Nurses' Attitudes toward Patient Safety and Its Relation to Clinical Judgment and Resilience

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Abstract

Background: Nurses' attitudes toward patient safety play an essential role in nurturing a safety-oriented culture in healthcare institutions, as well as in influencing their own clinical judgement and capacity to navigate complex scenarios effectively. **Aim**: Assess nurses' attitudes toward patient safety and its relation to clinical judgement and resilience. **Research design:** A descriptive comparative correlational research design was utilized. **Setting:** The study was carried out at Intensive Care Units of Tanta University Main Hospital and El-Menshawy General Hospital **Subjects:** Included all (635) nurses at previous mentioned setting. **Instruments:** Three instruments were used; nurses' attitudes towards patient safety questionnaire, clinical judgment questionnaire and nurses' resilience scale. **Results:** Majority of nurses had positive attitude toward patient safety at two study hospitals. Nearly seventy percent of nurses had a satisfactory level of clinical judgment at Tanta University Main Hospital, while over two-thirds at El-Menshawy General Hospital. In relation to overall resilience, at Tanta University main hospital more than thirty percent of nurses had a high level compared to over half at El-Menshawy General Hospital. **Conclusion:** There was a significant correlation between nurses' attitudes and both clinical judgment and resilience in the total sample and in both hospitals. Additionally, a significant correlation was observed between clinical judgment and resilience. **Recommendation:** Nurse managers should organize regular training sessions and workshops that focus on patient safety protocols, clinical judgement and resilience. Establish peer support groups or mentorship programs in which nurses can request guidance, exchange experiences, and obtain emotional assistance to enhance their resilience.

Key words: Clinical judgement, Nurses' Attitudes toward Patient Safety, Resilience

Introduction

Safety stands as a fundamental human requirement and is consistently given precedence in patient care. Patient safety is marked as preventing unnecessary hurt to patients and reducing the possibility of unintended consequences associated with medical care to an acceptable level. The prevalence of patient harm in healthcare settings, with approximately one in 10 patients affected and over 3 million deaths attributed to unsafe care annually, underscores a critical global issue. In lower- to middle-income nations, the impact is even more pronounced, with up to 4 out of every 100 individuals succumbing to unsafe care**.** This alarming rate of harm inflicted on hospitalized patients intensifies the imperative for nurses to prioritize the principle of patient safety. Nurses' attitudes toward patient safety is crucial in nurturing a safety-oriented culture within healthcare institutions, as well as in influencing their own clinical decision-making and capacity to navigate complex scenarios effectively **(Saberi et al., 2017; Biresaw et al., 2020; World Health Organization 2023).**

Nurses attitude to patient safety encompasses aspects like teamwork, safety atmosphere, job satisfaction, management perception, and working conditions**.** Effective teamwork not only safeguards patients and enhances outcomes but also cultivates a more positive, interactive, and resilient workplace**.** Safety climate represents a psychological construct reflecting staff attitudes towards safety conditions in a snapshot, influenced by environmental and situational variables**.** Job

satisfaction among nurses correlates with their motivation, engagement, and dedication to delivering secure care when they find gratification in their work environment **(Rosen et al., 2018; Mehri & Halvani, 2022; Yin et al., 2023; Abd Elnaby et al., 2023).**

Management perception: establishing a patient safety culture necessitates a committed and attentive management team capable of effectively communicating the patient safety vision throughout the organization**.** Working conditions: Nurses face challenges such as heavy workloads, extended shifts, fatigue due to irregular hours, role ambiguity, inadequate managerial support, diminished professional recognition, and strained work relationships, culminating in unfavorable work settings for nurses. These detrimental work environments can adversely impact nurses' performance and their decision making **(Er & Sökmen, 2018; Radwan et al., 2019).**

In the realm of healthcare services for patients, nursing as a profession encounters decision-making challenges. Nurses must exercise precise clinical judgments to address these obstacles and render effective, precise, and cost-effective decisions for their patients. Clinical judgment (CJ), a consequence of critical thinking and decision-making, is described as an iterative process. This process leverages nurses to observe and evaluate patient conditions, detect primary client issues, and devise optimal evidence-based solutions to enable the delivery of safe patient care **(Chen et al., 2021; Campbell et al., 2024).**

Clinical judgment encompasses four key dimensions: noticing, interpreting, responding, and reflecting. Noticing, the initial dimension, emphasizes the importance of nurses consistently and attentively monitoring patient symptoms to ensure accurate diagnostic judgments. The second dimension, interpreting, involves the process through which nurses attribute meaning to patient data using various forms of reasoning (analytical, narrative, and/or intuitive). Responding, the third dimension, signifies how nurses address patient issues and requirements based on past experiences, available information, and proficient nursing skills. The last dimension of nurses' CJ, reflecting, involves independent analysis of their interventions and a precise evaluation of the implications of their decisions **(Tanner, 2006; Connor et al., 2023; Dehghani, 2024).**

Resilience refers to an individual's holistic and internal capability to navigate difficult environments. Nurses must embody this crucial attribute to successfully surmount challenges in clinical environments, showcase their expertise, and aid patients in preserving their peak physical health. Resilience holds pivotal importance in the nursing profession, offering numerous notable advantages. Elevated resilience levels among nurses lead to enhanced overall well-being, including physical health, emotional equilibrium, and a feeling of satisfaction in both personal and professional spheres (**Park et al., 2019; Senocak et al., 2021).**

Nurses' resilience covers qualities of self-reliance, purpose or meaningfulness, equanimity, perseverance, and authenticity. Self-reliance embodies a nurse's confidence in their problem-solving abilities, honed through a lifetime of experiences that foster an understanding and acceptance of personal strengths and limitations. Purpose or meaningfulness involves believing in a higher purpose beyond current circumstances, providing a sense of direction. Equanimity is the practice of preserving a composed and moderate reaction in difficult circumstances and is frequently linked with possessing a sense of humor. Perseverance signifies the capability to persist and strive despite obstacles. Authenticity is connected to the distinctiveness of how each individual responds to a particular situation. **(Abou Haidar et al., 2023; ELsaeed et al., 2023).**

Significance of the study

The intensive care unit (ICU) stands out as one of the highest intricate and high-speed environments within the hospital, catering to critically ill patients. Ensuring patient safety at ICUs is a fundamental aspect of the quality and image of the health service, and it requires the collaborative efforts of various healthcare professionals. Among these professionals, nurses have a pivotal role in implementing patient safety measures and supporting the well-being of their patients (**Maghfiroh, 2023; Patil et al.,**

2023). Also, the quality of nursing care and the potential for errors are impacted by a range of nursing factors, including errors in judgment stemming from inadequate or inaccurate knowledge, limited experience, and personal values **(Jessee, 2021).** Resilience empowers nurses to adapt and manage difficult situations So, understanding the relationship between nurses' attitudes toward patient safety and their clinical judgment and resilience is crucial for enhancing patient outcomes and optimizing healthcare delivery.

Aim of the study:

The existing study aims to assess nurses' attitudes towards patient safety and its relation to clinical judgment and resilience

Research questions

- What are nurses' attitudes levels towards patient safety?
- What are nurses' clinical judgment levels?
- What are nurses' resilience levels?
- What is the relation between nurses' attitudes towards patient safety and their clinical judgment and resilience?
- Is there a difference between Tanta University Main Hospital and El-Menshawy General Hospital regarding nurses' attitudes towards patient safety and their clinical judgment and resilience?

Methods:

Research design: A descriptive, comparative, correlational design was employed to accomplish the current study's aim.

Research settings: This study was carried out at intensive care units (Cardiac, Neurology, Pediatric, Neonate, Medical ICU) of two setting; Tanta University Main Hospital (TUMH) that is affiliated to Ministry of High Education and Scientific Research and El-Menshawy General Hospital (EMGH) that is affiliated to Ministry of Health and Population.

Subjects:

Convenient sample composed of all available Intensive Care Units nurses (n=461) at Tanta University Main Hospital (Cardiac n= 139, Neurology n=194, Pediatric n= 25, Neonate n= 83, Medical ICU n= 20) and all available Intensive Care Units nurses (n= 174) at El-Menshawy General Hospital (Cardiac n= 30, Neurology n= 20, Pediatric n= 12, Neonate n= 52, Medical ICUs n= 60).

Instruments: Three instruments were utilized in this study as follows:

Instrument I: Nurses' Attitudes Towards Patient Safety questionnaire: consisted of two parts; **Part I:** Personal data of nurses as age, gender, marital status, educational level, experience years, and attending previous training about patient safety. **Part II:** centered on assessing nurses' attitudes towards patient safety questionnaire**.** It was developed by the researchers, guided by **Sexton et al., (2006)**, **Bahar, & Önler, (2020), and AL-Mugheed et.al (2022).** It comprised 27 items representing five dimensions: teamwork (6 items), safety climate (7 items), job satisfaction (5 items), management perception (5 items), and work conditions (4 items). A Five-point Likers-type scale was employed to measure nurses responses ranging from 1-5, as 1 for strongly disagree agree, 2 disagree, 3 neutral 4 agree, and 5 for strongly agrees. Based on the cut-off points, the nurses' attitudes are considered positive if equal to and or more than 50%, and negative if less than 50%

Instrument II: Clinical Judgment Questionnaire: It was developed by **Lasater, (2007)**), and modified by researchers based on **Tanner, (2006)**, **Cato et al., (2009), Ibrahim, & Aly, (2018), Lee, (2021), and Obied et al. (2024)**. It was used to assess nurses' clinical judgement. It had 22 items classified into four dimensions named as noticing (7 items), interpreting (5 items), responding (6 items), and reflecting (4 items). The nurses' responses were assessed based on a five points Likert Scale where 1= Never, 2= Rarely, 3= Sometimes, 4= Often, 5= Always. The total score of the nurses' responses was classified into two levels according to cutoff points as follow: Satisfactory clinical judgment (≥70%), and unsatisfactory clinical judgment (< 70%).

Instrument III: Nurses' Resilience scale: It was established by researchers grounded on **Connor& Davidson, (2003), Wagnild, (2009)**, **and ELsaeed et al., (2023).** It was used

to assess nurses' resilience levels. It involved 33 items divided into five dimensions named as existential aloneness (8 items), purpose (5 items), equanimity (8 items), perseverance (6 items), and self-reliance (6 items). The Likert Scale used in this instrument was five points as 1= Never, 2= Rarely, 3= Sometimes, 4= Often, 5= Always Levels of nurses' resilience will take scores of high resilience level > 75%, moderate resilience level 60% - 75%, low resilience level <60%.

Ethical Considerations: An agreement of the Scientific Research Ethical Committee at the Faculty of Nursing, Tanta University, was taken with Code Number 248 – 4-2023. Consent was secured from each participant before data gathering. The study's aim was explained to the study subjects, and participants' information was kept private. They were also given the guarantee that they could depart at any time without providing any explanation.

Validity and Reliability of instruments: Five nursing administration experts were invited to evaluate instruments' clarity, appropriateness, face, and content validity, and subsequent modifications were implemented in accordance with their feedback. The Content Validity Index was 96 %, 95%, and 97% for instruments I, II and III, respectively. Also, testing instruments' reliability through Cronbachs' Alpha Coefficient Factor to evaluate internal consistency that revealed (0.826), (0.926), and (0.866) for instruments I, II and III, respectively and indicated satisfactory internal consistency.

Pilot Study was conducted prior to data collection on 64 nurses that represent 10% of the sample size to assess the applicability and clarity of the study instruments, detect any problems, and approximate the required time to fulfill the instruments that was taken for 10–15 minutes by each nurse. Pilot study sample sizes weren't excluded from the subjects because no extensive adjustments were made.

Data collection's procedures: An official permission was gained from Chief Executive Officers and supervisors of both Tanta University Main Hospital and El-Menshawy General Hospital before collecting data. The study instruments have been presented in Arabic to be suitable for all educational backgrounds. Data were gathered from nurses by giving them instruments' sheet to fill in the presences of researcher. Nurses took about 10–15 minutes to finish the sheet. The four-month data collection period began in February 2024 and continued to the end of May 2024.

Statistical Analysis

Data analysis was done using version 20.0 (Armonk, NY: IBM Corp) of IBM SPSS software package. To illustrate the qualitative data numbers and percentages were utilized. To confirm the distribution's normality the Kolmogorov-Smirnov test was applied. The quantitative data were described as following metrics: mean standard deviation, median, and range (minimum and maximum). Significant results were judged at 5%. The used tests; Cronbach's Alpha test., Student t-test, Chi square test, F-test (ANOVA), and Pearson coefficient.

Results

Table (1): shows personal data of nurses at the two study hospitals. At Tanta University Main hospital (TUMH), more than half (52.3%, 57.0%, 55.7%) were at age group <30, female and unmarried respectively. More than sixty (68.3%, 64.2%, 60.5%) had Technical Nursing Institute, had <10 years of experience and didn't attain training program about patient safety.

While at EL-Menshawy General hospital (EMGH), more than sixty (60.9%, 69.5%,64.9%, 69.5%, 60.3%) of nurses (Ns) were at age group <30, female, married, had <10 years of experience, and attended training program about patient safety respectively. While 46.0% had a technical nursing degree and 36.8% had bachelor's degree.

Over half (50.1%, 54.6%) of the total sample were female and under the age of 30 with mean age 30.01 ± 6.55. More than sixty (60.5%,62.2%, 65.7%) of them were female, had a technical nursing degree, and had <10 years of experience respectively. 54.8% of the total sample attained training program about patient safety.

Figure (1): shows nurses' attitudes levels towards patient safety at the two study hospitals. In total sample and at TUMH approximately eighty percent of Ns exhibited a positive attitude

towards patient safety. Also, more than eighty percent of them had a positive attitude at EMGH.

Table (2): clarifies comparison between the two study hospitals regarding dime ions of nurses' attitudes towards patient safety. There was a significant difference between the two study hospitals in dimensions of job satisfaction, management, work conditions. At TUMH, 65.7%, 99.1%, and 66.4% of Ns had positive attitudes towards management, teamwork, and job satisfaction, respectively. In contrast, at EMGH, 81.6%, 80.5%, and 85.1% of Ns displayed positive attitudes towards these dimensions, respectively.

In total sample, over ninety percent (94.0%,92.6%) of Ns exhibited positive attitudes towards management and teamwork dimensions. Additionally, more than seventy (72.1%, 71.5%,70.1%) of them had positive attitude toward safety climate, work conditions and job satisfaction respectively.

Figure (2): shows comparison between the two study hospitals regarding whole levels of nurses' clinical judgment. Nearly seventy percent of Ns had a satisfactory level in total and at TUMH. while at EMGH, over two-thirds of Ns exhibited a satisfactory level of clinical judgment.

Table (3): shows comparison between the two study hospitals regarding nurses' clinical judgement dimensions levels. There was a significant difference between Ns at the two study hospitals in the dimensions of responding and reflecting. At TUMH, 62.0% and 72.0% of Ns demonstrated a satisfactory level in responding and reflecting, respectively. In contrast, at EMGH, 83.3% and 51.7% of Ns exhibited satisfactory levels in these two dimensions. In overall sample, 83 %, 73.2%, 67.9%, 66.5 of Ns had satisfactory level in noticing, interpreting, responding and reflecting dimensions of clinical judgement respectively.

Figure (3): shows comparison between the two study hospitals regarding whole levels of nurses' resilience. In total over forty percent of the study sample had moderate level of resilience. The comparison between the two study hospitals reveals that at TUMH, over forty percent of Ns showed a moderate resilience level, while over thirty percent of them demonstrated a high level. In contrast, at EMGH, over half of the Ns exhibited a high level of resilience.

Table (4): shows comparison between two study hospitals regarding dimensions of nurses' resilience. The table proves significant differences between the two hospitals in all dimensions of resilience except existential aloneness. At TUMH 48.8%, 20.6%, 32.8%, 58.6% had high level of resilience dimensions of purpose, equanimity, perseverance and self-reliance respectively. In contrast 39.7%, 42.0%, 47.1%, 46% had high level for the same dimensions at EMGH. 63%, 55.1%, 46.3% of total sample had high levels in dimensions of existential aloneness, self-reliance, purpose respectively. While over forty percent (46.5%, 43.9%) had a low level in equanimity and perseverance.

Table (5): displays the correlation among nurses' attitudes towards patient safety, judgment, and resilience The table indicates a significant correlation between Ns' attitudes and both clinical judgment and resilience in the total sample and in both hospitals. Additionally, a significant correlation was observed between clinical judgment and resilience.

Table (6): illustrates the relation among nurses' attitudes towards patient safety, judgment, and resilience with their personal data in the total sample. A significant relation was identified between Ns' attitudes towards patient safety and all aspects of personal data. Concerning clinical judgment, a relation was observed with all personal data except marital status and program attainment. Furthermore, a significant relation was noted between Ns' resilience and educational level, marital status, and experience at a significance level of $p \leq 0.05$.

Table (1): Personal data of nurses at the two study hospitals (n=635)

Nurses' Personal data	Total (n = 635)		Tanta University Main hospital (n = 461)		El-Menshawy General hospital (n = 174)		Test of Sig.	p
	No	%	No	%	No	%		
Age								
<30	347	54.6	241	52.3	106	60.9	χ^2= 12.843*	0.002*
30-<45	259	40.8	191	41.4	68	39.1		
≥45	29	4.6	29	6.3	0	0.0		
Min. – Max.	20.0 – 54.0		20.0 – 54.0		23.0 – 42.0		t=3.191	0.002
Mean ± SD.	30.01 ± 6.55		30.14 ± 7.15		29.67 ± 4.63			
Gender								
Male	251	39.5	198	43.0	53	30.5	χ^2= 8.245*	0.004*
Female	384	60.5	263	57.0	121	69.5		
Marital status								
Married	317	49.9	204	44.3	113	64.9	χ^2= 21.632*	<0.001*
Un Married	318	50.1	257	55.7	61	35.1		
Educational level								
Diploma in nursing	37	5.8	37	8.0	0	0.0	χ^2= 107.424*	<0.001*
Technical nursing degree	395	62.2	315	68.3	80	46.0		
Bachelor's degree of nursing sciences	172	27.1	108	23.4	64	36.8		
Postgraduate studies	31	4.9	1	0.2	30	17.2		
Years of experience								
<10	417	65.7	296	64.2	121	69.5	χ^2= 9.505*	0.023*
10-<20	172	27.1	123	26.7	49	28.2		
20-<30	32	5.0	28	6.1	4	2.3		
≥30	14	2.2	14	3.0	0	0.0		
Min. – Max.	1.0 – 34.0		1.0 – 34.0		1.0 – 20.0		t = 2.899*	0.004*
Mean ± SD.	8.39 ± 6.94		8.72 ± 7.55		7.51 ± 4.90			
Attending previous training about patient safety							χ^2= 22.203*	<0.001*
Yes	287	45.2	182	39.5	105	60.3		
No	348	54.8	279	60.5	69	39.7		

SD: **Standard deviation** **t: Student t-test** χ^2: **Chi square test**
p: p value for comparing between the studied group. *: Statistically significant at p ≤ 0.05

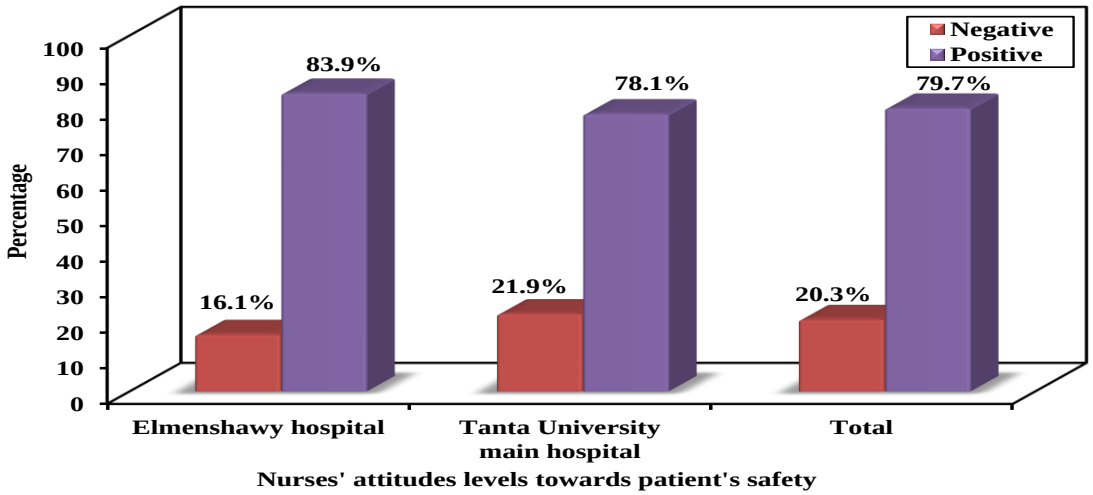

Figure (1): Nurses' attitudes levels towards patient safety at the two study hospitals

Table (2): Comparison between the two study hospitals regarding dimensions of nurses' attitudes towards patient safety (n=635)

Dimensions of nurses' attitudes towards patient safety	Total (n = 635)		Tanta University Main hospital (n = 461)		El-Menshawy General hospital (n = 174)		Test of Sig.	p
	No	%	No	%	No	%		
Teamwork								
Negative (< 50%)	47	7.4	29	6.3	18	10.3	χ^2= 3.029	0.082
Positive (≥50%)	588	92.6	432	93.7	156	89.7		
Safety Climate							χ^2= 0.798	0.372
Negative (< 50%)	177	27.9	133	28.9	44	25.3		
Positive (≥50%)	458	72.1	328	71.1	130	74.7		
Job Satisfaction							χ^2= 15.197*	<0.001*
Negative (< 50%)	190	29.9	158	34.3	32	18.4		
Positive (≥50%)	445	70.1	303	65.7	142	81.6		
Management Perception							χ^2= 78.284*	<0.001*
Negative (< 50%)	38	6.0	4	0.9	34	19.5		
Positive (≥50%)	597	94.0	457	99.1	140	80.5		
Work Conditions							χ^2= 21.629*	<0.001*
Negative (< 50%)	181	28.5	155	33.6	26	14.9		
Positive (≥50%)	454	71.5	306	66.4	148	85.1		

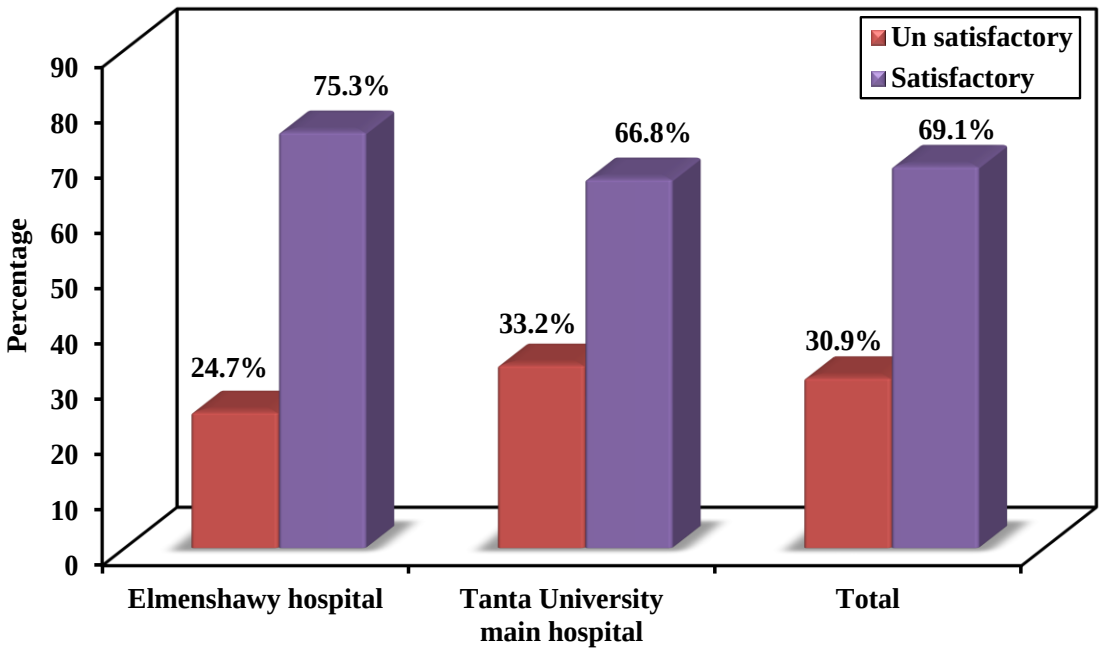

Figure (2): Comparison between the two study hospitals regarding whole levels of nurses' clinical judgment

Table (3): Comparison between the two study hospitals regarding nurses' clinical judgement dimensions levels (n=635)

Dimensions of nurses' clinical judgment	Total (n = 635)		Tanta University Main hospital (n = 461)		El-Menshawy General hospital (n = 174)		Test of Sig.	p
	No	%	No	%	No	%		
Noticing								
Un satisfactory (< 70%)	108	17.0	72	15.6	36	20.7	χ^2= 2.302	0.129
Satisfactory (≥70%)	527	83.0	389	84.4	138	79.3		
Interpreting								
Un satisfactory (< 70%)	170	26.8	118	25.6	52	29.9	χ^2= 1.185	0.276
Satisfactory (≥70%)	465	73.2	343	74.4	122	70.1		
Responding								
Un satisfactory (< 70%)	204	32.1	175	38.0	29	16.7	χ^2= 26.269*	<0.001*
Satisfactory (≥70%)	431	67.9	286	62.0	145	83.3		
Reflecting								
Un satisfactory (< 70%)	213	33.5	129	28.0	84	48.3	χ^2= 23.336*	<0.001*
Satisfactory (≥70%)	422	66.5	332	72.0	90	51.7		

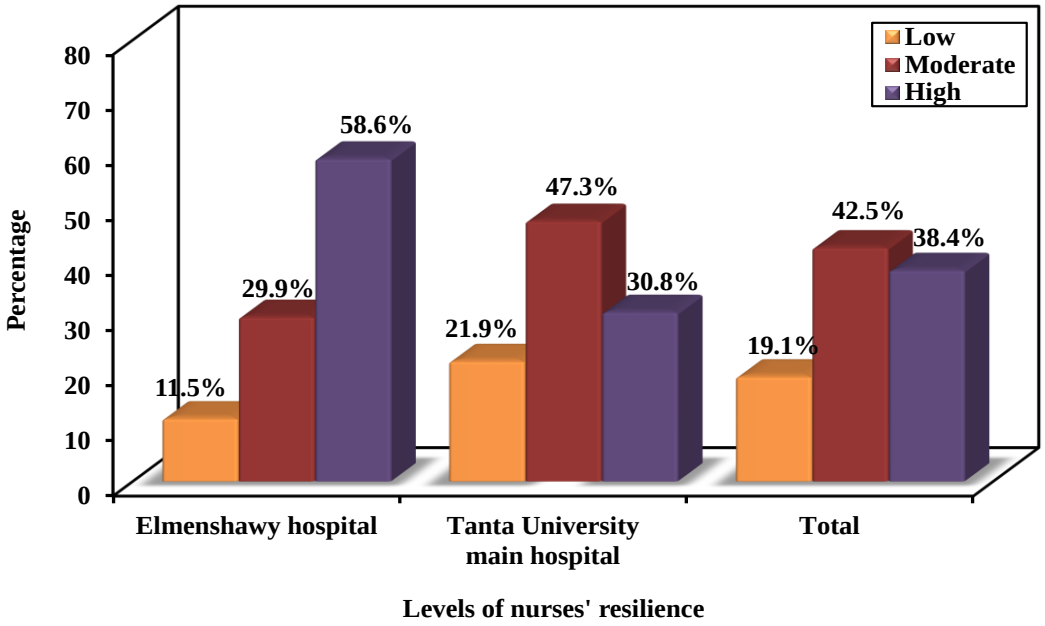

Figure (3): Comparison between two study hospitals regarding whole levels of nurses' resilience

Table (4): Comparison between two study hospitals regarding dimensions of nurses' resilience (n=635)

Dimensions of nurses' resilience	Total (n = 635)		Tanta University main hospital (n = 461)		El-Menshawy General hospital (n = 174)		Test of sig.	p
	No	%	No	%	No	%		
Existential aloneness								
Low < 60%	89	14.0	71	15.4	18	10.3	χ^2= 3.187	0.203
Moderate 60% – 75%	146	23.0	101	21.9	45	25.9		
High > 75	400	63.0	289	62.7	111	63.8		
Purpose								
Low < 60%	151	23.8	126	27.3	25	14.4	χ^2= 31.862*	<0.001*
Moderate 60% – 75%	190	29.9	110	23.9	80	46.0		
High > 75	294	46.3	225	48.8	69	39.7		
Equanimity								
Low < 60%	295	46.5	263	57.0	32	18.4	χ^2= 76.373*	<0.001*
Moderate 60% – 75%	172	27.1	103	22.3	69	39.7		
High > 75	168	26.5	95	20.6	73	42.0		
Perseverance								
Low < 60%	279	43.9	245	53.1	34	19.5	χ^2= 63.703*	<0.001*
Moderate 60% – 75%	123	19.4	65	14.1	58	33.3		
High >75	233	36.7	151	32.8	82	47.1		
Self-Reliance								
Low < 60%	185	29.1	155	33.6	30	17.2	χ^2= 82.601*	<0.001*
Moderate 60% – 75%	100	15.7	36	7.8	64	36.8		
High > 75	350	55.1	270	58.6	80	46.0		

Table (5): Correlation among nurses' attitudes towards patient safety, judgment, and resilience

Study variables	Tanta University Main hospital (n =461)		El-Menshawy General hospital (n =174)		Overall (n =635)	
	R	P	R	P	R	P
Nurses' attitude towards patient safety vs their clinical judgement	0.883*	<0.001*	0.259*	<0.001*	0.704*	<0.001*
Nurses' attitude towards patient safety vs nurses' resilience	0.307*	<0.001*	0.397*	<0.001*	0.312*	<0.001*
Nurses' Clinical judgement vs their resilience	0.236*	<0.001*	0.660*	<0.001*	0.348*	<0.001*

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

Table (6): Relation among nurses' attitudes towards patient safety, judgment, and resilience with their personal data in the total sample (n=635)

Personal data of nurse	Nurses' attitudes towards patient safety	Clinical judgment	Nurses' resilience
	Mean ± SD.	Mean ± SD.	Mean ± SD.
Age			
<30	98.74 ± 13.73	93.70 ± 8.87	128.30 ± 19.86
30 – <40	92.09 ± 14.12	87.03 ± 12.0	128.64 ± 11.97
> 45	91.69 ± 14.67	86.52 ± 11.08	122.0 ± 18.46
F= ()	**18.148* (<0.001*)**	**33.169* (<0.001*)**	**2.015 (0.134)**
Gender			
Male	94.22 ± 15.63	89.54 ± 12.41	128.26 ± 13.35
Female	96.68 ± 13.29	91.38 ± 9.68	128.08 ± 19.09
t (p)	**2.060* (0.040*)**	**1.983* (0.048*)**	**0.146 (0.884)**
Marital status			
Married	97.85 ± 14.39	91.25 ± 11.41	130.83 ± 14.22
Un Married	93.58 ± 13.91	90.05 ± 10.28	125.48 ± 19.11
t (p)	**3.801* (<0.001*)**	**1.390 (0.165)**	**4.0* (<0.001*)**
Educational level			
Diploma in nursing	91.32 ± 14.03	86.27 ± 10.74	122.0 ± 18.51
Technical nursing degree	95.84 ± 14.11	90.40 ± 11.18	126.57 ± 16.59
Bachelor's degree of nursing sciences	94.79 ± 15.07	91.39 ± 10.18	131.17 ± 17.52
Postgraduate studies	104.29 ± 8.56	94.94 ± 9.01	138.84 ± 10.63
F (p)	**5.229* (0.001*)**	**3.999* (0.008*)**	**8.919* (<0.001*)**
Years of experience			
<10	98.39 ± 13.48	93.75 ± 9.08	126.19 ± 19.09
10–<20	89.76 ± 14.55	83.74 ± 11.60	133.58 ± 8.67
20–<30	91.09 ± 13.53	87.19 ± 10.86	126.50 ± 14.97
≥30	99.50 ± 13.27	91.07 ± 10.36	123.50 ± 20.77
F (p)	**17.518* (<0.001*)**	**42.488* (<0.001*)**	**8.388* (<0.001*)**
Attending previous training about patient safety			
Yes	97.12 ± 13.84	91.11 ± 10.44	128.10 ± 21.17
No	94.54 ± 14.59	90.26 ± 11.21	128.19 ± 12.70
t (p)	**2.265* (0.024*)**	**0.988 (0.324)**	**0.058 (0.954)**

SD: **Standard deviation** **t: Student t-test** **F-test**

p: p value for comparing between the studied group. *: Statistically significant at $p \leq 0.05$

Discussion

The healthcare system places a significant emphasis on patient safety to enhance care quality and minimize issues. Patient safety has become increasingly crucial in the healthcare sector, particularly in nursing **(Biresaw et al., 2020).** Nurses are necessitated to enhance their judgment capabilities to meet their patients' needs effectively. They must be adept at processing and integrating information, drawing conclusions, and implementing solutions to address their patients' concerns with sound clinical judgment (CJ) **(Hoeve et al., 2014).** It is essential for nurses to develop excellent cognitive and clinical skills to ensure accurate, reliable, and valid clinical judgment; and to enhance their resilience. Therefore, the study's aim was to assess nurses' attitudes towards patient safety and explore how these attitudes relate to clinical judgment and resilience.

The current findings illustrated that most nurses in the total sample demonstrated a positive patient safety attitude (PSA). Around eighty percent of nurses at Tanta University main hospital (TUMH) exhibited a positive PSA, whereas at El-Menshawy General hospital (EMGH), over eighty percent showed a positive PSA. This inclination towards PS was linked to over fifty percent of these nurses having participated in prior patient safety training.

Additionally, attributions were made to the supportive managerial environment, safety climate, and collaborative teamwork within the workplace. Effective and encouraging leadership, which places importance on patient safety and establishes transparent expectations for the staff, can significantly shape the attitudes of nurses towards this critical aspect of healthcare.

In the line of the present result, **Ayyad et al., (2024), Mohammed et al., (2022)** affirmed a positive attitude of Ns. **Wake et al., (2021) and Biresaw et al., (2020)** found that more than half of the Ns had a positive PSA. **Zhao et al., (2019)** indicated a good safety attitude. **Albagawi, (2024)** showed that Ns had moderate attitudes towards patient safety. This result conflicts with **Hussein et al., (2022) who** revealed a negative PS among Ns. **Alqahtani, & Evley, (2020)** found an unsatisfying safety level. Also, **Tunçer Ünver and Harmanci Seren (2018)** showed negative participants' attitudes.

Regarding patient safety dimensions, there was a significant difference between the two hospitals in dimensions of job satisfaction, management, work conditions. At Tanta University Main Hospital nearly all and over sixty had positive attitudes towards teamwork, management, and job satisfaction, respectively. In contrast, at EMGH the majority of nurses displayed positive attitudes for these dimensions. This may be attributed to the fact that at TUMH there is a higher level of workload and stress than at EMGH. Also training and education programs related to patient safety at the hospitals can impact how nurses perceive and prioritize dimensions.

In consensus with the present result, **Ayyad et al., (2024)** found teamwork was reported at more than sixty of the participants. **Danielsson et al., (2019)** reported the highest rated dimensions was teamwork. **Zhao et al., (2019)** showed higher than three quarters of the sample in the management perception and job satisfaction. The totals of the teamwork climate and safety climate were good. In contrast, **Alzahrani et al., (2018)** reported lower ratings of teamwork climate. **Akbari et al., (2023)** discovered the minimal percentages were accounted for the management perception. In this regard, **Mohammed et al., (2022)** showed that the height positive attitudes were for job satisfaction then management, safety climate, and teamwork climate.

According to the existing study, about seventy percent of studied nurses had a satisfactory clinical judgment (CJ) level at TUMH. While over two-thirds at EMGH. This is because the majority of Ns had satisfactory level in noticing, interpreting, responding, and reflecting dimensions of CJ. Nurses in the two hospitals monitor the patient's overall health, were attentive to the patient's response throughout nursing care; consider the patient's needs; assess the patient's condition using both objective and subjective data; consult with colleagues about patient care; maintain effective and transparent connection with patients; use clinical experience for CJ; and communicate the outcomes of nursing care with the patient when required.

In harmony with the present result, **Abunab et al., (2023)** pointed out obvious improvements in CJ. **Zarrin et al., (2023)** indicated high level of reflection in nurses. Also, **Maharmeh et al., (2016)** revealed one of the key elements that determines a nurse's capacity for deciding is experience. It has been observed that clinical experience boosts nursing care. Nurses use a variety of information sources, including their professional knowledge, experience, patient stories, and guidance from physicians and colleagues. So, it is crucial for nurses to demonstrate sound clinical judgment in a challenging and complex healthcare setting. In contrast, **Obied et al., (2024)** declared that the participants were in the beginning stage of CJ.

[The comparison between the two study hospitals reveals that at Tanta University Main Hospital, over forty percent of nurses showed a moderate level of resilience, while over thirty percent of Ns demonstrated a high level. In contrast, El-Menshawy Hospital, over half of the Ns exhibited a high resilience level. This may be attributed to the personal characteristics of nurses in both hospitals as the significance relation was observed between resilience and marital status, educational levels, and experience. **Randall et al., (2023)** confirmed that resilience is influenced by personal factors and can be acquired gradually. Higher resilience assisted nurses in accomplishing their goals and

kept them from becoming emotionally stressed. The current findings align with **Elghabbour et al., (2023)** who delineated a high resilience level among studied Ns. **Yan et al., (2022), and Çam & Büyükbayram, (2017)** demonstrated a moderate resilience level. While **Rayani et al., (2024), Ren et al., (2018), and Rushton et al., (2015)** contradicted this study and indicated a low resilience level.

The present result demonstrated a significant correlation between Ns' attitudes regarding patient safety (PS) and both clinical judgment and resilience in the total sample and in both hospitals. The existing study exhibited a significant correlation was observed between clinical judgment and resilience. This result may be because patient safety makes nurses attentive to patients. So, nurses exercise proper clinical judgment that requires nurses to be more resilient as well as flexible to achieve high patient care quality. In accordance with the current result, **Albagawi, (2024)** declared that improving patient safety procedures is critical for promoting nurses' resilience. **De Miguel et al., (2023)** supported the relation between patient safety and resilience. Also, **Vos et al., (2020)** confirmed that one major source of resilience in the health care system is nursing. Some nurses' behaviors that might be considered deviations from recommended standards or best practices can be terminated by logical clinical judgment to improve safety in light of the specific involved circumstances.

The present findings highlighted a significant relationship was identified between Ns' attitudes towards patient safety and all aspects of personal data. Concerning clinical judgment, a relationship was observed with all personal data except marital status and program attainment. **Salih et al., (2021)** disclosed that the experience, educational level, and attending training had a high effect on nurses' attitude. **Alqahtani, & Evley, (2020)** declared a statistically significant difference was observed between the safety attitudes and participants' level of education. **Zhao et al., (2019)** illustrated that sex, age, degree, occupational function, experience, and involvement in training all considerably influenced safety attitudes. In contrast, **Akbari et al., (2023)** declared no significant association between the safety attitude and age or experience. **Bahar, & Önler, (2020)** found no statistically significant difference across years of experience and PS.

Conclusion

The comparison between nurses at Tanta University Main Hospital and El-Menshawy General Hospital revealed that 78.1% of nurses at Tanta University Main Hospital as well as 83.9% at El-Menshawy General Hospital exhibited a positive attitude towards patient safety. Moreover, 66.8% and 75.3% of nurses at Tanta University Main Hospital and El-Menshawy General Hospital, respectively, demonstrated a satisfactory level of clinical judgment. When it comes to overall resilience, 30.8% of nurses at Tanta University Main Hospital and 85.6% at El-Menshawy General Hospital exhibited a high resilience level. Notably, a significant correlation was found between nurses' attitudes and both clinical judgment and resilience in the total sample and at both hospitals. Additionally, a significant correlation was observed between clinical judgment and resilience.

Recommendations

In practice, nurse managers should organize regular training sessions and workshops that focus on patient safety protocols, and resilience. Introduce a reward system to acknowledge and motivate positive attitudes toward patient safety. Establish peer support groups or mentorship programs in which nurses can request guidance, exchange experiences, and obtain emotional assistance to enhance their resilience. Provide ongoing education and training programs to improve clinical judgement and critical thinking among nurses. In education, implement routine case studies and simulation exercises to enhance nurses' capacity to make effective clinical judgments. Encourage collaboration and teamwork to foster a culture of ongoing learning and improvement. For further research, conduct a longitudinal study to track changes in nurses' attitudes towards patient safety, clinical judgment, and resilience over an extended period.

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