

Influence of Head Nurses' Resilience on Emergency Hospital Nurses' Innovative Behavior and Work Alienation

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Abstract

Background: An important key to a hospital's long-term competitiveness is the ability of head nurses to handle their role as leaders in daily work. To do so, head nurses must have resilience in their ways of working and encouraging innovation behaviors among nurses is already critical development direction for healthcare to prevent work alienation. **Aim:** To assess the influence of head nurses' resilience on emergency nurses' innovative behavior and work alienation. **Methods:** The design was descriptive correlational. Three tools are used for data collection; Nurses' Perception for Head Nurses' Resilience Questionnaire, Nurses' Innovative Behavior Questionnaire and Work Alienation Questionnaire. **Results:** Nurses perceived high level of head nurses' resilience and innovative behavior, while majority of them were perceived low level of work alienation. Additionally, there was a highly positive statistically significant correlation between head nurses' resilience and nurses' innovative behavior. While, there is a negative statistically significant correlation between nurses' innovative behavior and work alienation. As well no statistically significant correlation between head nurses' resilience and work alienation. **Conclusion:** Head nurses' resilience improves nurses' innovative behavior. **Recommendations:** Critical follow up to strengthen head nurses' resilience abilities and monitor nurses' work innovative behaviors development, as well as to assess the work alienation level on a regular basis and build up suitable intervention to cope with these situations.

Keywords: Emergency Hospital, Head Nurses' Resilience, Nurses' Innovative Behavior, Staff Nurse, Work Alienation.

Introduction

Today's healthcare industry faces numerous challenges, including high levels of working injuries, illnesses, and stressor, lack of resource and high staff turnover rates. Moreover, as nursing transformation and development continue to advance, management, technology, and service innovation have emerged as necessary movements in the advancement of the nursing field⁽¹⁾. The importance key to hospital's long-term competitiveness is the abilities of head nurses to manage their daily work as leaders, to do so, head nurses must develop resilience as ways of working and increasing nurses' innovative behaviors is already a key area for healthcare growth to prevent work alienation⁽²⁾. Over the past ten years, numerous publications have addressed resilience in the nursing sector⁽¹⁻³⁾. Head nurse resilience refers to the capability to dealing with adversity at the place of work⁽⁴⁾. Moreover, resilience includes the ability to efficiently manage resources, cope with heavy workloads, react to and learn from mistakes and emergencies, empower nurses by projecting confidence, care for their well-being by assisting them in identifying and utilizing their strengths, nurture their professional development, encourage self-care, and view change as an opportunity for improvement⁽⁵⁾. Head nurses' resilience has five dimensions; purposeful life, perseverance, self-reliance, existential aloneness and equanimity. First, purposeful life is the head nurses have realized when individual's life has a purpose and has

a goal that inspires and empowers their nurses at work⁽⁶⁾. Second, perseverance is keeping the head nurse's one's own abilities to work regardless of difficulties⁽⁴⁾. Third self-reliance means head nurses who to put own needs before others' and to recognize and rely on their own talents and abilities to back their actions. Fourth, existential aloneness means that each head nurse has a different outlook on life and values their own freedom greatly⁽⁷⁾. Finally, equanimity is the head nurses' balanced perspective on life and experiences, as well as their ability to perceive the humor in any given circumstance⁽⁸⁾. Head nurses who exhibit resilient behavior and implement novel strategies to obtain a sustained competitive edge, develop and distribute new products⁽⁹⁾. Clearly, innovation is a key trend in nursing care; hospitals are under increasing pressure to innovate if they want to remain competitive and offer patients innovative treatments⁽¹⁰⁾. Up to 80% of primary care is provided by nurses, who are a significant group in the healthcare system. The capacity for innovation not only helps to increase the excellence of nursing services but also plays a crucial role in promoting healthcare productivity⁽¹¹⁾. Innovation behavior is the behavioral process by which nurses come up with new concepts, create novel approaches, tools, and services, and then implement them in clinical nursing work to advance health, avoid disease, and enhance patient care⁽¹²⁾. Innovative behaviors begin often with the exploration of an idea, which refers to

identification of opportunities and include tasks like exploration, research, creativity, and problem-solving. Next, the idea generation when a nurse perceives a problem and comes up with creative ideas to solve it⁽¹³⁾. Then idea championing, the innovation champion is planning for implementation in an unstructured setting will help you begin tasks with confidence⁽¹⁴⁾. Thereafter, the idea implementation occurs when a nurse supports and uses creative solutions at work⁽¹⁵⁾. Finally innovative output is a major challenge in achieving the innovation output during the implementation phase. The outputs include accounts of modifications that were made, such as newly applied concepts that altered products, services, or institutional processes⁽¹⁶⁾. Innovation keeps hospital competitive and adaptive to change. Head nurses face challenges in influencing quality, creating novel care delivery systems, and creating work environments that encourage nurses to forward innovative ideas and avoid work alienation⁽¹⁷⁾. Work alienation is a psychological state characterized by social relationships separation within and outside of the workplace⁽¹⁸⁾. Nurses suffering from work alienation are powerless to devote themselves fully to their work, experience unexpected changes in attitude, have a tendency to lose interest in their work, and put little effort into delivering an acceptable performance or making a beneficial contribution to their organization. They may also not be as productive as they would be otherwise^(19, 20). Work alienation has three

dimensions; powerlessness, meaninglessness, self-estrangement and normlessness. Powerlessness is the perception that nurses have little influence over how decisions are made. Meaninglessness refers to a condition where nurses feel as though they have little to offer their hospital and are unable to understand it⁽²¹⁾. Lastly, Self-estrangement is when nurses feel incapable to address their own desires and wants⁽²²⁾. Significance Tanta Emergency Hospital are complicated, dynamic environments in which nurses operate under pressure from time and resource limits, physical strain, and the knowledge that failure would have serious implications⁽¹⁾. As well as, the quick changes and developing complexities of emergency care facilities' nurses have to work in risky circumstances or with unclear directions. Overall, these changes in nurses' working condition foster a sense of alienation from their jobs⁽⁹⁾. This will make it more important than ever for all healthcare professionals to work together to the fullest extent of their abilities, and innovation is a key component of increasing productivity and strengthening the competitive position of healthcare organizations⁽¹¹⁾. Resilience empowers head nurses to manage the demands of their workplace and maintain stable, healthy spiritual functioning. Resilience as a management strategy is therefore seen as effective for achieving a work-life balance, especially for head nurses. Thus, the study aimed to assess the influence of head nurses' resilience on nurses' innovative behavior and work alienation.

Aim of the study

This research was designed to determine the influence of head nurses' resilience on emergency hospital nurses' innovative behavior and work alienation.

Research questions -What are the levels of head nurses' resilience as perceived by nurses?

- What are the levels of nurses' innovative behavior?

-What are the levels of nurses' work alienation? - What is the relation between head nurses' resilience and nurses' innovative behavior and work alienation?

Subjects and Method**Study design:**

Descriptive correlational research design was used to achieve study's aim.

Study setting: The research was done at Tanta University Emergency Hospital. It contains six floors in various departments including; Neurosurgery, General Surgery, Orthopedics, Toxicology, Radiology, Burn, Vascular Surgery, Reception, Recovery unit and Intensive Care Units (Medical ICU and Anesthesia ICU).

Participants: The study participants were a convenient sampling of nurses (n=256) who were accessible when data were being collected in the previously specified settings. To guarantee a sufficient and representative sample size, the total study participants were computed using the Epi. Info. Microsoft, where N= population size (765), Z= confidence level at 95% (1.96), and d= margin of error proportion (0.05).

Tools of data collection

Three different tools were employed to gather data of the study.

Tool I: Nurses' Perception Regarding Head Nurses, Resilience Questionnaire:

It was adapted from Wagnild, (2009) ⁽²³⁾. It was divided into the following two sections;

-Part (1): Personal data of nurses: It included nurses' age, gender, years of experience, marital status and educational level.

Part (2): Head nurses' resilience questionnaire: It used to measure head nurses, resilience level as perceived by nurse. It contained 20 items with 5 dimensions namely; purposeful life (3 items), perseverance (4 items), self-reliance (4 items), existential aloneness (5 items), and equanimity (4 items). **Scoring System:** The nurses' opinions were rated on a 5-point Likert scale with 1 being strongly disagreed with, 2 being disagreed with, 3 being unknown, 4 being agree with, 5 being strongly agreed with. According to statistical cutoff criteria, the levels of nurses' perception of head nurses' resiliency are classified as high > 75%, moderate 75%-60%, and low < 60%.

Tool II: Nurses' Innovative Behavior Questionnaire,

adapted from Asurakkody & Shin, (2018) (16) to assess nurses' innovative behavior. It consisted of 17 items for 5 dimensions were; ideas exploration (2 items), ideas generation (5 items), idea championing (2 items), ideas implementation (3 items), and innovative output (5 items).

Scoring System: On a 5-point Likert scale, from strongly agree to strongly disagree, the nurses' replies were tallied. Statistics based on cutoff points categories the levels of innovative

behavior among nurses as high at > 75%, moderate between 75%-60%, and low < 60%.

Tool III: Work Alienation Questionnaire, Mottaz (1981) ⁽²⁴⁾

created the original version of this tool, which was later modified by Durrah (2020) ⁽²⁵⁾ and Hashish (2020) ⁽²⁶⁾. The modified version included 18 items to gauge nurses' perceptions of workplace alienation along three dimensions: powerlessness (5 items), meaninglessness (7 items), and self-estrangement (6 items). Scoring system: Replies from nurses were scored on a Likert scale of 1 to 5 (strongly agree to strongly disagree). Statistics based on cutoff points categories, the degrees of work alienation among nurses as high > 75% which indicated for alienation at work place, while moderate (75%-60%), and low (< 60%) indicates for not alienation at work place. Validity and reliability: The study tools translated into the Arabic language to be clear for all nurses' education levels and back-translated to ensure accuracy. In order to determine whether the questions and the study tools as a whole were pertinent, comprehensive, and appropriate to test what they needed to measure, five experts in the field of academic nursing administration evaluated the face and content validity of the study tools.

Modifications were then made. The Nurses' Perception Regarding Head Nurses' Resilience Questionnaire, Nurses' Innovative Behavior Questionnaire, and Work Alienation Questionnaire were used in the study.

The reliability of these instruments was evaluated using the Cronbach's alpha test, and the results for the three scales were (0.927), (0.845), and (0.915), respectively. Pilot study: 10% of the participants in the study (26 nurses) underwent a pilot study to examine the tools' usability and clarity as well as the amount of time required to complete the questionnaires.

Data collection from the beginning of February until the end of April 2023, the real fieldwork began. In the working units, the researchers encountered nurses throughout the morning and afternoon shifts.

Nurses were informed of the study's objectives. After the morning and afternoon shifts, the survey was given to every nurse. Each nurse received a copy from the researchers, who then instructed them to complete it and return it.

The data was gathered by the researchers using three self-administered questionnaires (I, II, and III). Between 25 and 30 minutes were spent by nurses filling out questionnaires.

Ethical considerations: Nursing Research Ethical Committee of Mansura Nursing Faculty was obtained with code number (0417-2-2023).

The study's official permission was given by the hospital's appropriate administrator. All participants were made aware that their participation in the study was completely voluntary and that they might discontinue at any moment. All participants received assurances on the confidentiality of the collected data and the research participants' privacy.

Results: Table (1): Shows the personal data of the studied nurses. This table shows that nearly half (47.3%) of nurses were under the age of 25 with a mean score of 28.05 ± 7.96 . More than two thirds (67.6%) of them were female. While more than half (54.3%) of the nurses had more than five years of experience. More than half (52.3%) of them were married and 75.8% had a certificate of technical nursing institute.

Figure (1): Shows that, more than half (59.8%) of studied nurses had high levels of head nurses' resilience skill, while (10.5%) of them had low level about it.

Table (2): Shows head nurses' resilience levels dimensions as perceived by nurses. This table revealed that, majorities (75.4 %, 74.2% and 70.7%) of studied staff nurses reported the highest level related to purposeful life, perseverance and self-reliance, respectively of head nurses' resilience skill dimensions with a mean score of 12.28 ± 1.81 , 16.52 ± 2.57 and 16.32 ± 2.54 . More than half (54.7% and 55.1%) of them were reported high level related to existential aloneness and equanimity about it with mean score 19.48 ± 3.34 and 15.74 ± 2.44 , respectively.

Figure (2): Demonstrates that the majority (80.5%) of studied staff nurses had a high level of overall innovative behavior, whereas (4.7%) had a low level about it.

Table (3): Shows levels of innovative behavior dimensions as perceived by nurses. The table revealed that, studied staff nurses had a high level (91.0% and 87.9%) with idea championing and

ideas implementation of innovative behavior dimensions with a mean score of 8.42 ± 1.34 and 12.52 ± 1.59 , respectively. While (8.6%) of them had low level for ideas exploration and ideas generation dimension with mean score 8.28 ± 1.14 and 20.66 ± 2.96 , respectively. Figure (3): Reveals that, majority (84.4%) of nurses had low level of work alienation whereas (9.4%) had high level of it.

Table (4): Show levels of work alienation dimensions as perceived by nurses. The table revealed that, majority (86.3% and 80.5%) of studied staff nurses reported a low level of meaninglessness and self-estrangement of work alienation dimensions with a mean score of 16.87 ± 6.42 and 15.51 ± 5.92 , respectively. While about one third (27.3%) of them reported high level for powerlessness dimension with a mean score of 15.70 ± 4.78 .

Table (5): Show correlation between head nurses' resilience, nurses' innovative behavior and work alienation. This table revealed a highly positive statistically significant correlation between head nurses' resilience and innovative behavior. While, there was negative statistically significant correlation between nurses' innovative behavior and work alienation. As well as no statistically significant correlation between head nurse, resilience and work alienation.

Table (1): Personal data of the studied nurses (n=256)

Personal data	No.	%
Age year		
<25	121	47.3
25-35	97	37.9
35-45	18	7.0
≥45	20	7.8
Mean ± SD.	28.05 ± 7.96	
Gender		
Male	83	32.4
Female	173	67.6
Years of experience		
<5	139	54.3
5-15	85	33.2
15-25	6	2.3
≥25	26	10.2
Mean ± SD.	7.15 ± 8.34	
Marital status		
Single	118	46.1
Married	134	52.3
Widow	2	0.8
Divorced	2	0.8
Educational level		
Bachelor Degree	42	16.4
Technical Nursing Institute	194	75.8
Nursing Secondary School	18	7.0
Cairo Oncology National Institute	2	0.8

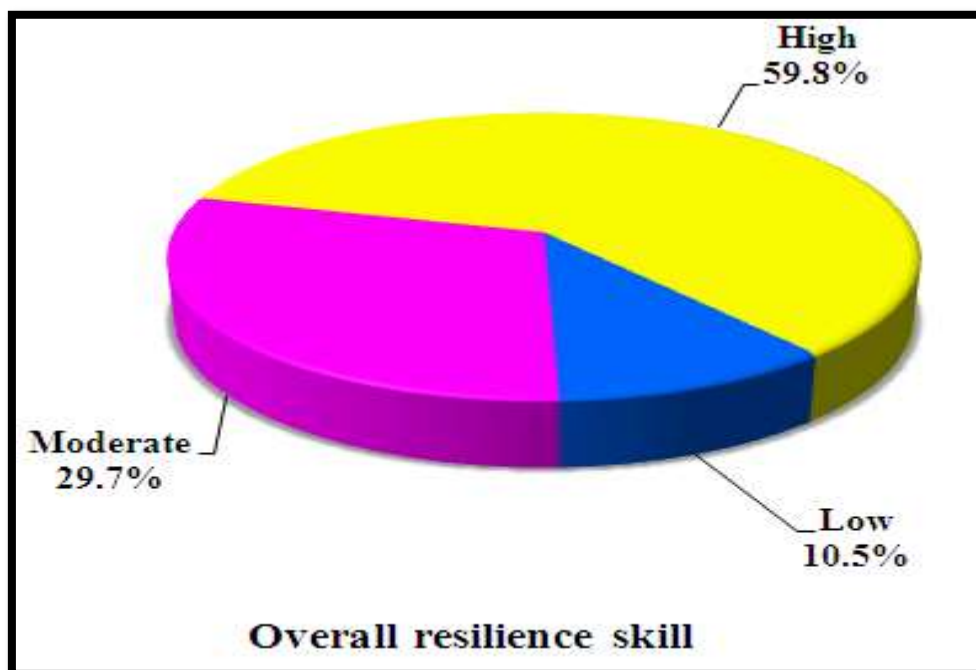


Figure (1): Overall head nurses' resilience levels as perceived by nurses

Table (2): Head nurses' resilience levels dimensions as perceived by nurses (n = 256)

Head nurses' resilience skill dimensions	Low level (<60 %)		Moderate level (60%– 75%)		High level (≥75%)		Total Score Mean ± SD
	No.	%	No.	%	No.	%	
Purposeful life	40	15.6	23	9.0	193	75.4	12.28 ± 1.81
Perservances	24	9.4	42	16.4	190	74.2	16.52 ± 2.57
Self-reliance	26	10.2	49	19.1	181	70.7	16.32 ± 2.54
Existential aloneness	43	16.8	73	28.5	140	54.7	19.48 ± 3.34
Equanimity	39	15.2	76	29.7	141	55.1	15.74 ± 2.44

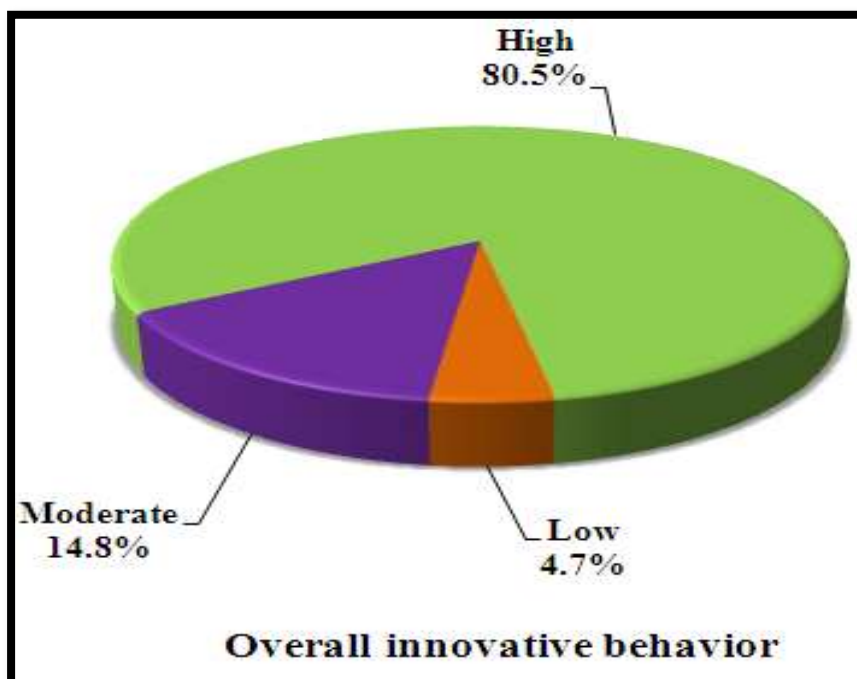


Figure (2): Levels of innovative behavior as perceived by nurses

Table (3): Levels of innovative behavior dimensions as perceived by nurses (n = 256)

Nurses' Innovative Behavior dimensions	Low level (<60 %.)		Moderate level (60%–75%)		High level (≥75%)		Total Score Mean ± SD.
	No.	%	No.	%	No.	%	
Ideas exploration	22	8.6	14	5.5	220	85.9	8.28 ± 1.14
Ideas generation	22	8.6	35	13.7	199	77.7	20.66 ± 2.96
Ideas championing	20	7.8	3	1.2	233	91.0	8.42 ± 1.34
Ideas implementation	21	8.2	10	3.9	225	87.9	12.52 ± 1.59
Innovative output	12	4.7	38	14.8	206	80.5	20.88 ± 2.58

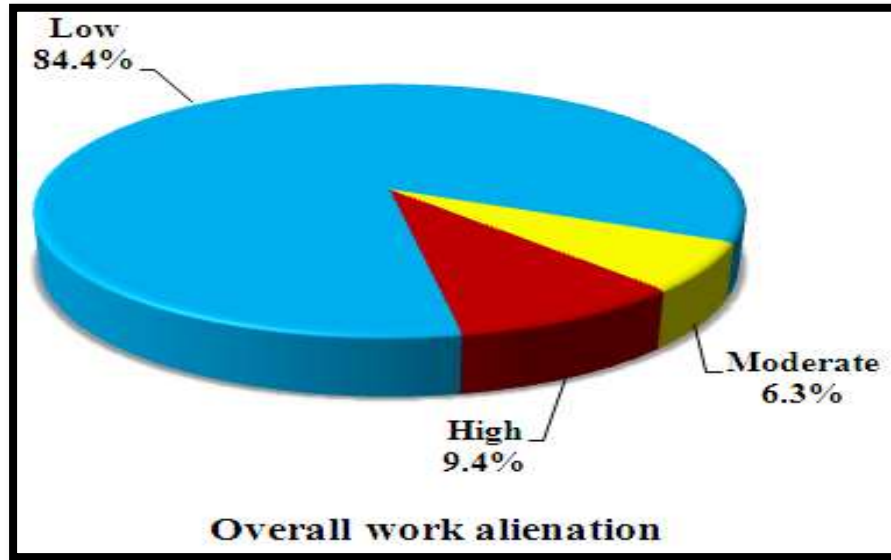


Figure (3): Levels of work alienation behavior as perceived by nurses

Table (4): Levels of work alienation dimensions as perceived by staff nurses (n = 256)

Work dimensions	Alienation	Low level (<60 %.)		Moderate level (60%– 75%)		High level (≥75%)		Total Score Mean ± SD.
		No.	%	No.	%	No.	%	
Powerlessness		139	54.3	47	18.4	70	27.3	15.70 ± 4.78
Meaninglessness		221	86.3	11	4.3	24	9.4	16.87 ± 6.42
Self-estrangement		206	80.5	16	6.3	34	13.3	15.51 ± 5.92

Table (5): Correlation between head nurses' resilience, nurses' innovative behavior and work alienation (n = 256)

Study variables	r	P
Resilience Skill vs. Innovative Behavior	0.267	<0.001**
Resilience Skill vs. Work Alienation	0.003	0.959
Innovative Behavior vs. Work Alienation	-0.029	0.639

r: Spearman coefficient ** Highly statistically significant (p<0.01)

Discussion:

Adversity at work, such as organizational changes, significant technological advancements, staff shortages, and restructuring, particularly in emergency units, present challenges for head nurses. These modifications have an impact on the design, adaptability, enhancement of quality, and efficiency of the healthcare system. Thus, the head nurse needs resilience to overcome these obstacles⁽²⁷⁾. The resilient head nurses are born with an innovative behavior that creates work situations that are accompanied by positive nurse performance, organizational commitment, and prevents feelings of work alienation. They are also able to exhibit behavior that will improve the capability of staff nurses to succeed^(28, 29).

The existing study found that more than half of nurses who participated in the study believed that head nurses had high levels of resilience. The outcome can be attributed to the ability of head nurses to deal constructively with challenges at work and difficult working conditions. They are also able to demonstrate actions that will increase nurses' ability to flourish in the midst of challenges and adversity.

This finding is supported by **Yassin, et al. (2021)**⁽³⁰⁾ findings, which showed that almost two thirds of head nurses have high levels of all-around resilience skills. Additionally, **Balay-odao, et al. (2021)**⁽³¹⁾ confirmed that clinical nurses rated their own resilience as very high. As opposed to that, this result of **Tau, et al. (2018)**⁽⁴⁾ who showed that “nurse managers on

average had a moderate level of resilience”.

As regard to perceived head nurses' resilience levels dimensions, this study discovered that the majority of studied nurses believed their head nurses had highest levels of purposeful life, perseverance and self-reliance, respectively. In addition, the majority of them who conveyed their head nurses had low levels were related to existential aloneness and equanimity dimensions. This might be as a result of the head nurse realizing that life has meaning, appreciating, and having a purpose that inspires and empowers their nurses at work. The head nurse may also have an enthusiasm for continuing the fight to rebuild the lifetime and keeping involved in the midst of adversity. Additionally, head nurses' perservance in face of challenges and one's self-confidence and self-awareness depend on their unique talents and skills, which support and direct their actions.

Along with these findings **Yassin, et al. (2021)**⁽³⁰⁾ who represented high percent of head nurses have high level about purposeful life, existential aloneness and self-reliance dimensions, respectively. As well, additionally, nearly two thirds of head nurses scored highly on perseverance dimension, besides more than half on the equanimity dimensions. Also, **Taie, et al. (2022)**⁽³²⁾ confirmed “almost half of nurse managers had high levels of self-reliance, existential aloneness, and purposeful life dimensions respectively”. Moreover, less than half had high levels of equanimity and perservance, and persistence

dimensions, respectively. Meanwhile, the existential aloneness dimension had highest percentage at the moderate level. In adding, the perservance and persistence dimension in decreased nurse manager resilience levels were the highest percentage.

Regarding nurses' levels of innovative behavior as apparent by nurses. This study exposed that the majority of nurses had highest levels about overall innovative behavior. This might be given back to the chief nurse, who is looking for new methods to innovate and transform while tasked with influencing quality, creating innovative care delivery models, and creating work environments that support nurses' advancement of new ideas. This result is supported by **Kamel & Aref, (2017)**⁽³³⁾ "pointed out that half of nurses had an extremely high level of innovative work behaviors".

Likewise, **Abd El-Fattah, (2017)**⁽³⁴⁾ confirmed more than half of participants have good levels of innovative work behaviors. Also, **Jung & Yoon, (2018)**⁽³⁵⁾ discovered participants at modest levels of innovative behavior. On the same line with, **El Desoky, et al. (2021)**⁽³⁶⁾ who showed that "more than half of nursing staff were early adapter and innovator, and as a whole had highly innovative level". However, **Abd El Muksoud, et al. (2022)**⁽³⁷⁾ findings, were not consistent with this study which showed "slightly more than two thirds of nurses exhibited low levels of innovative work behaviors". Also, findings conducted by **Ahmed, et al. (2019)**⁽³⁸⁾ did not supported this study who discovered more half of them

have low levels of innovative work behaviors.

As regard of levels of nurses' innovative behavior dimensions, this study revealed that nurses had a high level with idea championing and idea implementation of innovative behavior dimensions. Whereas reported low levels for idea exploration and idea generation dimensions. This result may be attributed to nurses who start implementing activities with confidence by formulating plans for implementation in an unstructured environment, which requires anticipating issues and developing contingency plans, as well as raising money and capital. As well healthcare organization gives their nurses a space of autonomy to innovation and aid them to implement their innovative ideas.

This result is supported by **Kamel & Aref, (2017)**⁽³³⁾ stated "idea championing and idea implementation between innovative behavior dimensions was highest mean score". Also, study by **Mostafa & Mahfouz, (2021)**⁽³⁹⁾ revealed "highest mean percentages of nurses were related to idea championing and idea implementation of innovative work behaviors respectively". On the other hand, the result not supported by **Niu, et al. (2022)**⁽⁴⁰⁾ "revealed that idea generation was high among nurses". In addition to **Baker & El-saidy, (2020)**⁽⁴¹⁾ "disclosed four nurses' work innovation behavior aspects ranging from idea exploration, idea generation, idea championing and idea implementation respectively had the highest mean rating scores".

Regarding levels of nurses' work alienation behavior, this study discovered that the majority of nurses had low level of work alienation. This is attributable to nurses' influence over decision-making procedures and individuals' right to participate in the development of the goods and services they work on, they are able to comprehend its importance. As well as, when nurses do understand organizational goals and feel they are capable of attending to their own needs and desires. **Rollero, et al. (2016)** ⁽⁴²⁾ support this study, which stated that lower levels of work alienation. On the other side, the current study not supported by **Lagios, et al. (2022)** ⁽⁴³⁾ who revealed a higher feeling of work alienation. Also, **Amarat, et al. (2019)** ⁽⁴⁴⁾ disagreed with the study's findings that higher levels of workplace loneliness and work alienation were accompanying by lower levels of job performance".

As regard levels of nurses' work alienation dimension, the present study discovered the majority of nurses had low levels of meaningfulness and self-estrangement of work alienation dimensions. About one third of them had high level for powerlessness dimension. These could be attributed to nurses' feeling that their work is noteworthy, helps personal development, and contributes to their well-being. As well, it measured as one of the most unique and highly valued features of work and established a means of self-expression and self-realization.

This result is in the same vein as that reported by **Mohamed & Abou**

Shaheen (2022) ⁽⁴⁵⁾ verified workplace alienation among nurses with a high-level of powerlessness and low levels of self-estrangement meaningfulness dimension. Also, **Abd-Elrhaman, et al. (2020)** ⁽⁴⁶⁾ highlighted that nurses experienced work alienation, with the powerlessness dimension having higher level and normlessness, meaningfulness and self-estrangement respectively having a lower level. Furthermore, **Özer, et al. (2019)** ⁽⁴⁷⁾ concluded nurses had at middle level of work alienation, along by highest levels of powerlessness and self-estrangement dimensions.

The present study revealed a highly positive statistically significant correlation between perceived head nurses' resilience and nurses' innovative behavior. In order to perform swiftly in the face of uncertainty and change, head nurses may resort to encouraging nurses to adopt creative behaviors that will help them produce and deliver new commodities that will expand the quality of care. This outcome is supported with result of **Hos gör, & Yaman, (2022)** ⁽⁴⁸⁾ found a positive significant relation between resilience and innovative behavior.

Also, **Yassin, et al. (2021)** ⁽³⁰⁾ supported the current study, which affirmed a positive association between levels of resilience and innovative leadership behavior of head nurses at different Intensive Care Units. Furthermore, **Taie, et al. (2022)** ⁽³²⁾ concluded that "a highly statistically significant positive correlation between nurse manager's resilience levels and perceived empowering innovative

behavior during COVID-19". As well **Mahgoub, et al. (2019)**⁽⁴⁹⁾ revealed a statistically significant correlation between work environment resilience and innovative behavior. Furthermore, the same results also were reported by **Aziznejadroshan, et al. (2022)**⁽⁵⁰⁾.

According to the current study, "there is no statistically significant correlation between head nurses' resilience and nurses' work alienation. These results may be due to the harmony and interaction with other healthcare providers, hospital policies, rules and regulations, and all of them contributing to low the nurses' work alienation not only head nurses' resilience. This result goes in the same line with **Çetinkanat, & Kösterelioglu, (2016)**⁽⁵¹⁾ who discovered no significant relations were detected between manager resilience skill and work alienation dimensions. On the other side, **Vanderstukken, & Caniels, (2021)**⁽⁵²⁾ found resilience is negatively related to work alienation for leaders.

In addition, an existing study affirmed a negative relation between innovative work behaviors and work alienation of nurses. **Tummers, & Den Dulk, (2013)**⁽⁵³⁾ supported this study's result and revealed work powerlessness and meaninglessness had a significant negative influence on innovative work of nurses. Contrary, **García-Contreras, et al. (2022)**⁽⁵⁴⁾ exhibited "a high positive relationship between work alienation with innovative behavior and organizational performance".

Conclusion:

In light of the study results, Tanta Emergency Hospital nurses perceived had high levels of resilience among their head nurses and exhibited innovative behavior, whereas the majority of them did not alienated from their work. There was a highly positive statistically significant correlation between perceived head nurses' resilience and nurses' innovative behavior. While, negative statistically significant correlation between nurses' innovative behavior and work alienation. There was also, no statistically significant correlation between head nurses' resilience and nurses' alienation at work place.

Recommendations:

On basis of study findings, the following recommendations:

• For head nurses

- Developing resilience by participating in seminars and in-service training on boosting resilience to deal with challenging work situations in hospitals.
- Positively respond to nurses' innovative behavior by providing time, resources, and acceptable information.
- Encouraging experimentation, supporting failure, and foster the importance of work and production of novel ideas.
- Attend the ongoing training program associated to innovative strategies and methods to control workplace alienation.
- Regularly assess the degree of alienation at work and plan an effective intervention to address the situation.

• For hospital administration

- Critical continuation to strengthen head nurses' resilience and maintain the

advancement of nurses' innovative behaviors.

- Establish a continuous training program about innovative behavior for emergency nurses.
- Provide a dynamic platform environment that upends the status quo, fosters the growth of original and worthwhile ideas, and motivates nurses to take advantage of possibilities for innovative behavior.
- Hospitals need to include innovative behavior requirement in job descriptions through communicates innovative behavior goals, often in an inspirational fashion.

Further research

- Need to study the influence of head nurse' resilience on additional factors in work environment such as productivity, nurses' wellbeing, absenteeism, and turnover.

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