (n=106), Kidney and Urology Hospital (n= 144) and Minia University liver hospital (n= 74), the total for staff nurses (n = 324).

Tools: Three tools were utilized to collect data to achieve the aim of the present study.

Tool I: Head Nurses Knowledge of Performance Appraisal Questionnaire with bi- sides:

Part I: Personal features; this section gathered information on the head nurses' personal details, including age, gender, qualifications, tenure years, social status, hospital name, and previous training related to performance appraisals.

Part II: Head nurses Knowledge of Performance Appraisal Questionnaire: created by the researchers derived from literature check (Dasanayaka, et al., & Koswatte, 2021; Cespedes, 2022; Murphy & Cleveland, 2022), this part assessed the head nurses' knowledge of performance appraisal (pre/posttest). It included "30" items in the form of T/F and MCQ covering topics such as definition, importance, steps, and challenges of performance appraisal, as well as tools and methods for appraising staff performance.

Scoring system: Correct answers were given a score of "1," while incorrect answers were scored as "0." The scoring system categorized knowledge levels as "unsatisfactory" (<21) and "satisfactory" (>22), with higher scores indicating greater knowledge of performance appraisal among the head nurses.

Tool II: Perceived Fairness of Performance Appraisal Scale: This tool comprised bi- partition; **i: Personal details of the Staff Nurses**, conceived by the researchers, this section was used to gather data such as staff nurses' age, gender, social status, qualifications, tenure years, hospital name). **ii: Perceived Fairness of Performance Appraisal Scale:** Adapted from Greenberg (2004), this scale

assessed the staff nurses' perception of the fairness in performance appraisals (pre/posttest). It consisted of "20" items covering "3" dimensions: procedural fairness, distributive fairness, and interactional fairness.

Scoring system: Responses were quantified using a 3-point Likert scale, consisting of variations from "disagree (1)" through "neutral (2)" to "agree (3)". Up score was 60, and the results were classified into three levels: 20-33 indicating a low perception of fairness, 34-47 representing a moderate perception, and 48-60 reflecting a high perception of performance appraisal fairness.

Tool III: Nurse-Nurse Collaboration Scale: This tool evolved by (Dougherty & Larson, 2010). It consists of (23) items to determine the extent of collaborative behaviors that exhibited by nurses when providing patient care yielded to four factors: "communication and coordination", "conflict management", "common goal" and "professionalism and autonomy".

Scoring system: A three-Likert scale, with (1) denoting never, (2) sometimes, and (3) for always, Overall scores were divided into levels as follows: "Low Collaboration" from (23-38) "Moderate Collaboration" from (39-54), and "High Collaboration" from (55-69).

Tools Validity and Reliability:

Five academic experts with expertise in nursing administration evaluated the tools for apparent and in-depth validity. Experts reviewed the order of the tool items, their simplicity, significance, relevance, wording, structure, and general appearance. Minor alterations, such rewording and rearranging some sentences, have been done in response to the advice and suggestions of experts. Internal reliability for each study instrument was measured using the Cronbach's Alpha Coefficient. The reliability test values of the three tools were 0.975 tool (1), 0.873 tool (2), and 0.887 tool (3).

Procedures:

The study executed through preparation, execution, and monitoring epochs.

The preparation epoch:

- Researchers carefully going over the literature on the study issues to think about the study instruments and provide a foundation for creating the program material.
- Research instruments were translated into Arabic and modified. after which it is revised and approved for use by specialists.
- Following a description of the study's purpose, official authorization to carry out the investigation was acquired before the investigation got underway. Additionally, verbal consent to participate was sought from head nurses and nursing personnel.

- To guarantee obviousness and executability of tools, 32 staff nurses and 4 head nurses, or ten % of participants, recruited to a pilot study. These participants were omitted from the study. So, a few small adjustments were done.
- A pre-test to gauge the head nurse's familiarity with performance evaluation before the program began. The duration of the knowledge questionnaire was thirty to forty minutes.
- Prior to beginning the head nurse training program implementation, the researchers administered the nurse-to-nurse collaboration and performance appraisal fairness scales to the nurses under study in order to gauge the staff nurses' perceptions of these concepts. It took 20 to 30 minutes to complete the two scales.
- Pre-test data was gathered, analyzed, and totaled from early December 2022 through mid-January 2023.
- The researchers developed the program's schedule, organized the teaching atmosphere for the study, and secured necessary resources, including conference rooms and hospital data displays.

The execution epoch:

- Based on the outcomes from the preceding phase (pre-test), the training program was created through a review of pertinent literature. The content of the teaching sessions and the timeline were also organized accordingly.
- The researchers divided the participating head nurses into three subgroups, each consisting of 10 to 14 nurses. Each group attended four learning sessions over two weeks, with the duration of each session adjusted to accommodate the head nurses' working hours.
- The training program took place in classrooms at the education building of the hospitals under study. It was conducted from the second half of January through the end of February 2023, with post-test data collected immediately afterward.
- The researchers communicated the goals, timeline, and content of the educational program to the head nurses. At the beginning of each session, they reviewed the objectives, gathered feedback from the prior session, and provided a recap of the previous session at its conclusion.
- Various instructional techniques were adopted, encompassing lectures, discussions, assignments, brainstorming, and small-group activities. Teaching materials included booklets, PowerPoint presentations, and videos.

Monitoring epoch: The three instruments were used to assess the training program's immediate effects (post-test) on head nurses' knowledge, staff nurses' perceptions of the fairness of performance reviews, and nurses' collaborative behavior. The assessments

were carried out immediately following the program's implementation for each group. For measuring the long-term impact of the performance appraisal training program on nurses' perceptions of fairness in performance appraisals, collaborative behaviors, and head nurses' performance appraisal knowledge, a follow-up evaluation was also undertaken using the same study tools for each distinct group, three months after the program's estimated end date. The follow-up assessment was finished in one and a half months, from May 1st to June 15th, 2023.

Ethical Details:

- Ethical approval for the study was granted by the Research Ethics Committee of the Nursing Faculty at Minia University.
- Staff nurses and head nurses were made aware that their involvement in the study was completely optional, with no consequences for choosing not to participate.
- The purpose and potential benefits of the study were clearly explained to all staff nurses and head nurses involved.
- After being informed about the study's benefits and purpose, the staff nurses and head nurses provided verbal consent to participate.

- Participants were reminded of their right to decline involvement and assured that their data would remain confidential.
- The staff nurses and head nurses were also made aware of the procedures for withdrawing from the study at any time prior to, throughout, or following data collection.

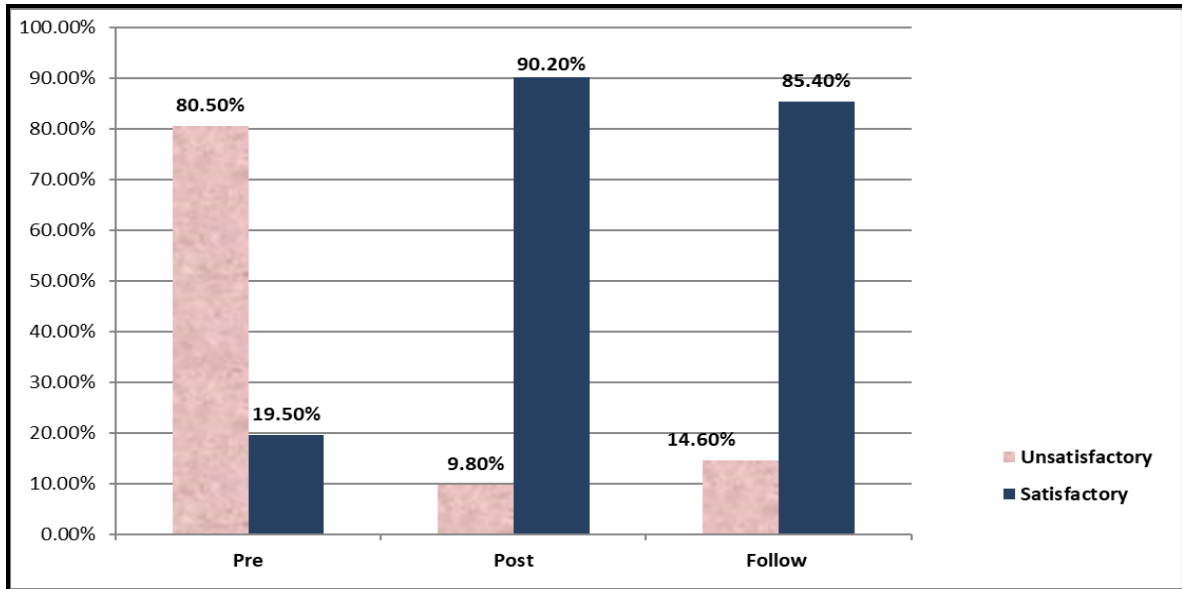
Statistical Analysis:

Statistical analysis of the data was performed using "SPSS" version "24" and Microsoft Excel. Qualitative data were characterized using frequency and percentage, while quantitative data were expressed as mean \pm standard deviation (SD). Spearman's correlation coefficient was used to identify statistically significant correlations between the study variables and one-way ANOVA test was employed to compare variables among the same group at various time points. Significance level of $p \leq 0.05$ at a 95% confidence interval was considered statistically significant while $p \leq 0.01$ at a 99% confidence interval considered high statistically significant.

Results

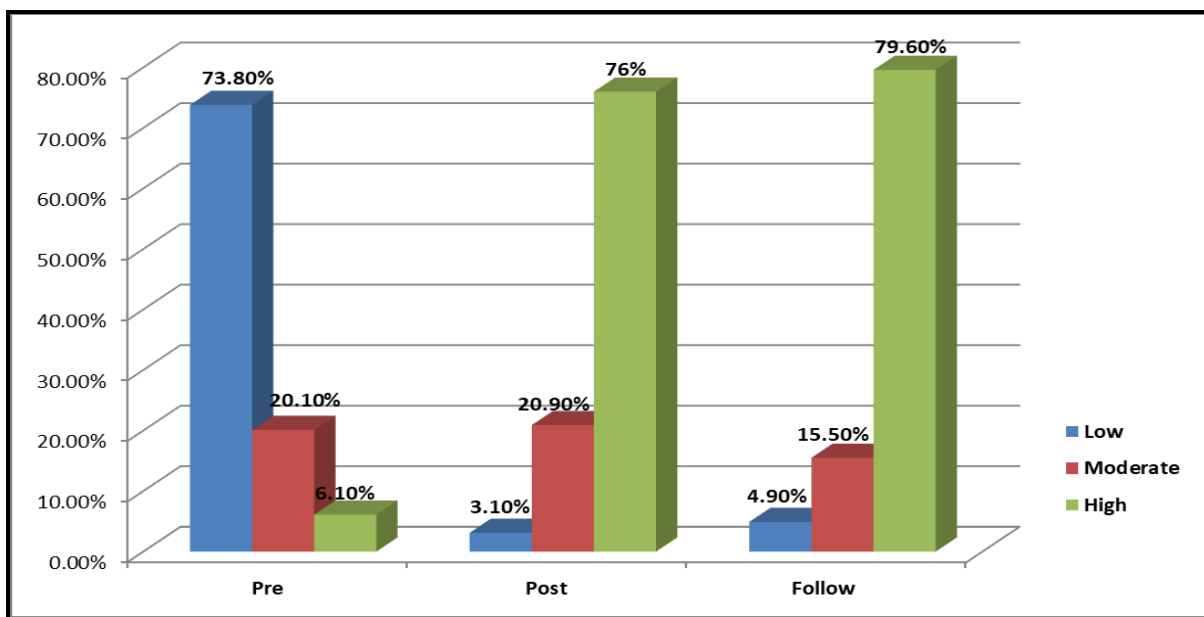
Table (1): Personal features and details of the studied head nurses as well as staff nurses:

Personal features\ details	Head nurses (n=41)		Staff nurses (n=324)	
	No	%	No	%
Age				
>30yrs	29	70.7	220	67.9
30-40 yrs.	8	19.5	65	20.1
<40yrs	4	9.8	39	12.0
Mean \pm SD	29.35\pm7.88		27.76 \pm 6.38	
Gender				
Male	7	17.1	113	34.8
Female	34	82.9	211	65.1
Qualifications				
Diploma	0	0	215	66.5
Technical Institute	0	0	68	20.9
Baccalaureate	41	100	41	12.6
Years of experience				
>10yrs	31	75.6	178	54.9
10-20	6	14.6	77	23.8
< 20 yrs	4	9.7	69	21.3
Mean \pm SD	9.87\pm7.11		8.92 \pm 6.4	
Social statuses				
Single	16	39.1	70	21.6
Married	21	51.2	232	71.6
Divorced	4	9.7	22	6.8
Do you attend any programs about performance appraisal				
Yes	6	14.6	-----	-----
No	35	85.4	-----	-----



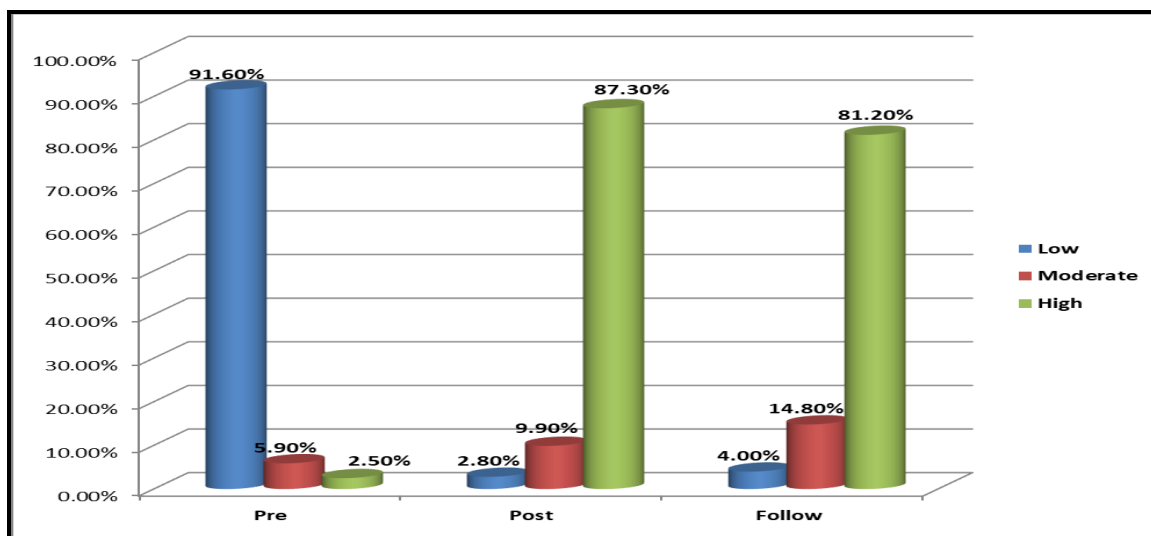
Test	Mean + SD	ANOVA test (P-value) 114.9 (.001**)
Pre	8.51+7.95	
Post	24.1+3.32	
Follow	23.8+3.31	

Figure (1): Analysis of variance of head nurses mean score ' regarding performance appraisal knowledge along the program phases (No = 41)



Test	Mean + SD	ANOVA test (P-value) 999.8 (.001**)
Pre	36.1+13.8	
Post	82.6+14.4	
Follow	81.1+16.7	

Figure (2): Analysis of variance of nurses mean score ' regarding perception of performance appraisal fairness along the program phases (No = 324)



Test	Mean + SD	AVOVA test (P-value) 926.5 (.001**)
Pre	38.54+14.4	
Post	90.3+17.9	
Follow	88.2+19.5	

Figure (3): Analysis of variance of nurses mean score ' regarding collaboration behavior along the program phases (No = 324).

Table (2): Correlation between head nurses, total knowledge, nurses, perception of fairness, and collaboration behavior at various test-measures:

Study Variables	Head nurses' total knowledge		Nurses' perception of fairness		Nurses' collaboration behavior	
	r	Sig.	r	Sig.	r	Sig.
Preceding training						
Head nurses' total knowledge	1	1	.048-	.768	.247-	.120
Nurses' perception of Fairness	.048	.768	1	1	.076-	.175
Nurses' collaboration behavior	.247	.120	.076	.175	1	1
Immediately following training						
Head nurses' total knowledge	1	1	.222	.163	.039	.807
Nurses' perception of Fairness	.222	.163	1	1	.683**	.001
nurses' collaboration behavior	.039	.807	.683**	.001	1	1
Three months later to training end						
Head nurses' total knowledge	1	1	.406**	.008	.113	.481
Nurses' perception of Fairness	.406**	.008	1	1	.162**	.003
Nurses' collaboration behavior	.113	.481	.162**	.003	1	1

(**) high statistically significant correlation

r= spearman's correlation coefficient

Table (1): Data regarding head nurses indicates that 70.7% belong to the age group of under 30 years, with a mean age of 29.35 ± 7.88 . Additionally, 82.9% are female, and all participants (100%) hold a bachelor's degree in nursing. Furthermore, 75.6% have less than 10 years of experience, with a mean of 9.87 ± 7.11 years, and 51.2% are married. For staff nurses, 67.9% are over "30" years old, with a mean age of 27.76 ± 6.38 . Of these, 65.1% are female, and 66.5% hold a diploma in nursing. Experience among

staff nurses ranges from 1 to 10 years, with 54.9% falling within this range and a mean of 8.92 ± 6.4 years. Additionally, 71.6% are married. Notably, 85.4% of head nurses have not attended any programs related to performance appraisal.

Figure (1): Shows that before the program, 80.5% of head nurses had an inadequate level of knowledge, while only 19.5% displayed adequate knowledge level. After the program was implemented, 90.2% of head nurses attained a satisfactory knowledge level in

the immediate post-test. Three months after the program, there was a slight decline, with 85.4% of head nurses maintaining satisfactory knowledge. Significant statistical differences ($p = 0.001^{**}$) were found between the pre-test and the various assessment periods, particularly between the pre-test and both the immediate and three-month post-tests.

Figure (2): Shows that prior to program implementation, only 6.2% of nurses had a high level of perception regarding the fairness of performance appraisals. However, immediately following the program, 76% of nurses reported a high level of perception of appraisal fairness. Furthermore, after three months post-implementation, this figure increased slightly to 79.6%. Statistically significant differences were noted ($p = 0.001^{**}$) between the pre-test and the various measurement periods, specifically between the pre-test and the immediate post-test, as well as between the pre-test and the post-test taken three months later.

Figure (3): Illustrates that prior to implementing the program, only 2.5% of nurses displayed a high degree of collaborative behavior. Following the program's completion, this number surged to 87.3%. Three months later, 81.2% of nurses continued to show strong collaboration skills. Statistically significant differences were noted ($p = 0.001^{**}$) between the pre-program results and both the immediate post-program assessment and the evaluation conducted three months later.

Table (2): Demonstrates that immediately post-program implementation there are high statistically significant strong positive relation between nurses' performance appraisal fairness perception, and collaboration behavior-with (p -value=.001), whereat the follow-up test, there is a positive relation between nurses' perception of performance fairness and nurses' collaboration behavior in addition to apposite relation between head nurses' knowledge and nurses' perception of performance fairness with (p -value=.003 & .008 respectively). Otherwise, no statistically significant relations found within the study variables at the pre-test measure.

Discussion:

Nurse managers need training programs to give them the tools they need to monitor performance, lead teams more successfully, and create a positive work environment. As a vital link between clinical staff and healthcare administration, nurse managers' leadership is essential to preserving high-quality care, employee happiness, and organizational effectiveness. Enhancing performance assessment techniques is a major goal of nurse manager training programs. Managers who have received the necessary training are more likely to perform impartial assessments that

are free from subjectivity and bias. According to research, staff satisfaction with the appraisal process is higher when objective, standardized performance evaluation methods are used (**Katz, et al., 2020**).

Collaboration, organizational trust, and employee satisfaction are all significantly impacted by fairness in performance reviews. Since collaboration in healthcare directly effects patient safety and results, it has been shown in several studies that employees who believe that performance evaluations are unbiased are more likely to encourage individuals to engage in positive behaviors, such as improved collaboration (**Sabry, et al., 2024**).

In terms of the percentage distribution of head nurses' knowledge levels regarding the performance appraisal system throughout the program phases, current study revealed a significant increase in the head nurses' knowledge of the performance appraisal system across the program phases. Less than 20% of head nurses possessed satisfactory knowledge before the program, whereas the majority demonstrated satisfactory knowledge in the immediate-measure phase.

From researchers' perspective, this this could be because many head nurses had less than ten years of work experience and were under thirty years old. They also may not have attended any previous training sessions on performance appraisal, which would have prevented them from being sufficiently familiar with the basic concepts and procedures of staff performance review. This perspective aligned with that of **Zaki, et al., (2018)**, who found that staff nurses and head nurses at their hospital were unclear about certain aspects of the performance appraisal system. Additionally, this was in line with **Bigdeli Adel-Mehraban & Namnabati's (2019)** findings that the main issues with performance appraisals stemmed from appraisers' lack of training and the absence of appraisal criteria.

A noteworthy outcome of the program was the considerable enhancement in head nurses' knowledge of performance appraisal, which highlights the significance of focused training interventions. This result is in line with research from the field of healthcare education, which demonstrates that well-designed training initiatives can enhance trainees' retention and application of knowledge in practical contexts. Furthermore, systematic training programs improve knowledge and confidence in giving performance reviews, according to recent studies (**Mampururu, et al., 2024**). **King (2020)** stated at the outset that appraisers must give employees pertinent criticism regarding their work.

The results of **Sabry et al. (2024)** support the findings of the current study, indicating that a

significant number of head nurses demonstrated satisfactory knowledge levels during the post and follow-up phases of program, in contrast to more than one-third at the pre-program phase. Additionally, **Abou Ramadan & Eid (2021)** aligned with these findings, revealing that although most nurse managers achieved high levels of knowledge after the program's implementation, all head nurse exhibited inadequate knowledge of performance assessment management prior to the program during the COVID-19 pandemic. Prior studies by **Najafi et al. (2011)**, **Sippyand & Varma (2014)**, & **Nikpeyma et al. (2014)**, stressed the value of a training program in helping appraisers perform at their best. **Celik's (2014)** findings, however, contradicted our findings, indicating that managers' training on performance appraisal did not produce any appreciable changes. The author's rationale was that in order to modify evaluation behavior, more time and experience are needed.

It's clear that the training was well-designed for long-term impact because more than eighty-five percent of head nurses continued to have significant levels of knowledge even three months after the program ended. The researchers ascribed this ongoing improvement to the program's applicability to head nurses' daily responsibilities, citing **Edwards' (2023)** assertion that training directly related to job activities improves retention of knowledge over the long run.

Current study revealed marked improvement in nurses' perception of performance appraisal fairness. Before the training program, a low percentage of nurse's perceived fairness in appraisals, post-training, majority of them have high level of perceived fairness in appraisals. This could be attributed to the improvement in nurse managers' roles in performance appraisals following the knowledge and training they gained during the program.

This was in line with **Kaushik & Arora's (2020)** assertion that managers must reinterpret their fairness function to promote employee engagement and organizational commitment. For improving its effectiveness, **Christodoulou, et al., (2020)** suggested restructuring the performance appraisal system. Additionally, **Abdullah & Malik (2022)** show that structurally defined assessment program positively influences performance appraisal efficacy, fairness, and system satisfaction. In the same vein, **Tarigan, et al., (2023)** suggested that improving the diverse cognitive abilities of nurse managers during training improves the notion of fairness within performance appraisal.

Celik (2014) discovered previously that staff members expressed greater levels of procedural justice and satisfaction with the appraisal process following managers' receipt of structured appraisal training. Similar findings were noted in the current

study, wherein staff members perceived the appraisal process as being more equitable and open. Before the training program, a low percentage of nurses thought that appraisals were fair, which could have a negative effect on morale, turnover, and burnout, according to **Greenberg (2011)**, who also validated the results of a recent study. There was a discernible improvement in perceived fairness after training, indicating that the program was successful in clarifying performance requirements and reducing bias. Better patient care and more cohesive team dynamics have been linked to these results.

Concerning nurses' collaborative behavior, it was noted that a small percentage of nurses exhibited a high level of collaboration prior to the program's implementation. However, immediately following the program, the majority demonstrated a high level of collaborative behavior. As well as after three months of program implementation majority of them have a high level of collaboration. These show how effective the training program was, and they might have to do with the head nurses' educational background, experience, and awareness of the value of improving performance appraisal practices. These factors help to understand how the work culture of nurses is involved, which boosts intrinsic motivation to improve work outcomes for nurses and fosters collaborative behaviors.

In the words of the researchers, the previously mentioned result could be clarified by the fact that when workers feel their assessments are fair, they are more likely to collaborate with one another and support their coworkers. This is especially true in the healthcare industry, where teamwork is essential. Therefore, training managers on how to conduct fair appraisals would have a significant impact on patient care outcomes as well as teamwork and communication.

The obtained result was in the line with the findings of **Sabry et al. (2024)**, who show that the program's implementation improved head nurses' understanding and practices of the assessment system, which in turn raised nurses' satisfaction levels. Additionally, this outcome aligned with the findings of **Ali & El-Shanawany (2019)**, who reported a high statistically significant improvement in the collaborative behavior and job satisfaction of staff nurses following program implementation. **Kim & Cho (2022)** found that the program's overall impacts on collaborative behavior and job satisfaction were statistically significant, which is in agreement with the findings of the current study. Additionally, **Allam Hamouda, et al., (2021)** findings showed that, following program implementation, head nurses' overall meaningful recognition process practices showed highly statistically significant changes.

Furthermore, according to **Mahmoud & Abd El-Aziz (2017)**, the majority of the nurses under study scored at a acceptable level across all subscales of nurse-nurse collaboration. These results are consistent with **Metwally & Hassona's (2016)** findings that high levels of nurse-to-nurse collaboration were seen. This result is consistent with that of **Tuija, et al., (2012)**, who discovered that hospital nurses evaluated their cooperation as being satisfactory. This result, however, is at odds with that of **Serrano-Gemes & Rich-Ruiz (2017)**, whose investigation revealed an average degree of inter-professional communication among the subjects.

Regarding correlation matrix between head nurses' total knowledge, nurses' perception of fairness, and collaboration behavior "The present study demonstrated a statistically significant positive correlation during both the post-program and follow-up stages. This suggests that head nurses' improved knowledge of the appraisal system and communication strategies creates a more supportive environment for performance evaluations. As a result, nurses' perceptions of fairness in these reviews improve, and they gain a clearer understanding of expectations, which in turn promotes more cooperative behavior among the staff.

Ali, et al., (2019), who elucidated that there was a favorable, significant statistically correlation between the organizational commitment of nurses staff through the program and the head nurses' overall authentic leadership, corroborated this result. This result was also consistent with **Kuubetersuur's (2020)** observation that performance reviews cause participants to exert more effort than they would normally. Furthermore, **Abou Ramadan & Eid (2021)** identified a positive statistically significant relationship between head nurses' knowledge, skills, and satisfaction during the post and follow-up - program, which aligns with the current findings. Additionally, **Abo-Elenein & Abdel-Mongy (2023)** reported strong, positive correlations between authentic leadership demonstrated by head nurses and the creativity and resilience of staff nurses across various stages of the program.

Conclusion:

The study found that most head nurses demonstrated good understanding of performance appraisals. Additionally, many staff nurses perceived the appraisals as fair and reported improved collaboration after the training program was implemented, as indicated by the post- and follow-up tests. There were significant statistical differences across the pre-, post-, and follow-up assessments. Furthermore, strong positive correlations were observed between the head nurses' knowledge, the nurses' perception of fairness,

and their collaborative behavior after the program, all statistically significant. These results emphasize the importance of managerial training in improving perception, teamwork, communication, and collaboration among nurses.

Recommendations:

- Assess staff nurses' perceptions of appraisal fairness and collaboration behavior regularly through surveys and feedback mechanisms.
- Introduce regular refresher courses to ensure nurse managers stay updated on best practices in performance appraisals.
- Train nurse managers to provide constructive feedback during appraisals, focusing on improvement areas without demotivating staff.
- Encourage nurse managers to adopt a mentorship approach, offering continuous feedback and support throughout the appraisal cycle.
- Provide frequent training for nurse managers on key leadership skills, such as conflict resolution, stress management, and emotional intelligence, to enhance their performance appraisal abilities.

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