

Perception of Justice in Performance Appraisal in Relation to Intensive Care Nurses' Creative Self Efficacy: Comparative Study

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Abstract

Background: Awareness of performance appraisal (PA) justice is pivotal that can influence Intensive Care (IC) nurses' productivity and satisfactions, besides creative self-efficacy. **Aim of the study:** Explore perception of justice in performance appraisal in relation to IC nurses' creative self-efficacy at Tanta University and El-Menshawey General Hospitals. **Methods: Design:** A correlational-comparative research design was applied **Subjects:** A convenience sample of all IC nurses (n=510) were working at Tanta University and El-Menshawey General Hospitals. **Tools:** Two tools were used: Nurses' Perception of Justice in Performance Appraisal and Nurses' Creative Self-Efficacy Questionnaires. **Results:** 64.2 % of IC nurses at Tanta University Hospital had moderate perception level of total justice in PA and, 45.7% of El- Menshawey Hospital nurses had low level. 54.3% and 44.2% of IC nurses at Tanta University and El- Menshawey General Hospitals had moderate level of total creative self-efficacy. **Conclusion:** There was a statistically significant positive correlation between IC nurses' perception of justice in performance appraisal and creative self-efficacy in both hospitals. **Recommendation:** Equip nursing supervisors with the required knowledge and skills about performance appraisal strategies and technique through training programs.

Keywords: *Creative Self-Efficacy, Intensive Care Nurses, Justice, Perception & Performance Appraisal.*

Introduction

Nursing profession assume a vital multi-dimensional role to sustain the quality of healthcare services. Intensive Care (IC) nurses, provide care for critically ill patients, so, they required being highly qualified, well trained, competent and experienced registered nurses. That is crucial to guarantee the survival of the hospitals in healthcare market (Getnet et al., 2014; Fatonah & Anita Damayanti, 2020). Systematic assessment and evaluation of IC nurses' performance is known as performance appraisal. It is necessary to judge nurses' competency level and establishes suitable training programs to overcome performance gaps (Nutakor, 2019).

Performance Appraisal (PA) is an official and periodical process to evaluate and review nurses' performance, including achievements and problems, aiming at refine nurses' performance (Zwiech, 2021). Nurses' PA processes focuses on monitoring performance, motivating and improving nurses' quality and productivity.

Performance appraisal illuminates nurses' contribution towards hospital's goals (Aly & El-Shanawany, 2016). PA is an important human resource (HR) management tools. Justice in PA implementation is one of the greatest HR professionals' challenges (Dal Corso et al., 2019). Fairness in PA system is an essential aspect in the

effectiveness of the PA system, and it has been viewed that nurses will only be satisfied with PA system if it is believed to be fair (Nutakor, 2019). Justice in PA is conceptualized by nurses as a process conducted by the supervisor, which based on rational information, fair hearing, and evidence-based to establish justice and trust in the formal system. PA process is evaluated based on four dimensions including procedural, distributive, interpersonal, and informational justice (Francis et al., 2021).

Procedural justice involves consistent and fair procedures based on accurate information, the ability to avoid incorrect decisions, and make ethical decisions that is acceptable by all nurses. Distributive justice is concerned with nurses' perceived work related results fairness such as salaries, promotions, and rewards. Nurses' inputs including energy, education, experience, and competencies to achieve hospital goals; are expected to attain fair share of outputs as other nurses. Interpersonal justice refers to the respect and dignity presented to IC nurses during their PA. Meanwhile, informational justice concerned with the experiencing fairness throughout the clarification of performance standards, expectations, feedback received, and justification of decisions (Esfahani et al., 2014; Thurston & McNall, 2010).

Perceived justice in PA system increase nurses' positive attitudes to work. Apart from that, recognizing nurse' contributions, and supporting them can raise their motivation, commitment, and sense of responsibility towards the hospital. As well as, it improves nurses' trust in the hospital, and makes them feel valued and can improve their creative self-efficacy (Kivipõld et al., 2021; & Smith, 2018).

Creative self-efficacy is the IC nurses' belief in his/her own ability to create innovative outcome in a specific situation or in general (Mathisena & Bronnickb, 2009). The notion of creative self-efficacy was expanded from self-efficacy and defined as the belief (or confidence) that reflects one's self-confidence in his or her capabilities while performing an original task based on inspired thinking and creative performance (Michael et al., 2011).

Creative self-efficacy provides IC nurses with strong and effective beliefs, which enhance their level of persistence. Furthermore, it direct IC nurses towards efforts that ultimately lead to an increased growth of their confidence to judge own creative behavior that stimulates change, further development, and inventiveness in working procedures (Al-Dhaimat et al., 2020 & Ahmed et al., 2021). The nature of work in ICUs demand nurse to possess a strong potential for ongoing creative efficacy development (Tierney & Farmer, 2011).

Nurses with high creative self-efficacy can mobilize motivation, cognitive resources, and courses of action to manage critical situations. They spend more time on creative cognitive processes in problem recognition and generation of novel solutions, and produce prototypes, so they can confront obstacles successfully and achieve hospital innovative goals (Michael et al., 2011).

Creative self-efficacy is considered the most effective coping skill that helps nurses to cope with their daily workplace challenges. Also, it increases IC nurses' sense of self-control and enables them to perform tasks at a higher level as well as achieving positive outcomes (Aladah et al., 2020).

Significance of the study

Perception of unfair PA can demotivate and discourage IC nurses that negatively affect their job performance and productivity, hence, jeopardize the overall healthcare quality and the hospital reputation. Also, the perception of a lack of justice can leads to the nurses' frustration, feelings of hurt and extreme dissatisfaction that affect their creativity and self-efficacy. So, this study aimed to discover the relation between justice in performance appraisal and IC nurses' creative self-efficacy in both educational and governmental hospitals.

Aim of the study: This study aimed to explore perception of justice in performance appraisal in relation to IC nurses' creative self-efficacy at Tanta University and El-Menshawey General Hospitals.

Research questions:

- What are the IC nurses' levels of perception regarding justice in performance appraisal?
- What are the IC nurses' levels of creative self-efficacy?
- What is the relation between IC nurses' perception of justice in performance appraisal and their creative self-efficacy?
- Is there a difference between Tanta University and El-Menshawey General Hospitals' IC nurses regarding perception of justice in performance appraisal and their creative self-efficacy?

Subject and Methods

Study design

A correlational-comparative research design was used to collect two sets of data from two different subjects so that the relationship between the two subsequent sets of data can be determined and to explain the differences between subjects on the variables of interest (Tan, 2014)

Setting

This study was conducted in neonatal, neurological, anesthesia, medical, pediatric, and cardiac ICUs at Tanta University Hospital (TUH); affiliated to the Ministry of Higher Education and Scientific Research. As well as, neurological, medical, pediatric, and cardiac ICUs at El-Menshawey General Hospital; affiliated to the Ministry of Health and Population at Al-Gharbia Governorate.

Subjects

A convenience sample of all nurses (n=510); from the above-mentioned setting were included in this study: Tanta University Hospitals (n=302) and El-Menshawey General Hospital (n=208).

Tools

Two tools were used to collect the study data. **Tool I: Nurses' Perception of Justice in Performance Appraisal Structured Questionnaire.** It was developed by the researchers guided by (Colquitt, 2001; Colquitt & Rodell, 2015; Gupta & Kumar, 2013). It was utilized to assess nurses' perception of justice in performance appraisal. It consisted of two parts as follows;

Part (1): Nurses' personal data: It included nurses' age, gender, marital status, unit name, qualifications, years of experience, number of children and if attended any training courses.

Part (2): It consisted of four subscales: procedural justice (7 items), distributive justice (6 items), interpersonal justice (9 items) and informational justice (6 items).

Scoring system

Nurses' responses were scored on a 5 points Likert Scale ranged from 1 (strongly disagree) to 5 (strongly agree). The total score calculated by summing of all categories and high scored indicated high level of justice in performance appraisal based on cut off points as follow:

- Low Level of justice in performance appraisal < 60%
- Moderate Level of justice in performance appraisal 60% – 75%
- High Level of justice in performance appraisal >75%

Tool II: Nurses' Creative Self-Efficacy Structured Questionnaire.

This tool was developed by researchers based on (Brockhus, et al. 2014 & Michael, et al., 2011). It was used to assess nurses' creative self-efficacy. It consisted of two subscales: personal assumptions (5 items) and evidence-based assessment of creative self-efficacy (10 items).

Scoring system

Nurses' responses were scored on 5 points Likert Scale ranged from 1 (strongly disagree) to 5 (strongly agree). The total score calculated by summing of all categories and high scored indicated high nurses' level of creative self-efficacy based on cut off points as follow:

- Low Level of creative self-efficacy < 60%
- Moderate Level of creative self-efficacy 60% – 75%
- High Level of creative self-efficacy >75%

Method for data collection:

The tools were modified, translated by the researchers into Arabic and presented to five experts in the field of nursing administration to assess the face and content validity; based on their opinions certain modifications and rewording of some statements were made. The Content Validity Index were 88% and 91% for tool I, and II respectively. A pilot study was conducted on (10%) 51 nurses to assess the tools' applicability and reliability and they were excluded from the study sample. Using Cronbach's coefficient alpha test, reliability values were 0.92, and 0.95 for tool I, and II respectively. Data was collected through a self-administered questionnaire; it took approximately 20 minutes for each nurse. The data collected within six months from February to July 2021.

Ethical considerations:

The ethical approval was obtained from The Scientific Research Ethics Committee. (Code No.155-12-22). Then the approval of authoritative personnel of Tanta University Hospitals and El-Menshawey General Hospital were obtained, the

purpose of the study was explained to nurses and their oral consents to participate were obtained. They were assured about the confidentiality of their data, the right to withdraw was confirmed and that the study would not cause any harm for them

Statistical analysis:

Data were fed to the computer and analyzed using IBM SPSS software package version 20.0. (Armonk, NY: IBM Corp) Qualitative data were described using number and percent. The Shapiro-Wilk test was used to verify the normality of distribution Quantitative data were described using range (minimum and maximum), mean, standard deviation and median. Significance of the obtained results was judged at the 5% level.

Results

Table (1): Intensive care nurses' personal data (n = 510)

Nurses' personal data	Tanta (n = 302)		El Menshawy (n = 208)		p
	No.	%	No.	%	
Age					
<30	107	35.4	100	48.1	0.001*
30≤40	139	46.0	91	43.8	
>40	56	18.5	17	8.2	
Mean ± SD.	32.93 ± 5.56		31.68 ± 6.89		
Gender					
Male	21	7.0	35	16.8	<0.001*
Female	281	93.0	173	83.2	
Marital status					
Married	282	93.4	197	94.7	MC p= 0.499
Not married	21	6.95	11	5.3	
Working Unit					
Neonatal ICU	71	23.5	0	0.0	MC p <0.001*
Neurological ICU	34	11.3	31	14.9	
Anesthesia ICU	52	17.2	0	0.0	
Medical ICU	57	18.9	57	27.4	
Pediatric ICU	46	15.2	75	36.1	
Cardiac ICU	42	13.9	47	22.5	
Nursing Education					
Associate	102	33.8	51	24.5	<0.001*
Diploma	44	14.6	12	5.8	
Bachelor	156	51.7	127	61.1	
Post grad studies	0	0.0	18	8.7	
Years of experience					
<5	118	39.1	80	38.5	0.001*
5≤15	79	26.2	83	39.9	
15≤25	95	31.5	36	17.3	
>25	10	3.3	9	4.3	
Mean ± SD.	10.51 ± 7.26		9.34 ± 6.52		
No of children					
0	13	4.3	41	19.7	<0.001*
1	30	9.9	61	29.3	
2	82	27.2	45	21.6	
3	108	35.8	51	24.5	
4+	69	22.8	10	4.8	
Mean ± SD.	2.77 ± 1.33		1.65 ± 1.19		<0.001*
Attended training courses					
No	192	63.6	118	56.7	0.120
Yes	110	36.4	90	43.3	
Mean ± SD.	0.45 ± 0.65		0.94 ± 1.24		

SD: Standard deviation

U: Mann Whitney test

χ²: Chi square test

MC: Monte Carlo

p: p value for comparing between 2 hospitals

*: Statistically significant at p ≤ 0.05

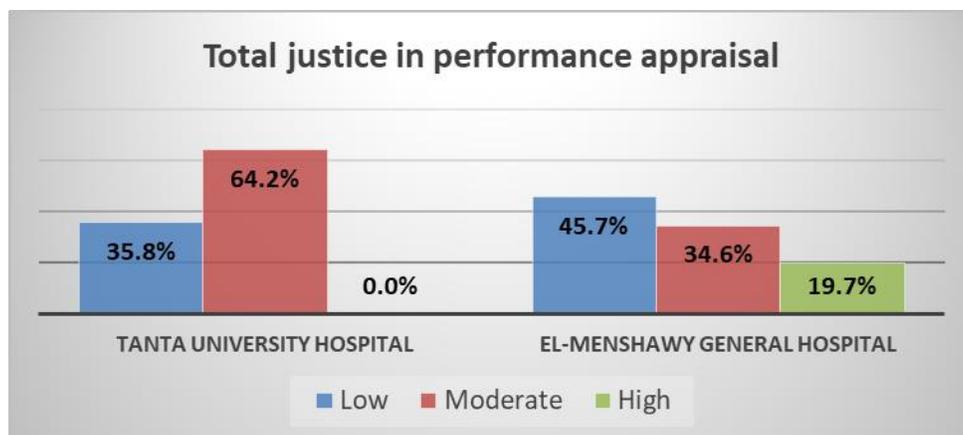


Figure (1): Intensive care nurses' levels of total justice in performance appraisal

Table (2): Intensive care nurses' levels regarding justice in PA dimensions (n = 510)

Justice in performance appraisal	Tanta University Hospital (n = 302)		El Menshawy Hospital (n = 208)		χ^2	p
	No.	%	No.	%		
Procedural justice						
Low	222	73.5	92	44.2	73.468*	<0.001*
Moderate	76	25.2	71	34.1		
High	4	1.3	45	21.6		
Distributive justice						
Low	108	35.8	114	54.8	103.855*	<0.001*
Moderate	190	62.9	49	23.6		
High	4	1.3	45	21.6		
Interpersonal justice						
Low	23	7.6	97	46.6	106.020	<0.001*
Moderate	161	53.3	55	26.4		
High	118	39.1	56	26.9		
Informational justice						
Low	28	9.3	121	58.2	142.910*	<0.001*
Moderate	160	53.0	55	26.4		
High	114	37.7	32	15.4		
Overall justice						
Low	108	35.8	95	45.7	83.291*	<0.001*
Moderate	194	64.2	72	34.6		
High	0	0.0	41	19.7		

χ^2 : Chi square test p: p value for comparing between two hospitals *: Statistically significant at $p \leq 0.05$

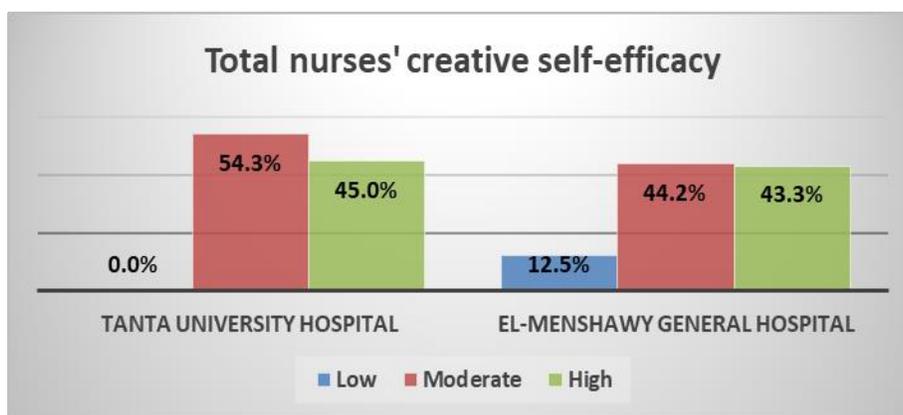


Figure (2): Intensive care nurses' levels of total creative self-efficacy

Table (3): Intensive care nurses' levels of creative self-efficacy dimensions (n = 510)

Creative self-efficacy	Tanta University Hospital (n = 302)		El Menshawy Hospital (n = 208)		χ^2	p
	No.	%	No.	%		
Personal assumptions						
Low	0	.0	21	10.1	38.369*	<0.001*
Moderate	164	45.7	79	51.9		
High	138	54.3	108	38.0		
Evidence-based assessment of creative self-efficacy						
Low	0	.0	29	13.9	50.694*	<0.001*
Moderate	164	54.3	118	56.7		
High	138	45.7	61	29.3		
Total creative self-efficacy						
Low	0	0.0	26	12.5	40.820*	<0.001*
Moderate	164	54.3	90	44.2		
High	138	45.7	92	43.3		

χ^2 : Chi square test p: p value for comparing between two hospitals *: Statistically significant at $p \leq 0.05$

Table (4): Correlation between intensive care nurses' total perception of justice in performance appraisal and total creative self-efficacy (n = 510)

Creative self- efficacy Justice in performance appraisal		Overall Creative self-efficacy		
		Total (n = 510)	Tanta (n = 302)	El menshawy (n = 208)
Overall justice in performance appraisal	r	0.426*	0.450*	0.407*
	p	<0.001*	<0.001*	<0.001*

r: Pearson coefficient *: Statistically significant at $p \leq 0.05$

Table (5): Relation between intensive care nurses' personal data and total perception of justice in performance appraisal and total creative self-efficacy (n = 510)

Personal data	Total justice in PA (% score)		Total creative self-efficacy (% score)	
	Tanta (n=302)	El menshawy (n=208)	Tanta (n= 302)	El menshawy (n=208)
	Mean \pm SD.	Mean \pm SD.	Mean \pm SD.	Mean \pm SD.
Age				
<30	64.42 \pm 11.27	63.06 \pm 19.22	84.07 \pm 10.13	73.78 \pm 12.27
30 \leq 40	65.74 \pm 10.68	57.86 \pm 25.53	83.63 \pm 10.31	74.34 \pm 9.81
\geq 40	62.45 \pm 12.32	59.98 \pm 2.76	84.40 \pm 10.39	94.12 \pm 0.86
H(p)	4.673 (0.097)	2.672 (0.263)	0.590 (0.745)	H=38.57* (<0.001*)
Gender				
Male	57.82 \pm 11.37	71.53 \pm 23.50	76.27 \pm 6.56	76.33 \pm 13.25
Female	65.17 \pm 11.08	58.31 \pm 20.57	84.50 \pm 10.23	75.56 \pm 11.79
U(p)	1815.50* (0.002*)	1716.0* (<0.001*)	1766.50* (0.001*)	2820.0 (0.521)
Marital status				
Married	65.25 \pm 11.09	60.93 \pm 21.37	84.62 \pm 10.22	75.72 \pm 11.68
Not married	53.57 \pm 8.10	53.41 \pm 25.61	74.51 \pm 2.02	75.15 \pm 17.74
Test of Sig. (p)	H=18.31* (<0.001*)	U=907.0 (0.363)	H=18.19* (<0.001*)	U=1048.0 (0.855)
Working Unit				
Neonatal ICU	62.91 \pm 12.03	-	83.66 \pm 10.07	-
Neurological ICU	63.58 \pm 11.92	53.31 \pm 25.69	83.68 \pm 11.02	73.44 \pm 13.92
Anathesia ICU	66.77 \pm 11.34	-	86.50 \pm 10.11	-
Medical ICU	66.82 \pm 10.91	67.53 \pm 26.06	87.05 \pm 10.18	71.17 \pm 13.30
Pediatric ICU	63.57 \pm 10.26	63.17 \pm 16.54	80.04 \pm 9.07	73.87 \pm 8.19
Cardiac ICU	63.75 \pm 10.39	54.21 \pm 14.14	81.03 \pm 9.50	86.19 \pm 8.27
H(p)	12.086 (0.060)	24.175* (<0.001*)	18.456* (0.005*)	50.632* (<0.001*)
Nursing Education				
Diplom	65.97 \pm 11.48	65.63 \pm 29.37	86.02 \pm 10.47	78.47 \pm 15.10
Associate	62.83 \pm 10.13	59.31 \pm 20.88	79.44 \pm 9.08	68.24 \pm 11.25
Bachelor	65.49 \pm 11.76	61.64 \pm 21.11	86.27 \pm 9.96	78.20 \pm 10.75
Post grad studies	-	52.83 \pm 21.10	-	77.22 \pm 12.63
H(p)	21.365* (<0.001*)	1.863 (0.601)	28.964* (<0.001*)	26.147* (<0.001*)

Personal data	Total justice in PA (% score)		Total creative self-efficacy (% score)	
	Tanta (n=302)	El menshawy (n=208)	Tanta (n= 302)	El menshawy (n=208)
	Mean \pm SD.	Mean \pm SD.	Mean \pm SD.	Mean \pm SD.
Years of experience				
<5	62.62 \pm 11.48	63.42 \pm 21.24	82.54 \pm 9.85	75.77 \pm 11.96
5 \leq 15	67.41 \pm 10.26	54.96 \pm 23.44	87.28 \pm 10.28	71.57 \pm 11.18
15 \leq 25	66.30 \pm 10.71	66.49 \pm 18.04	81.91 \pm 9.91	80.60 \pm 9.61
\geq 25	51.52 \pm 7.62	62.50 \pm 0.0	93.0 \pm 6.32	93.33 \pm 0.0
H(p)	23.800* (<0.001*)	5.908 (0.116)	18.011* (<0.001*)	28.335* (<0.001*)
No of children				
0	72.80 \pm 5.67	57.32 \pm 24.88	88.21 \pm 10.81	74.43 \pm 14.32
1	69.29 \pm 7.78	66.92 \pm 12.76	84.78 \pm 10.44	77.62 \pm 9.80
2	62.46 \pm 11.91	47.40 \pm 21.76	83.46 \pm 10.04	76.81 \pm 15.47
3	66.48 \pm 10.21	68.31 \pm 23.06	83.53 \pm 10.16	72.97 \pm 9.59
4+	60.88 \pm 12.11	54.20 \pm 7.62	83.94 \pm 10.47	77.83 \pm 1.58
H(p)	34.942* (<0.001*)	41.301* (<0.001*)	2.460 (0.652)	6.769 (0.149)
Attended training courses				
No	65.13 \pm 11.07	59.25 \pm 23.72	84.18 \pm 10.39	73.33 \pm 12.31
Yes	63.85 \pm 11.53	62.22 \pm 18.47	83.50 \pm 9.99	78.78 \pm 10.94
U(p)	9795.0 (0.278)	5165.50 (0.737)	10425.0 (0.834)	4074.50* (0.004*)

PA performance appraisal

SD: Standard deviation

U: Mann Whitney test

H: H for Kruskal Wallis test

Statistically significant at $p \leq 0.05$

Table (1): Represents intensive care nurses' personal data. The table illustrates that at Tanta University Hospitals around half (46.0%) of IC nurses fall in the age group 30 \leq 40, with a mean age of 32.93 \pm 5.56. Majority (93.0% and 93.4%) of them were female and married respectively. The highest percentages (23.5% and 18.9%) of nurses were working in Neonatal and Medical ICUs respectively. More than half (51.7%) of IC nurses had a Bachelor degree in Nursing. The highest percentages of them (39.1% and 35.8%) had less than five years of experience and had three children. High percentage (63.6%) of IC nurses did not attend any training courses during last year.

At El- Menshawy General Hospital at around half (48.1%) of IC nurses fall in the age group less than 30 years, with a mean age of 31.68 \pm 6.89. Majority (83.2% and 94.7%) of them were female and married respectively. The highest percentages (36.1% and 27.4 %) were working in Pediatric and Medical ICUs respectively. More than half (61.1%) of IC nurses had a Bachelor degree in Nursing. The highest percentages of them (39.9% and 35.8%) had between 5 to \leq 15years of experience and had one child. More than half (56.7%)of them did not attend any training courses last year.

Figure (1): Demonstrates intensive care nurses' levels of total justice in performance appraisal. Around two thirds (64.2 %) of Tanta University nurses had a moderate levels while, around half (45.7%) of El- Menshawy nurses had a low levels of perception regarding total justice in PA.

Table (2): Displays intensive care nurses' levels regarding justice in performance appraisal

dimensions. There were statistical significant differences between IC nurses' perception in the two hospitals regarding procedural, distributive, interpersonal and informational justice dimensions at $p \leq 0.001$. More than half (62% and 53.3 % and 53.0%) of Tanta University nurses perceived moderate levels and around half (54.8%, 46.6% and 58.2%) of El- Menshawy nurses perceived low levels regarding distributive, interpersonal and informational justice in performance appraisal respectively. While the highest percentages (73.5% and 44.2%) of Tanta and El-Menshawy nurses perceived a low level of procedural justice respectively.

Figure (2): Shows intensive care nurses' levels of total creative self-efficacy. More than and around half (54.3% and 44.2%) of nurses at Tanta and El-Menshawy Hospitals had moderate levels of total creative self-efficacy.

Table (3): Illustrates intensive care nurses' levels of creative self-efficacy dimensions. There was a statistical significant difference between IC nurses' level of creative self-efficacy at Tanta University and El- Menshawy Hospital at $p \leq 0.001$. Around half (54.3% and 45.7 %) of Tanta university nurses had high levels compared to (51.9% and 56.7%) of El- Menshawy nurses had moderate levels of personal assumptions and evidence-based assessment of creative self-efficacy.

Table (4): Displays correlation between intensive care nurses' total perception of justice in performance appraisal and total creative self-efficacy. There was a statistically significant positive correlation between total IC nurses' perception of

justice in performance appraisal and total creative self-efficacy ($p \leq 0.001$) at both hospitals.

Table (5): illustrates relation between intensive care nurses' personal data and their total perception of justice in performance appraisal and total creative self-efficacy. At Tanta University, there were statistically significant positive relationships between nurses' perception of justice in performance appraisal and their all personal data except age, work unit and training programs. Also there were statistically significant relationships between all their personal data and ' creative self-efficacy except age, and training programs.

At El- Menshawy there were statistically significant relationships between IC nurses' perception of justice in performance appraisal and their gender, working unit and number of children. Also there were statistically significant positive relationships between intensive care nurses' creative self-efficacy and their all personal data except gender and marital status.

Discussion

Performance appraisal is one of the fundamental measures to ensure the efficiency of nursing performance to reach hospital goals. Perception of justice in PA is vital to improve IC nurses' performance and promote the overall quality of care provided to patients, as well as increase nurses' motivation, efficiency, creativity and self-efficacy. So, the current study intended to investigate IC nurses' perception of justice in PA and their creative self-efficacy in both university and governmental hospitals.

The present study revealed that more than two thirds of nurses at Tanta University nurses had a moderate perception level, compared to around half of El-Menshawy nurses had a low perception level of total justice in PA. Nurses' perception of fair appraisal is essential to realize their value and contribution that has a significant impact on their performance and success (Tuytens, & Devos, 2012).

The moderate and low perception levels of the total justice in PA among studied nurses in our study may be due IC nurses' personal view of PA process, they suspect the accuracy of PA tools. Also, they might inappropriately estimate their work related input as well as the level of trust in their supervisors' fairness (Ferndale, et al., 2011).

This result goes in the same line with (Nikpeyma, et al, 2014a &b) who stated that the current system of nurses' PA lack objectivity, and specialized criteria. In addition to lack in the appraisers' knowledge to apply PA methods, that threat the effectiveness of

PA process as well as nurses' perception of justice in PA.

The current study findings supported by (Aly, et al., 2020; Zwiech, 2021; Madureira, et al., 2021 & Aly, et al., 2016) revealed that more than half of the studied sample were not satisfied with PA system based on the last PA and believed that PA were not fair in all domains.

In contrast, (Ibrahim, 2019 & Kwamifoli, 2017) revealed that more than half of the sample were highly satisfied with PA system fairness especially in procedural and interpersonal justices domains.

The present study revealed that, more than half of Tanta University nurses perceived moderate levels, while around half of El- Menshawy nurses perceived low levels regarding distributive, interpersonal and informational justice in PA. This can be justified as the highest percentage of Tanta university nurses had less than five years of experiences, while El-Menshawy nurses had between five to less than fifteen years of experience, so they involved in PA procedures more than Tanta university nurses.

Regarding the moderate and low perceptions of distributive justice the IC nurses indicated that PA process decisions did not reflect their work efforts, experience, as well as the work load they experience in ICUs.

About the moderate and low perceptions of interpersonal justice, this can be due to the supervisors did not properly treat them during PA process and could not put aside personal problems. Concerning the moderate and low perceptions of informational justice, this can be justified as the supervisor did not communicates honestly with them, or explain the PA process carefully, or even gave them feedback on PA results on a timely manner.

Also, present study results revealed that IC nurses perceived a low level of procedural justice at both hospitals. This may be due to IC nurses perceive that PA processes did not follow accurate methods for collecting information, and was not reliable or ethical, and contained unfair elements.

The current findings were in the same line with (Ebrahim, et al., 2020 & Hany, et al., 2020) who declared that around half of studied nurses had moderate and low levels regarding distributive justice, procedural justice and informational justice dimensions. Also, more than one quarter of nurses had low interpersonal justice.

Contradictory to our findings, (Hamdeena, et al., 2022; Jawahar, 2019 & Corso, et al., 2019) who illustrated that studied nurses highly perceived all domains of PA and perceive it as fair.

The current study clarified that around half of nurses at Tanta University and El-Menshawy Hospitals had

moderate levels of total creative self-efficacy. This may be attributed to around two fifth of nurses in both hospitals did not attained any training programs to enhance and cover gaps in their performance. Also, less than one tenth of El-Menshawey, while none at Tanta University had post graduate studies that clarified the lack of supervisory support for nurses to grow and develop that jeopardy their autonomy and confidence in their capabilities to manage challenging situations and innovation.

In the same scene, (Ebrahim, et al., 2020; Sinaga, 2020) revealed that more than half of studied nurses had moderate and low self-efficacy. In contrast (Kurnia, et al., 2019) found that the majority of respondents had high self-efficacy.

The present study revealed that there was a statistically significant positive correlation between total IC nurses' perception of justice in PA and total creative self-efficacy at both hospitals. When nurses felt their efforts and achievements were not fairly assessed and rewarded, they become less committed to their hospital, and would not exert full and best effort (Kurnia, et al., 2019).

(Ebrahim, et al., 2020; De Clercq, et al., 2018 & Ju-Ra Kim, et al., 2022) supported our finding and explained that atmosphere of justice had high frequency positive effect on nurses' performance and efficacy.

At Tanta University Hospitals, there were statistically significant relationships between nurses' perception of justice in PA and their gender, marital status, nursing education, years of experience, and number of children. Also, there were significant relationships between IC nurses' perception of justice in PA and gender, working unit and number of children at El- Menshawey Hospital.

In the same line (Hamdeena et al., 2022) demonstrated that there were statistically significant relationships between PA fairness perception and marital status, years of experience, and working unit of the studied nurses. In the same respect, (Kwamifoli, 2017) also revealed that age and educational qualification could predict perception of fairness.

At Tanta University Hospitals, there were statistically significant relationships between IC nurses' creative self-efficacy and their gender, marital status, working unit, nursing education, and years of experience. Also, there were statistically significant relationships between IC nurses' creative self-efficacy and their age, working unit, nursing education and years of experience. These findings were compatible with (Brockhus et al., 2014; Ebrahim et al., 2020), who mentioned that educational and gender had positive effect on

creative self-efficacy. While experience and marital status had slight positive effect on self-efficacy.

Conclusion

Intensive care nurses perceived a moderate level at Tanta University and a low level at El- Menshawey Hospitals regarding justice in PA. Nurses at both hospitals had moderate levels of creative self-efficacy. There were statistical significant correlations between IC nurses' perception of justice in PA and their creative self-efficacy in both hospitals.

Recommendations

- Equip nursing supervisors with the required knowledge and skills about performance appraisal strategies and technique through training programs.
- Periodic evaluation of performance appraisal system, and procedures to match changes in the nurses' roles and ensure its suitability and objectivity.
- Frequent orientation for nurses regarding hospital policies and procedures of performance appraisal system.
- Recognize nurses' creative ideas and outstanding performance and encourage their autonomy.

Further research: determine the relation between justice in PA and patient safety.

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