

Perception of Nurses Toward Working at High Reliability Healthcare Organizations: The Association to Nurses' Psychological Safety and Intention to Stay

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ABSTRACT: Background: High-reliability organizations (HROs) of healthcare are facing tough challenges to improve nurses' psychological safety and intent to stay through maintaining organizational resources, work flexibility, environmental safety, and effectively managing stress and anxieties the nurses face in the workplace. **Aim:** This study aims to identify the relation between perception of working at HRO, psychological safety and intent to stay among Dar Al-Fouad Hospital nurses. **Design:** A correlational ex-post facto research. **Setting:** The study was conducted at Dar Al Fouad Hospital. **Study subjects:** A simple random sample of nurses who are working in Dar Al Fouad Hospital n=225. **Tools:** Three instruments were used in this study: the instrument one **Part (1) - personnel data, Part (2) - Safety Organizing Scale;** instrument two - team psychological safety scale, and instrument three - nurses' intent to stay scale. **Results:** The total perception levels of HRO was moderate 64.5%, psychological safety was moderate 75.6%, and intent to stay was moderate 89.3% among the studied sample. **Conclusion:** There was negative statistical significance relation between staff nurses' total perception level regarding HRO, and psychological safety and intent to stay. **Recommendation:** Health care managers at HRO work to improve nurses' psychological safety and intent to stay through providing personal and professional support, encouraging to report mistakes, ask questions, receive effective feedback, and see mistakes as opportunities to learn.

Keywords: High reliability organization; Intent to stay; Psychological safety.

إدراك الممرضين تجاه العمل في مؤسسات الرعاية الصحية ذات الموثوقية العالية: العلاقة بين السلامة النفسية للممرضين ونيتهم للبقاء

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المخلص: تواجه مؤسسات الرعاية الصحية ذات المصدقية العالية تحديات خطيرة وتحاول تحسين السلامة النفسية للممرضين وعزمهم على البقاء من خلال الحفاظ على الموارد التنظيمية، ومرونة العمل، والسلامة البيئية، وإدارة التوتر والقلق الذي يواجهونه في مكان العمل بشكل فعال. الهدف: تهدف هذه الدراسة إلى التعرف على العلاقة بين ادراك العمل في منظمة ذات موثوقية عالية والسلامة النفسية والنية للبقاء لدى ممرضين مستشفى دار الفؤاد. التصميم: بحث ارتباطي وصفي. المكان: أجريت الدراسة في مستشفى دار الفؤاد. عينة الدراسة: عينة عشوائية بسيطة من الممرضين العاملين في مستشفى دار الفؤاد عددهم (225). الأدوات: تم استخدام ثلاث أدوات في هذه الدراسة، الأداة الأولى الجزء (1): بيانات الموظفين الجزء (2): مقياس تنظيم السلامة، والأداة الثانية مقياس السلامة النفسية للفريق، والأداة الثالثة هي نية الممرضين في البقاء. النتائج: كانت مستويات الإدراك الكلي للمنظمة ذات الموثوقية العالية الإنتاج: توجد علاقة ذات دلالة إحصائية متوسطة 64.5%، والسلامة النفسية متوسطة 75.6%، والنية في البقاء متوسطة 89.3% لدى عينة الدراسة سلبية بين مستوى الإدراك الكلي للممرضين العاملين فيما يتعلق بالمنظمة ذات الموثوقية العالية، والسلامة النفسية والنية في البقاء التوصية: يعمل مديرو

الرعاية الصحية في مكتب حقوق الإنسان على تحسين السلامة النفسية للممرضين ونيّتهم للبقاء من خلال تقديم الدعم الشخصي والمهني، وتشجيعهم على الإبلاغ عن الأخطاء، وطرح الأسئلة، وتلقي ردود فعل فعالة، ورؤية الأخطاء كفرص للتعلم.

الكلمات المفتاحية: منظمة ذات موثوقية عالية، نية البقاء، السلامة النفسية.



1. Introduction

Setting healthcare organizations that are highly reliable to decrease patient harm that is avoidable is a global priority. The World Health Organization (WHO) considered setting organizations that are high reliable as one of the seven strategic objectives in the Patient Safety Action Plan to reduce patient harm that is avoidable. Achievement of high reliable organizations (HRO) principles improve the ability of the organization to deliver high quality care, as well as comprehend the complexity of the large-scale clinical transformation system. In an effort to improve safety, healthcare leaders consider HROs as organizations that maintain exceptionally safe operations despite hazardous and critical conditions at health care practices [39,30].

HRO is a healthcare organization that operates in a high-risk setting and has an extraordinary track record of safety and reliability and focus on patient safety and high-quality and prevention tactics in hospitals to decrease potential hazards and avoid mistakes [1,11]. HRO achieve that through operations include performing routine risk assessments, root cause analysis to determine the root causes of errors, use technologies and instruments for data monitoring and analysis, risk identification, and process improvement, continuous learning and cooperation, accountability and development, and transparency and putting in place policies and procedures to decrease the likelihood of mistakes and accidents [14]. To achieve HRO journey, health care organizations need to improve nurses' psychological safety in which nurses feel free to express their opinions, take risks, and speak up without worrying about retaliation or unfavourable outcomes. HRO can achieve that through efficient communication and collaboration among healthcare professionals that in turn improve patient outcomes and reduce the possibility of errors [5].

Psychological safety is crucial in the healthcare field. When healthcare professionals feel psychologically safe, they are able to share concerns and ideas with each other, communicate openly with honest feedback, promote a culture of learning and development and report mistakes or near misses without fear of reprisal or punishment, all that help to effectively identify potential dangers and avert errors for patients [22,18].

A global decline in health services numbers may result from staff shortages that will worsen in the future. Healthcare managers and leaders must develop and support current nurses. HRO needs to create healthy work

environments to improve sustainability of nursing workforce and determine the nurses' intention to stay in or leave the hospitals [38,2]

Intention to stay (ITS) incorporates behaviour before leaving the position and also the psychological tendency in which the increasing level of (ITS) among staff nurses help to improve the nurses' retention and at the same time reduce turnover. Nurse manager should pay attention to improving nurses' intention to stay through providing effective organizational and superior support and justice, improving job conditions, nurses' treatment and control of job tasks, income and working time and enhancing nurses' job satisfaction [18].

Additionally, the intention to remain in the healthcare organizations can be influenced by psychological safety. Healthcare professionals are more likely to feel interested, motivated, and committed to their work when they feel psychologically protected. Additionally, they are more likely to feel encouraged by their bosses and co-workers, which might enhance a feeling of connectivity and belongingness to the company. In turn, this may increase their desire to work for the organization in the long run [26].

Overall, there is a link between psychological safety, intent to stay, and high reliability hospitals among healthcare professionals. High dependability hospitals can enhance patient outcomes, boost nurses' engagement and retention, and ultimately give their patients high quality, dependable treatment by prioritizing patient safety, fostering a culture of safety, and supporting psychological safety [35]. HRO is an organizational approach working on achieving safety, quality, and efficiency goals. HRO uses principles of 'collective mindfulness' to look for minor issues or dangerous situations when they are simple to resolve and before they pose a serious risk to the organization. Providing access to appropriate data and information, putting the best evidence into practice, and empowering the healthcare staff are some of the basic principles that high-reliability health care organizations put in place with a view to offering the best possible patient care. Implementation of these principles go a long way to improve nurses' psychological safety and intention to stay [36]. In Egypt, there is a strong demand for transforming hospitals into high-reliability health care organizations in order to achieve safety and quality. Additionally, many international researches confirmed that working in high-reliability health care organizations has a positive effect on nurses' psychological safety and intention to stay. It was against this backdrop that the current study

was conducted to identify association between perception of working at high reliability health care organizations, psychological safety and intention to stay among Dar Al-Fouad Hospital nurses.

Purpose of the study

The study aims to identify association between perception of working at high reliability health care organizations, psychological safety and intention to stay among Dar Al-Fouad Hospital nurses.

Research Question

What is nurses' perception of working at high reliability organization?

1. What are the levels of psychological safety among nurses?
2. What are the levels of intention to stay among nurses?
3. What is the relation between nurses' perception of working at high reliability organization (HRO), psychological safety and intention to stay among Dar Al-Fouad Hospital nurses?

Methods

Research Design

Correlational ex-post facto research design uses to attain goal of study. This research design intended to study relationship between variables without manipulation [29].

Setting

This study was conducted at Dar Al-Fouad Hospital, which was developed in 1999 with a bed capacity of 141. Dar Al-Fouad Hospital is located in Giza, Egypt, on the outskirts of Cairo. Orthopaedics, cardiology, cancer, organ transplant, and cardiothoracic surgery are among its departments. Dar Al Fouad Hospital offers both medical and surgical services to its patients.

Sample

Simple random sample of nurses employed in Dar Al Fouad Hospital. The following formula was used to calculate the sample. (Tejda & Punzalan, 2012):

$$n = \frac{N}{1 + N(e)^2}$$

Where

N → total numbers of staff nurses are (500) nurse.

n → sample size

e → error tolerance (.05)

1 → a constant value

The total number of nurses in Dar Al Fouad Hospital is 500 during the period of data collection, so sample is 225 according to the pre mentioned equation.

Instruments

Three tools were used to collect data:

Instrument one:

Part (1): personnel data includes nurses' age, gender, educational level, nursing experience years, specialty, and organization's magnet status (yes, no, working toward it, unsure).

Part (2): Safety Organizing Scale. It was established by [37] to evaluate nurse's perception toward HRO. It included nine items divided into five subscales preoccupation with failure (2 items), reluctance to simplify interpretations (1 item), sensitivity to operations (2 items), commitment to resilience (2 items) and deference to expertise (2 items). Scale has seven point likert scale 1 meaning "not at all" and 7 meaning "to a very great extent." For the full scale, the internal consistency (Cronbach's alpha) was found to be 0.88.

Scoring system: Total scores of Safety Organizing Scale range between 9 and 63. Scores 9-27 indicated low perception level toward HRO; 28-43 indicated moderate perception level toward HRO and 44-63 high perception level toward HRO.

Instrument two: - Team Psychological Safety Scale. It was established by [12] to measure psychological safety level among nurses. It contained seven items, each on a 5-point Likert scale for scoring "1" = "Never" to "5" = "Always". The composite average of these seven items is used to determine the final score. Cronbach's alpha was used to measure internal consistency, and the result was .622.

Scoring system: Total scores of Team Psychological Safety Scale range between 7 and 35. Scores 7-16 indicated low level of psychological safety; 17-26 indicated moderate psychological safety and 27-35 high level of psychological safety.

Instrument three: - Nurses' Intent to Stay Scale: which was established by [19] to evaluate nurses' intention to stay at work. It contains five items. The scale was valued as: strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). The McCain's Subscale of Intent to Stay had a Cronbach's alpha of .93.

Scoring system: Total scores of Nurses' Intent to Stay Scale range between 5 and 25. Scores ranging from 5 to 11 represented low intention to stay, 12 to 18 represented moderate intention to stay, and 19 to 25 represented strong intention to stay.

Behavioural Commitment Scale [19] The MBCS consists of 38 items; McCain extracted 5 items from this scale to measure nurses' intent to stay [20]. The short version of MBCS was used in the current study. The scale was rated as follows: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. The Cronbach α of the McCain's Subscale of Intent to Stay was .90. In the current study, the Cronbach α was .93

Validity

A panel of five specialists, comprising two professors of mental nursing and three professors of nursing administration, reviewed the three instruments to ensure their validity and made any necessary modifications. The changes were made in order to determine their completeness and significance.

Pilot study

It was conducted on 25 nurses (10% of the sample) to test the instruments' applicability and practicability as well as to estimate the time needed to fill them out, after they were developed but before data collection began. Nothing had been changed that needed to be changed. As a result, the pilot research was part of the entire sample.

Ethical Consideration

The study's ethical guidelines and participant rights were carefully considered throughout its conduct. In order to protect respondent rights, voluntary participation was required. Informed consent was obtained by outlining the study goals, methods, potential benefits, data collection procedures, expected results, and respondent right to withdraw from the study at any time if his/her rights were violated.

The protocol of the study was revised and approved by the Menoufia University Faculty of Nursing's Ethical Research Committee before the study began. The respondent was also given the assurance that the data would be treated as strictly confidential by coding it and that their anonymity would be maintained. The researchers employed intuiting and bracketing to assure objectivity in their research. In order to improve collaboration throughout the implementation phase of the study, the researchers thoroughly explained the purpose of the study to the nurses. Each participant in the study was then asked for their unique oral agreement.

Data collection procedure

Before beginning data collection, a formal letter from the Menoufia University Dean of the Faculty of Nursing outlining the goals of the study and the procedures for gathering data was sent, and the Dar Al Fouad Hospital

granted written authorization to conduct the study. The study's data collection took place over the course of six months, starting on January 1 and concluding on June 30, 2023. The researcher gave a brief introduction to the nurses who participated in the study, outlining its goals and the procedures for gathering data. The researcher gave a brief introduction to the nurses who participated in the study and went over the goals and techniques for gathering data. Five days a week, the researcher conducted interviews with study participants. The questionnaire sheet took fifteen minutes and twenty seconds to complete. Depending on the nature of the work and the workload of each department, the best time to collect data varied depending on the shift—sometimes it was in the middle of the shift, and other times it was before the end (morning and evening). Participants' response rate was 98%.

Statistical Analysis

Version 22 of the SPSS (Statistical Package for Social Science) statistics package was used to enter and analyze data. Graphics were created with the Excel software. The mean and standard deviation were computed for the quantitative data. Frequency analysis was done for qualitative data. Spearman's correlation coefficient (r) was used to assess the correlation between variables in cases when the data were not regularly distributed. The significance level used to interpret the findings of the significance tests (*) was set at $P < 0.05$. Additionally, a very significant threshold of $P < 0.01$ was used to evaluate the significance test results (**). Kruskal-Wallis H Test and Mann-Whitney U Test were used to measure difference means between variables [13].

Results

Table 1. Distribution of the studied sample according to their personal characteristics (N=225).

Personal characteristics	N	%
Age		
Less than 20 years	43	19.1
From 20 to less than 25	27	12.0
From 25 to less than 30	118	52.4
30 to above	37	16.4
Experience years		
Less than one year	96	42.7
From one year to less than 5	43	19.1
From 5 year to less than 10	63	28.0
10 years to above	23	10.2
Academic qualification		
Diploma of nursing	0	0
Institute of nursing	52	23.1
Bachelor of nursing	129	57.3
High studies	44	19.6

Gender		
Male	158	70.2
Female	67	29.8
Unit in which you work		
Critical care units	126	56.0
Inpatient	99	44.0

Table (1): Illustrates percentage distribution of personal characteristics of the studied sample. It showed that the highest percent of the studied sample' age was (52.4 %) while the highest percent of the studied sample' experience years was (42.7 %). Furthermore, the highest percent of the studied sample had bachelor degree in nursing (57.3 %); were male (70.2%) and working at critical care units (56.0%).

Table 2. Distribution of nurses according to their perception level regarding working at HRO's dimensions (N=225).

HRO dimensions	Mean ± SD
Preoccupation with failure	8.81 ± 3.19
Reluctance to simplify interpretations	7.95 ± 2.07
Sensitivity to operations	4.51 ± 1.67
Commitment to resilience	8.14 ± 1.74
Deference to expertise	9.99 ± 1.49

Table (2): Shows distribution of nurses according to their perception level regarding to working at high reliability organization's dimensions. It illustrated that the highest mean of the studied sample regarding perception level of high reliability organization's dimensions was related to deference to expertise dimension (9.99 ± 1.49), while the lowest mean was related to sensitivity to operations dimension (4.51 ± 1.67).

Figure 1. Distribution of nurses according to their perception level regarding working at HRO (N=225).

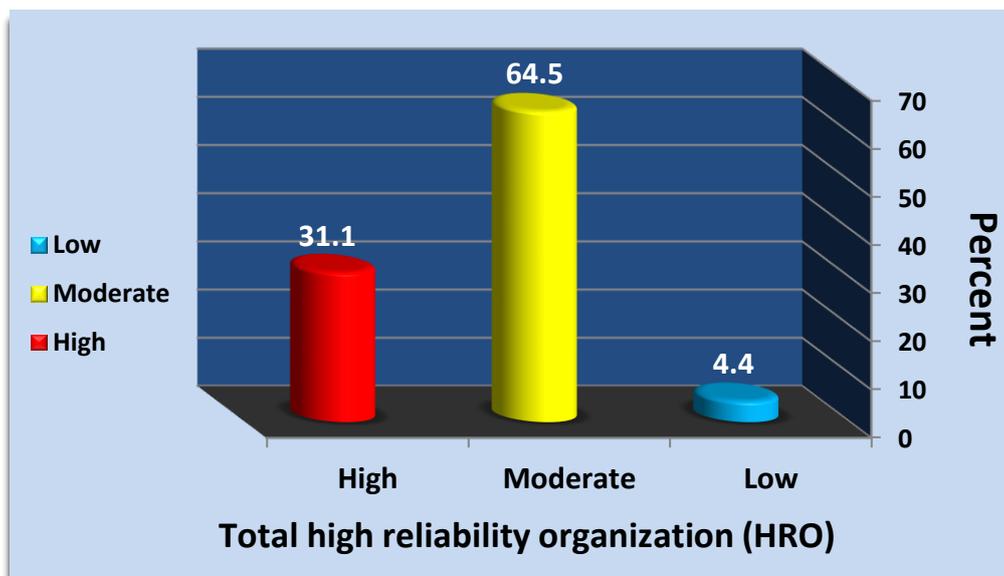


Figure (1) shows distribution of nurses according to their perception level regarding working at HRO. It illustrated that the total perception level of HRO among the studied sample was moderate (64.5%).

Table (3), Figure (2): Distribution of nurses according to their perception level regarding psychological safety (N=225).

Variable	Perception level regarding to psychological safety
	Mean ± SD
Total psychological safety	20.38 ± 4.03



Table (3), Figure (2): Clarifies distribution of nurses according to their perception level regarding psychological safety. It presented that the total perception level of the studied sample regarding psychological safety was moderate at (20.38 ± 4.03), and (75.6%).

Table (4), Figure (3): Distribution of nurses according to their perception level regarding intent to stay (N=225).

Variable	Perception level regarding intent to stay
	Mean ± SD
Total intent to stay	15.54 ± 2.19

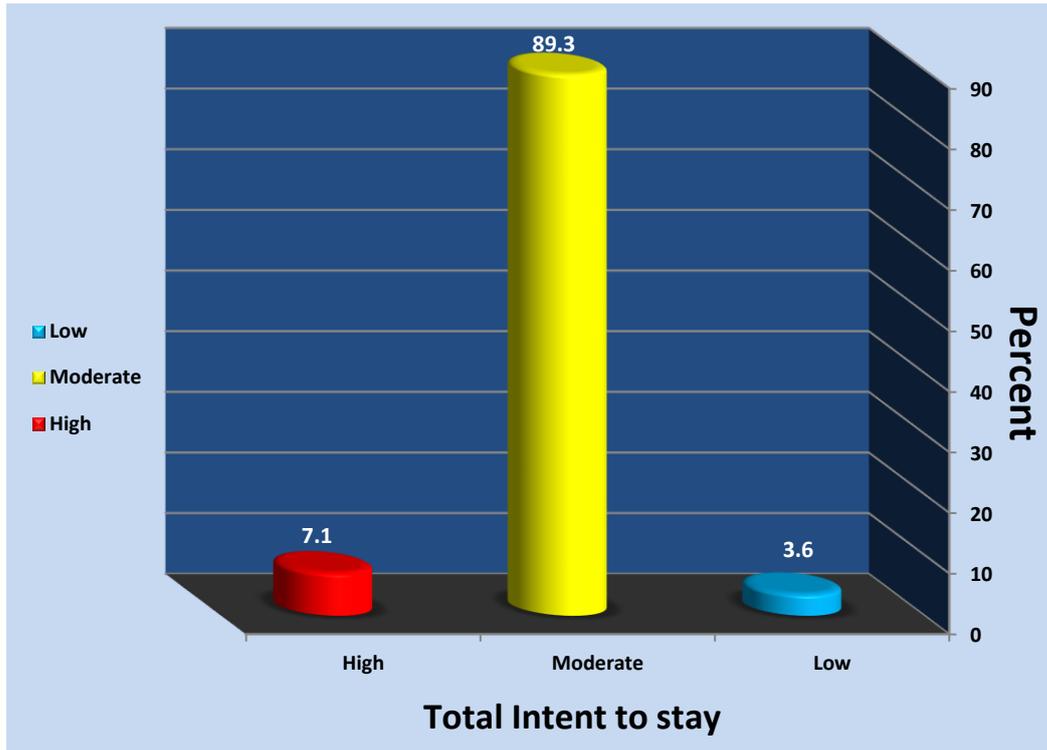


Table (4), figure (3): Clarifies distribution of nurses according to their perception level regarding intent to stay. It presented that the total perception level of intent to stay among the studied sample was moderate at (89.3%), and (15.54 ± 2.19). **Table (5) + figure (4, 5):** Correlation between staff nurses' total perception level regarding HRO, psychological safety and intent to stay (N=226).

Variables	Total high reliability organization		Psychological safety	
	r	p	r	p
Psychological safety	-.154-	.021		
Intent to stay	-.170-	.010	.134*	.045

(*) Statistically significant at p<0.01

Figure (4):

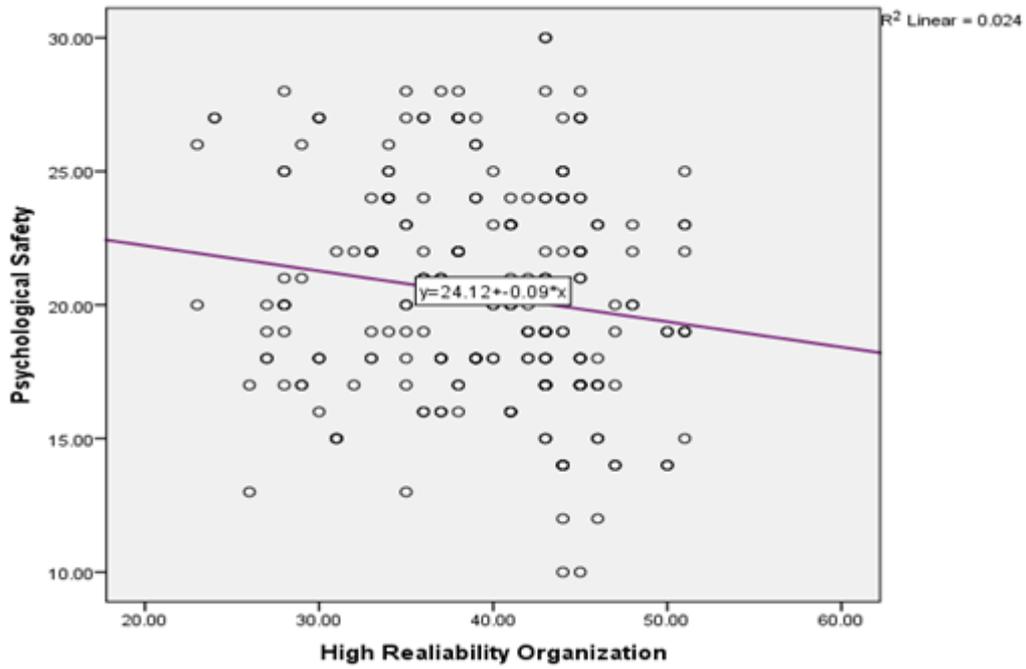


Figure (5):

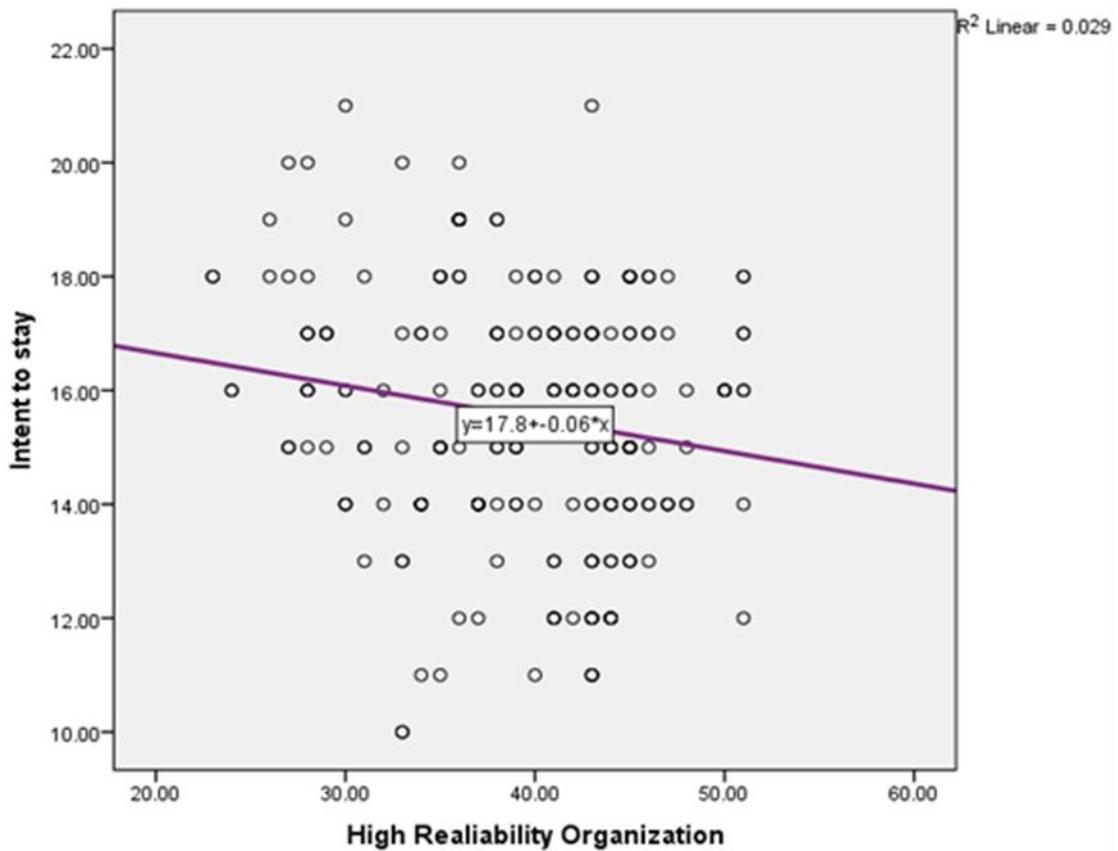


Table (5) + figure (4,5): Shows correlation between nurses' total perception level regarding HRO, psychological safety and intent to stay. It illustrated that there was negative statistical significance relation between staff nurses' total perception level regarding HRO, psychological safety and intent to stay. Also, there was positive statistical significance relation between staff nurses' total perception level regarding to psychological safety and intent to stay.

Table 6. Relation between staff nurses' perception level regarding HRO and their personal characteristics (N=225).

Personal characteristics items	Staff nurses' perception level regarding to high reliability organization		F test	p-value
	Mean ± SD			
Academic qualification:				
Diploma in nursing	92.64 ± 13.93		2.46	0.08
Associate degree in nursing	95.06 ± 10.42			
Bachelor degree in nursing	97.04 ± 9.79			
Gender				
Male	91.80 ± 13.20		-2.34	0.06
Female	96.23 ± 10.31			
Unit in which you work				
Critical care units	95.11 ± 10.55	11.82525	-0.58	0.60
Departments	95.99 ± 11.68			

Table (6): Illustrates relation between staff nurses' perception level regarding HRO and their personal characteristics. It clarified that staff nurses' perception level regarding HRO was high among staff nurses had bachelor degree in nursing (97.04 ± 9.79), were female (96.23 ± 10.31), and working at department (95.99 ± 11.68). Additionally, it showed that there was no statistical significance relation between staff nurses' total perception level regarding HRO and personal characteristics.

Table 7. Relation between staff nurses' perception level regarding psychological safety and their personal characteristics (N=226).

Items of personal characteristics	Staff nurses' perception level regarding to psychological safety		F test	p-value
	Mean ± SD			
Academic qualification:				
Diploma in nursing	87.54 ± 16.81		2.91	0.05
Associate degree in nursing	92.94 ± 16.10			
Bachelor degree in nursing	94.00 ± 16.15			
Gender				
Male	89.40 ± 15.94		-1.45	0.803
Female	93.44 ± 16.44			
Unit in which you work				
Critical care units	93.87 ± 15.92	11.82525	1.36	0.95
Departments	90.81 ± 17.07			

(*) Statistically significant at p<0.05

Table (7): Illustrates relation between staff nurses' perception level regarding psychological safety and their personal characteristics. It clarified that staff nurses' perception level regarding psychological safety was high among staff nurses had bachelor degree in nursing (94.00 ± 16.15), were female (93.44 ± 16.44), and working at critical care units (93.87 ± 15.92). Additionally, it illustrated that there was positive statistical significance relation between staff nurses' total perception level regarding psychological safety and academic qualifications.

Table 8. Relation between staff nurses' perception level regarding intent to stay and their personal characteristics (N=226).

Personal characteristics items	Staff nurses' perception level regarding intent to stay		F test	p-value
	Mean ± SD			
Academic qualification:				
Diploma in nursing	87.54 ± 16.81		2.91	0.05
Associate degree in nursing	92.94 ± 16.10			
Bachelor degree in nursing	94.00 ± 16.15			
Gender				
Male	89.40 ± 15.94		-1.45	0.803
Female	93.44 ± 16.44			
Unit in which you work				
Critical care units	93.87 ± 15.92	11.82525	1.36	0.95
Departments	90.81 ± 17.07			

(*) Statistically significant at $p < 0.05$

Table (8): Illustrates relation between staff nurses' perception level regarding intent to stay and their personal characteristics. It clarified that staff nurses' perception level regarding intent to stay was high among staff nurses had bachelor degree in nursing (94.00 ± 16.15), were female (93.44 ± 16.44), and working at critical care units (93.87 ± 15.92). Additionally, it illustrated that there was positive statistical significance relation between staff nurses' total perception level regarding intent to stay and academic qualifications.

Discussion

HROs are a subset of hazardous organizations that have achieved success and work environment that's psychologically safe that improves trust in peers, nursing managers and leaders over long periods. HRO effort aims to improve organization-wide cultural changes, specifically expanding trust and support, psychological safety of leadership and organizational personnel [10]. Health care organizations around the world also, had challenges to retain the healthcare staff resulting in a drastic decrease in levels of staffing [9,4]. Therefore, the current study aimed to identify the relation between perception of working at HRO, psychological safety and intent to stay among Dar Al-Fouad Hospital nurses.

Regarding HRO level, the current study revealed that the total perception level of HRO among the studied sample was moderate. That result may be justified as nurses faced various new challenges that require achieving unfamiliar tasks (eg, staffing shortages and reassignments, safety concerns), and at the same time trying to continue with the HRO journey.

The present study findings are in contrast with [7] who reported that HRO elements significantly increased after training courses. Also, [23] reported that studied nurses' application of model of HROs increased after attending the training session.

The present study findings revealed that the total perception level of the studied sample regarding psychological safety was moderate. From the researcher point of view, this may return to that HRO need to improve nurses' psychological safety to

become more resilient and be able to handle uncertainty effectively, feel free to express their thoughts and ideas, opinions that will lead to a more innovative, collaborative, and productive work environment.

Our findings are in the same line with [32], who confirmed that near half at workplace understands the importance of protecting staff psychological safety. In addition, [22] reported that participants showed a moderate level of psychological safety. Moreover, the current study matched with [3], who revealed that the study subjects considered their work as achieving a mild-to moderate degree of psychological safety. Additionally, the current study findings are in line with [16] who reported that the mean scores of psychological safety among the studied sample was nearly moderate.

The current study findings contradict with the findings by [26], who revealed that, the studied subjects had high level of psychological safety.

The present study concluded that the total perception level of the studied sample regarding intent to stay was moderate. From the researcher point of view, this may be due to the fact that the nurse manager at HRO tries to improve nurses' ITS through providing organizational support and justice, job conditions and treatment, offer promotion and career development opportunities, balancing effort and reward, improve the staff nurses' psychological support and achieve balance between the organisational and personal issues. The present study findings fall along the same line with that of [31] who confirmed that the average intent to stay of participating nurses is at a medium level. In addition, [18] revealed that participants showed a

moderate level of intent to stay. Moreover, the current study matched with [4], who reported that the mean score of intention to stay in the job among nurses was between neutral to agreeing. Additionally, the current study findings are in line with [16] who reported that the psychological safety mean scores among the studied sample were nearly moderate.

In the opposite line, the current study findings contradict with [40] who reported that the studied subjects had high level of ITS. Also, [8] revealed that majority of nurses' intention to stay was high. In addition, the current study findings contradict with [24] who reported that the nursing subjects had a high level of ITS. Additionally, [33] revealed that there was high level of ITS among most participants. In addition, [34] reported that majority of the studied nurses had high level of ITS.

The current study finding revealed that there was negative statistical significance relation between staff nurses' total perception level regarding HRO, psychological safety and intent to stay. Also, there was positive statistical significance relation between staff nurses' total perception level regarding psychological safety and intent to stay. This could be due to health care members work at HRO need to be psychologically safe through considering the workplace as providing support, encouraged to report mistakes and ask questions, and see mistakes as opportunities to learn. At the same time implementing HRO principles cause nurses to feel unsafe due to fear of reprisal, as reporting safety events could be held against them. Feeling unsafe regarding authority over unsafe events leads to lowering of nurses' intent to stay at the HRO.

The present study findings are in the opposite line with [28] who stated that studied nurses who consider workplace as an HRO setting had higher scores of psychological safety and reported a positive and statistically significant relation with psychological safety. Also, [6,17] reported that there was statistically significant relation between HRO perception and psychological safety among the studied sample. In addition, [15] reported that there was statistically significant relation between psychological safety and the studied subjects' perception regarding HRO.

Conclusions

The current study concluded that the total perception level of high reliability organization (64.5%), psychological safety (75.6%), and intent to stay (89.3%) among the studied sample was moderate. Also, there was negative statistical significance relation between staff nurses' total perception level regarding to high reliability organization, psychological safety and intent to stay. Additionally, there was positive statistical significance relation between staff nurses' total perception level regarding psychological safety and intent to stay.

In addition, it showed that there was no statistical significance relation between nurses' total level of perception regarding workplace civility climate and personal characteristics. Finally, it illustrated that there was positive statistical significance relation between staff nurses' academic qualifications and total perception level regarding psychological safety and intent to stay.

Recommendation

At practice level

- Healthcare organizations should foster a culture that supports Human Resource Management among managers, staff, and patients.
- HRO leaders should improve nurses' psychological safety, encourage reporting mistakes, and provide effective feedback.
- A supportive work environment enhances nurses' empowerment, trust, and psychological safety, allowing them to handle stressful situations efficiently.

At educational level

- A continuing education department can offer HRO-inspired programs to enhance nurses' awareness and implementation of HRO principles.
- Progressive ways to improve nurses' intent to stay include sharing knowledge, maintaining resources, and providing motivating approaches to improve commitment, trust, and retention.

At research level

- Further researches are required to:
 - Replicate this study in other health care settings among all healthcare professionals.
 - Investigate the effects of HRO on organizational personnel' stress and quality of nursing care.

Conflict of interest

The authors declare no conflict of interest

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