

## Relation between Head Nurses' Perception of Entrepreneurial Leadership and Decision-Making Effectiveness

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### Abstract

**Background:** Because entrepreneurial leadership is a unique type of leadership, head nurses believe in it in making effective decision **The present study aimed** to explore head nurses' perception of entrepreneurial leadership and its relation to decision making effectiveness. **Subjects and Method: Design:** Descriptive- correlational research design was used. **Setting:** The study was conducted at Tanta Main University Hospitals, and El-Mnshawy General Hospital, and Qotour general hospital which affiliated Ministry of Health in El-Gharbia Governorate. **Subjects:** Study subject was included 189 head nurses working at the above-mentioned setting. **Tools:** Data were collected by using two tools:1- Head nurses' perception of entrepreneurial leadership questionnaire. 2- Head nurses' decision-making effectiveness scale. **Results:** As total, more than fifty (52.9% and 55.0%) of head nurses had high and moderate perception level of entrepreneurial leadership and decision-making effectiveness. **Conclusion:** There was significant positive correlation between head nurses ' overall perception of entrepreneurial leadership and its subscales, and their overall their decision-making effect and its dimensions. It was **recommended** that top management need to encourage head nurses to demonstrate entrepreneurial leadership to create a healthy work environment and culture that promotes effective decision making.

**keywords:** Decision -making, Effectiveness, Entrepreneurial leadership, Head nurses, Perception.

### Introduction

Head nurses are challenged to effectively make decisions and lead in today's uncertain health care environment <sup>(1)</sup>. Entrepreneurial leadership plays a very significant part in creating effective decisions in day-to-day operations within the practice work place <sup>(2)</sup>. Entrepreneurial leadership is perceived as the head nurses' ability to visualize and anticipate even preserve flexibility, think strategically, willing to work with others for making decisions that would reinvent the institution <sup>(3)</sup>. Entrepreneurial leadership can generate entrepreneurial behavior for the

work groups connected with a common goal. Such behavior reinforces, and enhances change, creativity among subordinates and leaders having initiative, vision, and transformation, as well as effective decision- making <sup>(4)</sup>. Risk-taking, pro-activeness, innovativeness, autonomy, competitive aggressiveness, taking ownership and self-confidence are subscales of head nurses' entrepreneurial leadership' that can lead to effective decision making <sup>(5)</sup>. On daily basis, head nurses are constantly making variety of decisions

involving the exchange of information, data review, generation of new ideas, evaluation of alternative courses of action and application of policies regarding care of patient. Decision making by head nurses is a main aspect of their entrepreneurial leadership and involves applying a course of action after seeing alternatives. So, the head nurses' perception of entrepreneurial leadership, in one way or another, may influence their decision-making<sup>(6)</sup> Effective decision-making is vital to ensure the success of an organization .it occupies key position in the life of an organization be it a public establishment or a private corporate entity. Effective decision-making is always the result of high intention, sincere effort, intelligent direction, and skillful execution<sup>(7)</sup>. Head nurses might use several methods to make an effective decision. It includes decision by authority without group discussion, expert, averaging individuals' opinions, authority after group discussion, minority, majority vote, and by consensus<sup>(8)</sup>.

### **Significance of the study**

In managing the energetic health care organizational environment. Head nurses are regularly involved in the decision-making which can comprise some dissatisfaction or conflicts. These needs head nurses to be proficient decision makers in order to respond to clients' needs. Effective decision-maker takes decisions with competency and confidence. Detecting and using the decision-making process aid head nurses to take more effective decisions<sup>(9)</sup>.

Moreover, alterations in patient needs, health technology, and fiscal capitals, entail health care organizations reshape

its structure and its process of care. Answering to these changes in active manner necessitates a different kind of leader especially entrepreneurial leadership<sup>(10)</sup>. From point of view of researcher, head nurses are needed this type of leadership because they are responsible for decision-making not only related to patient care, but also for decisions that will affect the staff and daily operations. Thus, head nurses' perception of entrepreneurial leadership is becoming more significant in refining decision-making effectiveness as well as the effectiveness of health care organizations<sup>(11)</sup>.

### **Aim of the study**

Explore relation between head nurses' perception of entrepreneurial leadership and decision-making effectiveness.

### **Research questions:**

- 1-What are levels of head nurses' perception entrepreneurial leadership?
- 2- What are levels of head nurses' decision-making effectiveness?
- 3- What is relation between head nurses' perception of entrepreneurial leadership and decision-making effectiveness?

### **Subjects and Method**

#### **Study design:**

Descriptive correlational research design was used.

#### **Setting:**

The study was conducted at Tanta University Hospitals, El-Menshawey General Hospital, and Qotour General Hospital which are affiliated to Ministry of Health and Population. Tanta University Hospitals include different department such as Intensive care unit, surgical, medical and operation.

## Subjects:

The study subject was included: all available head nurse number (n=189), 105 head nurses from Tanta University Hospitals and 51 head nurses from El-Mnshawy General Hospital and 33 head nurses from Qotour General Hospital.

## Tools:

To fulfill the purpose of study the following two tools was utilized.

**Tool I: Head nurses' perception of entrepreneurial leadership structured questionnaire.** This tool was developed by the researcher based on Herron & Herron (2018) <sup>(12)</sup> and recent related literature <sup>(13,2,3)</sup>. To collect data from head nurses about their perception of entrepreneurial leadership. It was included two parts:

**Part (1):** it includes questions related to head nurses' personal data such as age, sex, marital status, years of experience, level of education and hospital name.

**Part (2): Head nurses' perception of entrepreneurial leadership questionnaire.** It consists of 48 items covered six subscales as follows: risk-taking 6 items, proactiveness 5 items, innovativeness 9 items, autonomy 6 items, competitive aggressiveness 6 items, taking ownership 11 items, and self- confidence 4 items.

## Scoring system:

Head nurses' responses were be measured on a five points Likert Scale. Ranging from (1-5). (1) strongly disagree to (5) strongly agree. The total scores were be calculated by summing of all categories where: strongly disagree=1, disagree=2, little agree=3, agree=4, strongly agree=5. The scale scores were categorized based on, the cut point 60% divided into three levels:

High perception of entrepreneurial leadership >75%, Moderate perception of entrepreneurial leadership 60-74%, and Low perception of entrepreneurial leadership to <60%

## Tool II: Head nurses' decision-making effectiveness scale.

This tool was developed by Abo Gad and El-Demerdash (2014) <sup>(14)</sup>, and it was modified by the researcher based on related literature <sup>(15 -18)</sup>. To collect data from head nurses about their decision-making effectiveness. It consists of 57item covered five subscales as follows:

- 1-Make decision, it include 9 items,
- 2-Factors affecting administrative decision-making in health organizations, it include 17 item ,
- 3-The best ways to make management decisions in health organizations, it include 10 items,
- 4-The problems affecting administrative decision-making in health organizations, it include 12 items and
- 5- Effective decision-making, it includes 9 items.

## Scoring system:

The Head nurses' responses were answered on five points Likert Scale. ranging from (1-5) where 1 = never, 2= occasionally, 3 = sometimes, 4 = often and 5= always. The total scores were calculated by summing of all categories where: Low decision-making effectiveness <60%. Moderate decision-making effectiveness 60- 75%, and High decision-making effectiveness > 75%. <sup>(14)</sup>

## Method

Official permission to conduct the study was obtained from Faculty of Nursing, Tanta University to administrators of Tanta University Hospitals and ministry of health hospital.

### **Ethical consideration:**

- Approval of ethical committee at faculty of Nursing was obtained.
- Informed consent was obtained from head nurses after explanation of the nature and the aim of the study.
- Confidentiality and the privacy were taken into consideration regarding to data collection.
- Tools I and II were developed and designed by the researcher based on review of recent related literatures.
- The tools were reviewed with supervisors, then submitted to nine experts for testing the content and face
- Validity. , the experts were classified into four professor and one assistant professor of Nursing Service Administration at Faculty of Nursing, Tanta University as well as clarity of the questionnaire. The experts were requested to appraise tools' individual items in relation to its relevance and appropriateness
- The validity of tool1 was 89.45%and tool 2 was 96.77%. Necessary corrections and modifications were done based on experts' opinion.
- Pilot study was carried out on a sample (10%) of head nurses (n=19) to check and ensure the clarity of the tools, identify obstacles and problems that may be encountered during data collection.
- Suitable statistic test was done to test reliability. Tools were tested for their reliability by Cronbach Alpha coefficient factors, to measure the internal consistency of the items. Tool 1:Head nurses' perception of entrepreneurial leadership questionnaire and their subscales were reliable was 0.911 and tool 2: Head nurses' decision-

making effectiveness scale were reliable (Cronbach alpha coefficient) was 0.872.

**Data collection:** Data collection phase: the Data was collected from different head nurses during work shifts morning, after noon, or night and distribute the questionnaires to be filled.

9-The time needed to complete the questionnaire items from head nurses was between 10-15 minutes. Head nurses were record their answerers in the presence of the researcher.

10-The data were collected within six months from head nurses, started from April 2020 to September 2020.

### **Statistical analysis:**

Data were fed to the computer and analyzed using IBM SPSS software package version 20.0. (Armonk, NY: IBM Corp) Qualitative data were described using number and percent. Quantitative data were described using range (minimum and maximum), mean and standard deviation. Significance of the obtained results was judged at the 5% level. The used tests were Pearson coefficient to correlate between two normally distributed quantitative variables. Spearman coefficient to correlate between two distributed abnormally quantitative variables. Reliability Statistics was assessed using Cronbach's Alpha test.

### **Results**

**Part one:** Head nurses' personal data

**Table (1):** Shows percentage distribution of the head nurses according to their personal data. the table shows that the high percent (81.5%) of head nurses falls in age group 35-45 years with mean age  $39.15 \pm 4.03$ .  $\geq 35$ , It was illustrated that, the majority (99.5%) of

head nurses were females and married. The majority of them had Bacheloric Degree which represent (82.5%). Regarding their years of experience, more than half (57.2%) of head nurses had  $\geq 15$  year of experience with the mean  $\geq 56 \pm 5.28$ .

Regarding department, more than forty (41.7%) of head nurses were working in inpatient department, 32.1% working in intensive care units and 17.9% and 8.3% working in other units and departments.

**Part two:** Head nurses' perception levels of entrepreneurial leadership

**Table (2):** Shows percentage distribution of the head nurses according to their perception levels of entrepreneurial leadership. More than fifty (52.9%) of head nurses had high perception level of entrepreneurial leadership. While low percent (37.6% and 9.5%) of them had moderate and low perception level of entrepreneurial leadership as total. Specifically, more than half (57.1% and 53.4%) of head nurses had high perception level regarding proactiveness and, innovativeness subscales of entrepreneurial leadership respectively. critical care and emergency nursing department.

More than forty (49.7%, 48.1%, 46.6% and 45.0%) of head nurses had high perception level regarding autonomy, competitive aggressiveness, risk-taking, and taking ownership subscale of entrepreneurial leadership respectively. Moreover, about fifty (50.3%) of head nurses had moderate perception level regarding self- confidence subscale of entrepreneurial leadership. Above forty (43.4% and 42.3%) of head nurses had moderate perception level regarding

risk-taking, and taking ownership subscale of entrepreneurial leadership respectively.

**Table (3):** Shows percentage distribution of head nurses according to their perception level of decision-making effectiveness. As total, more than half (55.0%) of head nurses had moderate perception level of decision-making effectiveness. While low percent (29.1% and 15.9%) of head nurses had low and high perception level of decision-making effectiveness. Specifically, about fifty (56.6%) of head nurses had low perception level regarding problems affecting administrative decision-making in health organizations dimension of decision making effectiveness, more than forty (43.9% ,43.4%, 41.3% and 40.7%) of head nurses had moderate perception level of effective decision-making , make decision, factors affecting administrative decision-making in health organizations and the best ways to make management decisions in health organizations dimensions decision making effectiveness. respectively.

**Table (4):** Reveals correlation between head nurses' perception of entrepreneurial leadership and their decision-making effectiveness. There was significant correlation between head nurses' overall perception of entrepreneurial leadership and its subscales and, their overall their decision-making effect and its dimensions at  $p \leq 0.05$

**Table (1): Percentage distribution of the head nurses according to their personal data**

| Head nurses' personal data | Total<br>(n = 189) |      |
|----------------------------|--------------------|------|
|                            | No.                | %    |
| <b>Age (Years)</b>         |                    |      |
| >35                        | 10                 | 5.3  |
| 35 – 45                    | 154                | 81.5 |
| ≥ 45                       | 25                 | 14.2 |
| <b>Min. – Max.</b>         | 31.0 – 58.0        |      |
| <b>Mean ± SD.</b>          | 39.15 ± 4.03       |      |
| <b>Sex</b>                 |                    |      |
| Female                     | 188                | 99.0 |
| Male                       | 1                  | 1.0  |
| <b>Marital status</b>      |                    |      |
| Un married                 | 1                  | 1.0  |
| Married                    | 188                | 99.0 |
| <b>Qualification</b>       |                    |      |
| Diplom degree              | 11                 | 5.9  |
| Institution degree         | 22                 | 11.6 |
| Bachelor degree            | 156                | 82.5 |
| <b>Years of experience</b> |                    |      |
| < 10                       | 4                  | 2.1  |
| 10 - <15                   | 77                 | 40.7 |
| ≥ 15                       | 108                | 57.2 |
| <b>Min. – Max.</b>         | 7.0 – 49.0         |      |
| <b>Mean ± SD.</b>          | 16.56 ± 5.28       |      |
| <b>Department</b>          |                    |      |
| Emergency                  | 17                 | 17.9 |
| Intensive care unite       | 41                 | 32.1 |
| In patient                 | 88                 | 41.7 |
| Others                     | 43                 | 44.6 |

**Table (2):Percentage distribution of the head nurses according to their perception levels of entrepreneurial leadership**

| Entrepreneurial leadership sub scale | head nurse level (n=189) |      |          |      |      |      |
|--------------------------------------|--------------------------|------|----------|------|------|------|
|                                      | Low                      |      | Moderate |      | High |      |
|                                      | No.                      | %    | No.      | %    | No.  | %    |
| Risk-taking                          | 19                       | 10.1 | 82       | 43.4 | 88   | 46.6 |
| Proactiveness                        | 15                       | 7.9  | 73       | 38.6 | 101  | 53.4 |
| Innovativeness                       | 27                       | 14.3 | 54       | 28.6 | 108  | 57.1 |
| Autonomy                             | 33                       | 17.5 | 62       | 32.8 | 94   | 49.7 |
| Competitive aggressiveness           | 31                       | 16.4 | 67       | 35.4 | 91   | 48.1 |
| Taking ownership                     | 24                       | 12.7 | 80       | 42.3 | 85   | 45.0 |
| Self Confidence                      | 26                       | 13.8 | 95       | 50.3 | 68   | 36.0 |
| <b>Total</b>                         | 18                       | 9.5  | 71       | 37.6 | 100  | 52.9 |

**Table (3): Percentage distribution of head nurses according to their perception of level of decision-making effectiveness (n=189)**

| Decision making effectiveness<br>Dimensions                                   | Head nurses' level |      |          |      |      |      |
|---|--------------------|------|----------|------|------|------|
|   | Low                |      | Moderate |      | High |      |
|   | No.                | %    | No.      | %    | No.  | %    |
| Make decision   |                    |      |          |      |      |      |
| Factors affecting administrative decision-making in health organizations      | 61                 | 32.3 | 78       | 41.3 | 50   | 26.5 |
| The best ways to make management decisions in health organizations            | 56                 | 29.6 | 77       | 40.7 | 56   | 29.6 |
| The problems affecting administrative decision-making in health organizations | 107                | 56.6 | 54       | 28.6 | 28   | 14.8 |
| Effective decision-making   |                    |      |          |      |      |      |
| <b>Total</b>  | 55                 | 29.1 | 104      | 55.0 | 30   | 15.9 |

**Table (4):Correlation between head nurses' perception of entrepreneurial leadership and their decision-making effectiveness (n = 189)**

| Head nurses' entrepreneurial leadership subscales |   | Head nurses' decision-making effectiveness dimensions |  |   |   |                           |                         |
|---|---|---|--|---|---|---------------------------|-------------------------|
|   |   | Make decision   | Factors affecting administrative decision-making in health organizations | The best ways to make management decisions in health organizations. | The problems affecting administrative decision-making in health organizations | Effective decision-making | Overall decision making |
| Risk-taking                                       | r | 0.410*  | 0.313*   | 0.349*  | -0.153*   | 0.253*                    | 0.297*                  |
|   | P | <0.001*   | <0.001*  | <0.001*   | 0.036*  | <0.001*                   | <0.001*                 |
| Proactiveness                                     | r | 0.412*  | 0.347*   | 0.313*  | -0.050  | 0.401*                    | 0.368*                  |
|   | P | <0.001*   | <0.001*  | <0.001*   | 0.494   | <0.001*                   | <0.001*                 |
| Innovativeness                                    | r | 0.474*  | 0.392*   | 0.381*  | -0.107  | 0.348*                    | 0.385*                  |
|   | p | <0.001*   | <0.001*  | <0.001*   | 0.145   | <0.001*                   | <0.001*                 |
| Autonomy  | r | 0.452*  | 0.339*   | 0.309*  | -0.036  | 0.391*                    | 0.373*                  |
|   | p | <0.001*   | <0.001*  | <0.001*   | 0.624   | <0.001*                   | <0.001*                 |
| Competitive aggressiveness                        | r | 0.414*  | 0.415*   | 0.376*  | -0.059  | 0.293*                    | 0.385*                  |
|   | p | <0.001*   | <0.001*  | <0.001*   | 0.419   | <0.001*                   | <0.001*                 |
| Taking ownership                                  | r | 0.603*  | 0.482*   | 0.490*  | -0.002  | 0.410*                    | 0.520*                  |
|   | p | <0.001*   | <0.001*  | <0.001*   | 0.978   | <0.001*                   | <0.001*                 |
| Self Confidence                                   | r | 0.519*  | 0.504*   | 0.462*  | 0.060   | 0.411*                    | 0.526*                  |
|   | p | <0.001*   | <0.001*  | <0.001*   | 0.412   | <0.001*                   | <0.001*                 |
| <b>Overall</b>                                    | r | 0.603*  | 0.507*   | 0.490*  | -0.064  | 0.452*                    | 0.519*                  |
|   | P | <0.001*   | <0.001*  | <0.001*   | 0.380   | <0.001*                   | <0.001*                 |

\*: Statistically significant at  $p \leq 0.05$



## Discussion

In highly complex and complicated health care environment, head nurses are challenged to effectively make decisions. In this sense, head nurses' perception of entrepreneurial leadership is essential.<sup>(19)</sup> This leadership style empowers head nurses to effectively manage health services in their unit, to ensure that goals and objectives are performed regularly, and that services provided to the patients of the maximum quality and standard.<sup>(20)</sup> So, the present study aimed to explore head nurses' perception of entrepreneurial leadership and its relation to decision making effectiveness.

The findings of the present study showed that more than fifty of head nurses had high perception level of entrepreneurial leadership as total. This means that, head nurses believed that entrepreneurial leadership significantly contributes to their success in making effective decisions compared to other leadership style. Also, they believed in the strengths of entrepreneurial leaders as the ability to recognize opportunities to improve nurses' performance with appeal to higher their needs and care of patient.

They lead nursing units that compete on the advantage, learn and generate knowledge, handle sudden change, and also understand

their resources and capabilities, empowers various resources, solves the challenges, critical thinking and brings them to achieve effectiveness of decision making. In addition, it enables head nurses to manage nursing organizations successfully and make decision in a unique and dynamic manner with innovative policies.

These findings are consistent with findings of **Dehghanzadeh et al. (2016)**<sup>(21)</sup> who found that the majority of the nurses have average entrepreneurship. In this regard, **Saeed et al. (2016)**<sup>(22)</sup> revealed that responses of survey participants showed a positive perception about entrepreneurial leadership role and its importance. **Mgeni TO (2015)**<sup>(23)</sup> findings showed that more than sixty of all CEOs in Tanzania use entrepreneurial leadership. **Pihiet et al. (2014)**<sup>(24)</sup> indicated that high importance of entrepreneurial leadership characteristics and practices for school principals as perceived by the teachers.

In this respect, **Aigboje (2018)**<sup>(25)</sup> In Nigeria, the perception of entrepreneurship had mounted to a high level of national homily and policy formulation as it has been seen as a major motorist and keys for the level of industrialization, modernization, urbanization and meaningful employment generation for the unemployed individual. **Jakobsen (2021)**<sup>(26)</sup> found that the majority of nurses could be characterized as entrepreneurs' profession of nursing is primed with content and contextual knowledge to create entrepreneurial initiatives.

Specifically, current study findings showed that more than half of head nurses had high perception level of proactiveness subscale of entrepreneurial leadership. This means that those head nurses actively seek out and process information and take the initiative to improve current circumstances or create new ones and produce new and useful ideas. These findings are consistent with the findings of **Molin et al. (2019)**<sup>(27)</sup> who concluded that the proactivity scores of

nurses who have management jobs were higher than the other nurses

**In this respect**, Proactive nurse leaders attenuate the adverse effect of nursing team workload on nursing team learning and subsequent performance. While less proactive nurse leaders demonstrate lower levels of intellectual stimulation under high nursing team workloads, the highly proactive nurse leaders sustain its level and thus maintain nursing team learning as concluded by **Abo Gad (2018)** <sup>(28)</sup> indicated that staff nurses at ElMogamaa El-Tepy Hospital had higher mean percent of proactivity.

Current study findings displayed that more than half of head nurses had high perception level of innovativeness subscale of entrepreneurial leadership. This result may be related to those head nurses believed in the importance of encouraging of new ideas and supporting their staff in openly presenting and implementing their new ideas and practice. These findings are consistent with findings of **El-Desoky et al. (2021)** <sup>(29)</sup> who demonstrated that sixty percent of nursing staff are highly innovative. **Mostafa , Mahfouz (2021)** <sup>(30)</sup> indicated that nearly three quarters of staff nurses had high perception level regarding innovative work behaviors. **Saleh (2013)** <sup>(31)</sup> who stated that managers of the administrative system have high level of work innovation.

**Kalkan et al. (2010)** <sup>(32)</sup> showed that nurse managers have meaningfully higher innovativeness. But, **Wang and Yang (2019)** <sup>(33)</sup> stated that the level of innovative behavior among head nurses was in the middle level. **Ibraheam (2019)** <sup>(34)</sup> revealed that the majority of staff nurses

perceived their head nurses as low level in innovative work behavior. **Warden et al. (2020)** <sup>(35)</sup> revealed that majority of nurse managers haven't work innovation.

Current study findings revealed that more than forty of head nurses had high perception level of autonomy subscale of entrepreneurial leadership. These findings may be related to those head nurses believed in autonomy as a vital subscale of entrepreneurial leadership. Also, they focus on creating a conducive climate for the head nurses by promoting an autonomy-focused supportive environment. These findings are consistent with the findings of **Warden et al. (2020)** <sup>(35)</sup> who reported that more than forty of nurse managers have entrepreneurial autonomy. **Owusu -Asiamah (2018)** <sup>(36)</sup> showed that the nurse-midwife entrepreneur displayed high professional autonomy.

In this regard, **El- Shamy (2021)** <sup>(37)</sup> result showed that more than two fifth of nurses had low perception level about professional nursing autonomy. **Sarkoohijabalbarezi et al. (2017)** <sup>(38)</sup> and **Mansour (2017)** <sup>(39)</sup> found low levels of professional nursing autonomy among nurses. Also, **Eladly (2014)** <sup>(40)</sup> showed that nurses had moderate levels of autonomy.

Current study findings portrayed that more than forty of head nurses had high perception level of competitive aggressiveness subscale of entrepreneurial leadership. These findings may be due to those head nurses think about the problems that may face and prepare for these problems, achieve new goals when facing difficulties, work to outpace their competitors, and they have confidence in

being successful in achieving the desired goal.

The findings of **Owusu – Asiamah (2018)**<sup>(36)</sup> showed that two-thirds of the participants were not aggressively engaged in competition in the health market. However, one-third of the participants were actively engaged in competitive aggressive strategies such as marketing online, running appointment systems to reduce long queues, organizing childbirth classes and providing a customer-friendly environment to maintain their clients.

In this concern, according **Alalawi (2020)**<sup>(41)</sup> head nurses who provide an effective work environment focused on leveraging information technology, through which the health care organization is able to achieve competitive advantages in the long run, because the focus on this technology provides information that enables the organization to develop appropriate decisions and strategies to support the overall organizational performance. Furthermore, head nurses who interested in continually searching for learning opportunities in order to gain experience and knowledge that will enable them to improve performance and achieve competitive advantage.

Current study findings represented that more than forty of head nurses had high and moderate perception level of risk-taking subscale of entrepreneurial leadership. This result may be related to head nurses perceived that entrepreneurial leadership predict risk-taking levels and they have authority as a head nurse that include the formation of new thoughts and resources as well as creating change.

These findings are consistent with the findings of **El Desoky et al. (2021)**<sup>(29)</sup> who demonstrated that risk taking domain perceived as being the highest mean score which came first in ranking followed by openness to experience among nursing staff including head nurses. **Wardan et al. (2020)**<sup>(35)</sup> showed that more than forty of nurse managers have entrepreneurial risk taking.

**El-Demerdash and Mostafa (2018)**<sup>(42)</sup> revealed that above half of head nurses had moderate level of risk taking. The findings of **Owusu – Asiamah (2018)**<sup>(36)</sup> showed that nurse-midwife entrepreneurs always experience risks in varying propensities. The risk-taking propensity is higher when starting and expanding the business and more predictable when managing the business.

Current study findings showed that more than forty of head nurses had high perception level of taking ownership subscale of entrepreneurial leadership. These findings may be due to those head nurses seek out information on their performance and work to improve it, try to find ways to cut costs associated with their job, make suggestions about new, innovative ways of doing job, confident in my ability to contribute to my organization's success, and they consider problems at workplace as their own problems.

Current study findings showed that fifty of head nurses had moderate perception level of self- confidence subscale of entrepreneurial leadership. These findings may be related to those due to those head nurses have great confidence in their abilities to defend their thoughts, argument and proof, and they have sufficient abilities to explore inconspicuous

tendencies of other. These findings are agreed with the findings of **Wardan et al. (2020)** <sup>(35)</sup> who reported that more than forty of nurse managers have self-confidence characteristic of entrepreneurship.

In this concern, **Axelrod (2017)** <sup>(42)</sup> mentioned that self-confident leaders tend to work directly with their subordinates, using informal persuasion and supervisory power. Leaders with strong self-confidence tend to have positive expectations and, so, are willing to take risks that others might avoid. This allows them to accept accountability, making effective decisions and following them up with decisive action.

#### **-Concerning head nurses' perception level of decision-making effectiveness.**

The findings of the present study as total, declared that more than half of head nurses had moderate perception level of decision-making effectiveness as total. These finding means that the head nurses' high perception level of entrepreneurial leadership contribute to decision making effectiveness. Because head nurses with entrepreneurial leadership are willing to accept risks, making timely and effective decision, problem-solving skills and good negotiating skills. Moreover, head nurses who believed in entrepreneurial leadership are able to delegate, build responsible behavior of employees, make and determine decisions, and work freely.

In contrary, the findings of **Yassien and Darawsha (2022)** <sup>(44)</sup> revealed that a. the level of effectiveness of administrative decision-making in crisis management among academic leaders in Jordanian universities was high. **Wagiono and Gilang**

**(2018)** <sup>(45)</sup> who showed that head nurses' effective decision making was good with average value 3.0. **Abo Gad and El-Demerdash (2014)** <sup>(16)</sup> who found that lowest percent of nursing managers always and often makes an effective decision. **Al-Ghazali (2012)** <sup>(19)</sup> and **Al-Nabeah (2011)** <sup>(20)</sup> their participants reported high levels of decision-making effectiveness.

Specifically, the findings of the present study declared that more than forty of head nurses had moderate perception level of make decision, factors affecting administrative decision-making in health organizations and the best ways to make management decisions in health organizations dimensions of decision-making effectiveness. These findings may be related to those head nurses have calm and balance in choosing between alternatives when making decisions, and give priority for urgent decisions. They reliance on personal experience, fellow the laws and regulations, advice from people with previous management experience, personal and psychological factors, reliance on personal experience and consider the marketing and advertising aspect.

These findings are disagreed with findings of **Mohammed and Amer (2022)** <sup>(46)</sup> result who showed that the total level of decision making among the study head nurses was, slightly: less than half of head nurses had a low level of decision making and close to quarter had a high level. **Abo Gad and El-Demerdash (2014)** <sup>(16)</sup> who found that more than two third of nursing managers rarely and never relies on psychological and personal factors, away from risk or bear responsibility and, arbitrariness and lobbying ways when they taking a decision, as well as

about two third of them relies on personal experience, and laws and regulations when making decision, also ,considerable percent of nursing managers were rarely and never considered administrative experience, rules and laws, educational level and, job satisfaction influencing their decisions.

**Shaaban et al. (2014)** <sup>(47)</sup> founded that less than half of head nurses make their decisions with their leader when they determine on the philosophy of nursing office and when they specify organization policies and procedures for nursing staff. In this regard, **Mohamed and Elrais (2017)** <sup>(18)</sup> concluded that less than half of nurse managers were influenced by the factors affecting decision making, and the highest mean score was for process factors, while the lowest mean score was for individual factors. **Alaseeri et al. (2019)** <sup>(17)</sup> revealed that Thirty-Four articles included in this integrative review and categorized into two major domains of factors affect decision making which are:

- 1) the personal factors; which include nurse's experience, knowledge and educational level, age and gender, situation awareness, autonomy, self-confidence, intuition, nurses' physical situation;
- 2) the organizational factors ;which include multidisciplinary team factors, inter-professional collaboration, collegial support, nurses' involvement, effective communication, adequate resources, technology and evidence based practice, volume of patients in the department, serious unit conditions, stressors, time, workload, hospital policies, protocols and guidelines, and settings environment.

Although high percent of head nurses falls in age group 35-45 years with mean age  $39.15 \pm 4.03$ .  $\geq 35$ , the majority of them had bachloric degree more than half of them had  $\geq 15$  year of experience with the mean  $\geq 56 \pm 5.28$ . The findings of the present study showed that more than fifty of head nurses had low perception level of problems affecting administrative decision-making in health organizations dimension of decision-making effectiveness. These findings may be related to laws and regulations, lack self - confidence, differentiation of specialization, lack of oversight and inspection, stressful environment and lack management experience, lack of appropriate services, lack health insurance and human relations in the health organization affecting administrative decision-making in health organizations.

Those head nurses need to know more about the decisions making process, styles, factors and problems, and the defenses against weaknesses that can contribute to errors in decision making. In this respect, **Abo Gad and El-Demerdash (2014)** <sup>(16)</sup> showed that highest percent of nursing managers always and often reported that all these problems affect the managerial decision-making. The majority of participants of **Alaseeri et al. (2021)** <sup>(17)</sup> study reported that they often work in stressful and challenging working conditions, including sickness and stress, which affects their decision-making ability.

Further, participants of **Alaseeri et al. (2021)** <sup>(17)</sup>, study were highly influenced by various organizational factors that could facilitate or inhibit their DMP. It is interesting to note that the vast majority of responses mentioned the influence of workload on nurse's DMP. In this context,

participants highlighted various issues that increase workload and therefore inhibit their ability to make effective decisions, such as a high patient ratio, doing non-nursing jobs, and interruptions. Nurses and nurse managers cannot make effective decisions without adequate resources, a proper nurse–patient ratio, and a supportive structure to assist with their large workload.

**Gizaw et al. (2018)** <sup>(48)</sup> reported that commitment, supervision and feedback, autonomy, good communication were identified as facilitating factors of clinical decision-making practice. On the other hand; poor resource management, patient-nurse ratio, structure and culture of the health care system, absence of continuous professional development, low level confidence and low level of knowledge on basics of nursing profession are identified as factors inhibiting clinical decision-making practice among nurses

Another study conducted in Greece, reporting that experienced nurses make more effective clinical decisions than less experienced nurses. Additionally, the results of **Nibbling and Brewer (2017)** <sup>(49)</sup>, as they found that nursing experience in clinical areas was the most influential factor in the DMP. They found that experience enhances nurses' self-confidence and guides nurses to make sound decisions analytically.

The **Alaseeri et al. (2021)** <sup>(17)</sup>, participants perceived that they need to acquire support for their decisions from different levels, including the nursing and hospital administration, nursing colleagues, and other health team members. Additionally, another study by **Chisengantambu et al. (2018)** <sup>(50)</sup>,

revealed that effective decision making requires organizational support, which impacts a nurse manager's performance, their perception of being appreciated and valued, and the creation of a positive environment.

**Bakr and Fogg (2013)** <sup>(51)</sup> showed that clinical experience, competence, education regarding decision-making, situation/ work environment relationship, and self-confidence are identified as factors influencing clinical decision-making. **Soliman (2010)** <sup>(52)</sup> revealed that the factors influencing nurse managers' decision making, their satisfaction with their job, and their leadership style is interrelated, and are influenced by their nursing qualification and experience.

#### **-Concerning correlations**

The findings of the present study displayed that there was significant positive correlation between head nurses ' overall perception of entrepreneurial leadership and its subscales, and their overall their decision-making effectiveness and its dimensions. These findings means that head nurses ' perception of entrepreneurial leadership can increase their abilities in practice decision-making. Along with the present findings with **Wardan et al. (2020)** <sup>(35)</sup> who showed that there was statistically significant positive correlation between nurse managers' total scores characteristics of entrepreneurship and the total scores work innovation.

In this sense, **Bagheri (2017)** <sup>(53)</sup> found that a significant impact of entrepreneurial leadership on innovation work behavior. **Mgeni TO (2015)** <sup>(23)</sup> findings showed that there is a significant strong positive

correlation between entrepreneurial leadership style and business performance of SMEs in Tanzania. **Abo Gad and El-Demerdash (2014)** <sup>(16)</sup> who revealed significant positive correlation at was found between nursing managers' decision-making effectiveness and four dimensions of transformational leadership. **Bagheri et al. (2014)** <sup>(24)</sup> found a significant correlation between teachers' perceptions of school principals' entrepreneurial leadership practices and school innovativeness.

Moreover, **Al-Ghazali (2012)** <sup>(19)</sup> There was a significant statistical impact of transformational leadership and its dimensions (Idealized Influence, Intellectual Stimulation, Motivation, Individualized Consideration, Empowerment) on the decision-making process effectiveness in the Jordanian insurance companies. **Al-Nabeah (2011)** <sup>(18)</sup> There was positive correlation between decision taking effectiveness and the availability of the components of transformational and transactional leadership styles, except passive management-by-exception component, which had negative correlation with decision taking effectiveness.

### **Conclusion**

Head nurses at Tanta University Hospitals and, Ministry of Health Hospitals: El-Menshawy and Qotour hospitals had high perception level of entrepreneurial leadership and its subscales except self- confidence subscale of entrepreneurial leadership about fifty of head nurses had moderate perception level.

More than half of head nurses had moderate perception level of decision-making

effectiveness and its dimensions except dimension problems affecting administrative decision-making in health organizations more than half of them had low level of perception There was significant correlation between head nurses overall perception of entrepreneurial leadership and its subscales and their overall their decision-making effect and its dimensions.

### **Recommendations**

Based on the results of the present study, the following recommendation are suggested for top management:

1-Need to encourage head nurses to demonstrate entrepreneurial leadership to create a healthy work environment and culture that promotes effective decision making; especially the problems affecting administrative decision-making in health organizations

2-Need to heighten head nurses' perception about entrepreneurial leadership through frequent scientific meetings and congresses to improve decision making abilities, especially pre promotion for nursing position.

3-Need to support head nurses' self-confidence and risk taking by providing a working environment contribute the explosion of energies and the generation of ideas that lead to raise organization growth and improvement.

4-Take into account and remove all organizational factors that hinder decision making process thus create a healthy work environment and culture that promotes effective decision making.

5-Have to provide more opportunities for head nurses to express their ideas and opinions

**For education:**

Teach entrepreneurial leadership in undergraduate courses and effective decision-making.

**For further researches on:**

Relationship between head nurses' entrepreneurial leadership practices and decision-making problems.

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