International Journal of Nursing Science 2020, 10(3): 51-61
DOI: 10.5923/j.nursing.20201003.01

# Effect of Organizational Support and Knowledge Sharing on Nurses' Innovative Behavior

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**Abstract** Organizations provide support to their employees to innovate their processes, methods, and sharing knowledge to creating change new knowledge and innovative behavior to accomplish the mission of the organization. **Aim:** To investigate the effect of organizational support and knowledge sharing on innovative behavior among nurses. **Design:** A descriptive correlational research design. **Setting:** The study was conducted in critical care units at University Hospitals in Menoufia Governorate, Egypt. **Subjects:** A simple random sample of 150 nurses. **Tools:** Data were collected by using an organizational support questionnaire, knowledge sharing scale, and innovation behavior scale. **Results:** the majority of the study subjects (60.66% & 34.7%) had perceived moderate and high levels of organizational support, and the total mean score of the organizational support variable was 53.72 ± 8.26. More than half of the study subjects (55.33%) showed a moderate level of knowledge sharing behavior, and the lowest percentage (3.33%) showed a low level of knowledge sharing behavior. Moreover, the highest percentage of study subjects (44% & 26.7%) had perceived a moderate level and high levels of innovation behavior. **Conclusion:** There was a statistically significant positive correlation between organizational support and all domains of knowledge sharing behavior and among all domains of innovative behavior. Finally, there was a highly statistically significant positive correlation between total scores of organization support, knowledge sharing behavior, and innovative behavior among nurses, and organizational support and knowledge sharing had a statistically significant effect on the innovative behavior of studied nurses. **Recommendations:** Hospital administrator and nursing managers have to focus on the continuous estimate of organizational support and knowledge-sharing behavior by providing, rewarding good performance, encouraging competitive spirit among nurses, paying attention to staff satisfaction, and promoting nurses 'innovation by encouraging trying using new ideas, technique, and a new style of doing things and sharing their knowledge with their colleagues and superiors at work.

**Keywords** Innovation Behavior, Knowledge Sharing, Nurses, Organizational Support

## 1. Introduction

Today Human resources is a key part of achieving organizational results. In light of the current job market in which institutions compete to attract and retain employees, those who wish to excel must work on adopting policies and methods that are mainly based on their employees and gain their satisfaction, and organizations also need to give independence and freedom of work, coordinate the supervisor and organizational support and build a relationship based on trust and access to data and include it in the decision-making process [1].

Organizational support always develops more responsibility for any employees towards their organization. Organizational support perceptions help employees determine whether their organizations recognize increased work effort, reward improved performance, and enhance innovative behavior [2]. Organizational support is a critical mechanism through which supervisor support increases employee engagement in their workplace [3]. For the nurses to do their best since they play a crucial role in providing optimal health care, they need a high engagement experience that can be achieved by providing the necessary organizational support and an appropriate work environment [4]. Nurses must fully participate in their work and also be prepared to perform beyond their job descriptions [5].

Good relations between superiors and subordinates, independence, and freedom of employees in the performance of their functions, as well as support and guidance from superiors who increase levels of employee commitment, are all of the important that lead to providing staff with high-quality service to clients [6]. Perceived organizational support is an in-dividual-level construct, capturing individual employees' subjective perceptions of being cared for and valued by their organization. When employees

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Received: Oct. 29, 2020; Accepted: Nov. 13, 2020; Published: Nov. 18, 2020
Published online at http://journal.sapub.org/nursing

realize that their organization values their contributions and treats them positively for example; working conditions, payment of bonuses, and promotion, they will feel obligated to share these services by caring for the well-being of the organization and working towards the goals of the organization [7].

Knowledge sharing is the process of transferring organizational expertise and knowledge to business operations through channels of communication between individuals [8]. Sharing knowledge with members support organizations to perfect their work experiences and ultimately gain more success [9]. Knowledge sharing is a set of specific behaviors that involve sharing data or related knowledge to collaborate with others to develop new ideas and implement policies [10]. Previous studies have noted that sharing knowledge activities basis on recollection, reputation, and reliability, and they can take on various roles [11].

Knowledge sharing involves two stags. The first stage consists of having tacit and explicit knowledge, and the second stage is participation in knowledge sharing [12]. Tacit knowledge is complex, spontaneous, subjective, and difficult to explain to others and it accumulates through collaborative practices, experiences, and observations [13]. Explicit knowledge consists of information and know-how that are teachable objective, and verbalizable [14]. Knowledge sharing is the factor that encourages innovation and since innovation is unlikely to occur in the absence of knowledge sharing [15].

Health care organizations have based on ongoing innovations to make services and treatment procedures more effective and efficient. Employees who innovate, suggest, implement, and impose new ideas within an organization are the sources of sustainability for the organization [16]. To deal with environmental challenges, organizations rely heavily on their employees' innovative capabilities and the resulting behavior [17].

Innovative work behavior refers to all worker behavior directed towards the creation, presentation, and/or application of ideas, processes, procedures, or methods to find better solutions to the newly created work-related [18]. Innovative work behavior among nurses contributes to organizational innovation as other professions because this behavior is a result of the creativity and innovative participation of nursing staff [19]. Nursing innovation encompasses the formulation and development of new and existing nursing care techniques [20].

### 1.1. Significant of the Study

To foster innovative behaviors, organizations focus on employee commitment, organizational support, and employee confidence so that they engage in innovative work behavior with total dedication, and enthusiasm and managers focus on fostering innovation practices among their employees [21].

Critical-care nurses practice in settings where patients require complex assessment, high-intensity therapies, and interventions. Critical-care nurses rely upon a specialized body of knowledge, skills, and experience to meet the needs of the critically ill [22]. There is increasing pressure on ICU nurses to provide high-quality care which can be achieved through improved communication and increased knowledge sharing [23].

Sometimes nurses can generate a new idea, but they do not show a desire to share their idea and knowledge and convert it to practical implementation due to some obstacles while implementing their new idea. Based on the results of the reviewed literature it is observed that there are limited studies done locally about organizational support and innovative work behavior in health care. To the best of our knowledge, no research has been conducted among nurses on their knowledge sharing, innovative work behaviors, and organizational support. Therefore, the aim of this study to investigating the effect of nurses' perceived organizational support and knowledge sharing on their innovative behavior in the workplace.

### 1.2. Aim of the Study

The study aimed to investigate the effect of perceived organizational support and knowledge sharing on innovative behavior among nurses.

### 1.3. Research Questions

1. What is the level of organizational support as perceived by nurses?
2. What is the level of nurses' knowledge sharing behavior?
3. What is the level of nurses' innovative behavior?
4. Is there an effect of organizational support and knowledge sharing on innovative behavior among nurses?

## 2. Subjects and Methods

### 2.1. Research Design

A descriptive correlational design was used in carrying out this study.

### 2.2. Setting

The study was conducted at Menoufia University Hospitals in the following critical care units; Anesthesia intensive care unit, Emergency intensive care units (Medical ICU- Cardiac ICU- Catheterization ICU- Chest ICU), and Intermediate care units.

### 2.3. Subjects

A simple random sample of 150 nurses who are working at the previously mentioned units at Menoufia University Hospitals. The total number of nurses was 222 nurses. The total sample size of the study is calculated using the following equation:

$$n = \frac{N}{1+N\,(e)^2}$$ Emmel, 2013 [24].

Where (n) = sample size, (N) = is the total number of nurse 222, and (e) = is the coefficient factor = 0.05.

According to the previous equation, the sample size was 143 nurses but the total sample size of the study increased to (150) nurses to avoid the negative impact of attrition. They are selected randomly from their duty roster.

### 2.4. Data Collection Tools

To achieve the aim of the study the following tools were used.

**Tool I: Organizational Support**

This tool consists of two parts:

- **Part I:** A structured questionnaire was designed to include; Socio-demographic characteristics such as age, gender, work department, qualifications, and years of experience.
- **Part II: Perceived Organizational Support Questionnaire**

It was developed by Eisenberger, et al., [25] and adapted by the researchers, the original version is in English was translated into Arabic in the framework of this research. It consists of 15 items used to measure nurses' perception of organizational support.

**Scoring System**

The subjects' response was rated on a five-point Likert rating scale from (1) strongly disagree to (5) strongly agree. The total score ranged from 15 to 75. The higher scores indicate a higher level of organizational support. These scores were summed and were converted into a percent score. The scoring was classified into 3 levels as low if scores <60%, moderate if scores from 60-74% and high if scores and ≥75%.

**Tool II: Knowledge Sharing Scale**

It was developed by Huang (2009) and Xue et al., (2011) [26,27] and adapted by the researchers. It consists of 12 items used to assess knowledge sharing levels among nurses. It contained three domains: tacit knowledge (3 items), explicit knowledge (2 items), and participating in knowledge sharing activities (7 items).

**Scoring System**

The subjects' response was rated on a five-point Likert Scale from "never (1), seldom (2), occasionally (3), regularly (4), and always (5)". The score of the items was summed-up and the total divided by the number of the items, giving a mean score for each domain of the knowledge sharing were calculated, and mean overall scores were calculated as well, summing all three domains gives an overall score for knowledge sharing. The nurses had a low level of knowledge sharing if the percentage was <60%, while 60% -74% were considered a moderate level of knowledge sharing, and ≥75% were considered a high level of knowledge sharing.

**Tool III: Innovation Behavior Scale**

It was developed by Yigit and Aksay [28] and adapted by the researchers to measure nurses' perception of innovation behavior. It consisted of 20 items divided into five domains: Openness to experience (4 items), Opinion Leadership (5 items), Acceptance to change (6 items), Cautiousness (2 items), and Risk-taking (2 items). 12 of the scale items are positive (1, 2, 3, 5, 8, 9, 11, 12, 14, 16, 18 and 19), and 8 of them are negative (4, 6, 7, 10, 13, 15, 17 and 20) statements.

**Scoring System**

The answers were measured by Likert 5 scale, ranging from 1 = strongly disagree to 5= strongly agree for a positive statement and vice versa for a negative statement. The total score ranged from 20 to 100. The higher scores indicate a higher level of perceived nurse innovation behavior. The scoring levels were arranged as follows; less than 60% for low innovative behavior, from 60% - 74% for moderate innovative behavior, and ≥75% for high innovative behavior.

### 2.5. Validity and Reliability of the Study Tools

#### 2.5.1. Validity

Tools of data collection were translated into Arabic and reviewed for their content validity by five experts who were selected to test the content and face validity of the instruments. The panel included three experts from the nursing administration department, two experts from the psychiatric nursing department presented from different faculties of nursing affiliated to Menoufia and Banha universities and necessary modifications were done to reach the final valid version of the tools. The tools were considered valid from the experts' perspective.

#### 2.5.2. Reliability

The tools were tested for reliability by using Cronbach's alpha coefficient ($\alpha = 0.96$) for the organizational support tool, ($\alpha = 0.89$) for the knowledge sharing tool, and ($\alpha = 0.92$) for innovative work behavior. The tools were clear, comprehensive, and applicable.

### 2.6. Pilot Study

A pilot study was carried out with 10% of the sample (15 nurses) who were not included in the main study sample. It was done to test the clarity of the study tools. The average time needed to complete each questionnaire was 15-20 minutes. The necessary modification was done.

### 2.7. Fieldwork

Data collection took about three months from the first of November 2019 to the end of January 2020. Questionnaires were distributed to nurses weekly during the morning and afternoon shifts. Oral consent was taken from the nurses to participate in the study. The researchers clarified the purpose and content of the tools to the nurses and the tools were given and asked to fill out the forms. The forms were collected

promptly and reviewed for completeness to avoid losing any data.

### 2.8. Administrative and Ethical Consecrations

An official letter was obtained from the dean of the faculty of nursing sent to the director of the hospital explaining the aim of the study and conducting the study and collecting the necessary data. Participants' consent to participate was obtained after informing them about their rights to participate, refuse, or withdraw at any time without any harmful effect during or after sessions.

### 2.9. Statistical Analysis

After data were collected, they were coded and transferred into especially design formats to be suitable for computer feeding. SPSS version 25 was used for data analysis all entered data were verified for errors. A p-value of 0.001 and 0.05 levels was used as the cut-off value for statistical significance. Quantitative data were analyzed using mean and standard deviation. A T-test was used to test statistical significance. Qualitative data were analyzed using numbers and percentages. Pearson Correlation was used to test the relationship between variables. Regression analysis was used to investigate the effect of independent variables on the dependent variable.

## 3. Results

**Table (1):** illustrates the percentage distribution of the study subjects' characteristics. Concerning the age of study subjects, the highest percentage of study subjects (63.33%) were in the age group less than 30 years. Mean ± SD ages were 29.87±5.13. Regarding years of experience, the highest percentage of study subjects (44%) had less than 5 years of experience. Mean ± SD years of experiences were 5.9 ± 3.7. The majority of them female nurses (71.3) and had an Associate degree (64.0%) and the highest percentage (78.0%) were working in Intensive Care Units.

**Table (2):** illustrates study subjects mean scores of organizational support, knowledge sharing, and innovation behavior and their respective domains. There were statistically significant differences among studied subjects concerning the mean scores of organizational Support, Knowledge Sharing, And Innovation behavior, and all domains. The respective mean ± SD of Organizational Support, Knowledge Sharing, And Innovation behavior was (53.72±8.26, 43.61±6.84, and 67.12 ± 12.37) respectively.

**Figure (1):** shows the percentage distribution of study subjects according to Levels of organization support. The majority of the study subjects (60.66%) showed a moderate level of organizational support while the lowest percentage (4.66%) showed a low level of organizational support.

**Figure (2):** illustrates Levels of Knowledge sharing behavior among study subjects. More than half of the study subjects (55.33%) showed a moderate level of knowledge sharing behavior. Meanwhile, the lowest percentage (3.33%) showed a low level of knowledge sharing behavior.

**Figure (3):** displays levels of innovative behavior among studied subjects. The highest percentage of study subjects (44%) showed a moderate level of innovation behavior however the lowest percentages of study subjects (26.7%) showed a high level of innovation behavior.

**Table (3):** presents correlations between organization support and domains of knowledge sharing behavior among study subjects. There was a statistically significant positive correlation between organizational support and the three domains of knowledge sharing behavior.

**Table (4):** presents correlations between organizational support and domains of innovative behavior. There was a statistically significant positive correlation between organizational support and all domains of Innovative behavior.

**Table (5):** displays Correlations between domains of knowledge sharing behavior and domains of innovative behavior. There was a statistically significant positive correlation between all domains of knowledge sharing behavior and all do-mains of innovative behavior.

**Table (6):** shows the relationship between total scores of organization support, Knowledge sharing behavior, and innovative behavior among study subjects. According to this table, there was a statistically significant positive correlation between total scores of organization support, Knowledge sharing behavior, and innovative behavior.

**Table (7.1):** displayed multiple regression analysis for organizational support, and knowledge sharing behavior effect on nurses' innovative behavior. Regression results indicate the goodness of fit for the regression between organizational support and knowledge sharing behavior and work innovative behavior was satisfactory. Also, the table showed that the model of this analysis has achieved the R Square of 0.79. This means 79% of the variances in the acceptance of organizational support score and knowledge sharing behavior are explained by the variances in the nurses' innovative behavior. The correlation coefficient of 88.9% indicates that the combined effect of the predictor variables have a strong and positive correlation with nurses' innovative behavior.

**Table (7.2):** indicated that the overall model was highly significant (p = 0.000) and F-statistics was 326.11 with 1 and 133 degree of freedom.

**Table (7.3):** displayed regression coefficients of the independent variables organizational support and knowledge sharing behavior. The results revealed that organizational support and knowledge sharing behavior had an effect statistically significant on the innovative behavior of nurses.

**Table (8):** shows the relationship between organization support, Knowledge sharing behavior, and innovative work behavior, age, and years of experience. According to this table, there was a statistically significant positive correlation between organization support, Knowledge sharing behavior and innovative behavior, age, and years of experience.

**Table 1.** Socio-Demographic Characteristics of Nurses in the Study Sample (n= 150)

| Characteristics | No | % |
|---|---|---|
| **Age** | | |
| < 30 | 95 | 63.33 |
| 30 – 40 | 44 | 29.33 |
| >40 | 11 | 7.33 |
| Mean ± SD | 29.87±5.13 | |
| **Years of Experience** | | |
| <5 | 66 | 44 |
| 5 – 10 | 63 | 42 |
| >10 | 21 | 14 |
| Mean ± SD | 5.9 ± 3.7 | |
| **Department** | | |
| ICU | 117 | 78 |
| Intermediate Care | 33 | 22 |
| **Gender** | | |
| Female | 107 | 71.3 |
| Male | 43 | 28.7 |
| **Qualifications** | | |
| Diploma | 11 | 7.3 |
| Associate degree | 96 | 64 |
| Bachelor | 43 | 28.7 |

**Table 2.** Study Subjects Mean Scores of Organizational Support, Knowledge Sharing, and Innovation behavior and Their Respective Domains (n=150)

| Domains | Mean | ±SD | T | P |
|---|---|---|---|---|
| **Total Organization support Score** | 53.72 | 8.26 | 79.7** | 0.001 |
| **Knowledge sharing behavior** | | | | |
| 1. Explicit Knowledge sharing | 7.64 | 1.52 | 61.71** | .001 |
| 2. Tacit knowledge sharing | 11.07 | 1.55 | 87.52** | .001 |
| 3. Participating in Knowledge sharing activities | 24.90 | 4.07 | 74.94** | .001 |
| **Total Knowledge sharing Score** | 43.61 | 6.84 | 78.1** | 0.001 |
| **Innovative behavior** | | | | |
| 1. Openness to experience | 13.18 | 2.56 | 63.07** | .001 |
| 2. Opinion leadership | 21.21 | 3.23 | 80.41** | .001 |
| 3. Acceptance to change | 20.61 | 3.75 | 67.35** | .001 |
| 4. Cautiousness | 5.61 | 1.72 | 37.79** | .001 |
| 5. Risk-taking | 6.53 | 1.77 | 42.95** | .001 |
| **Total Innovative work behavior Score** | 67.12 | 12.37 | 66.5** | 0.001 |

***p<0.05** ***p≤ 0.001**

**Table 3.** Correlations between Organization Support and Domains of Knowledge Sharing Behavior among Study Subjects (n=150)

| Knowledge sharing behavior | Organization Support | |
|---|---|---|
| | r | P-value |
| **Explicit Knowledge sharing** | .708** | 0.001 |
| **Tacit knowledge sharing** | .769** | 0.001 |
| **Participating in Knowledge sharing activities** | .850** | 0.001 |

**Correlation is significant at the 0.01 level (2-tailed)

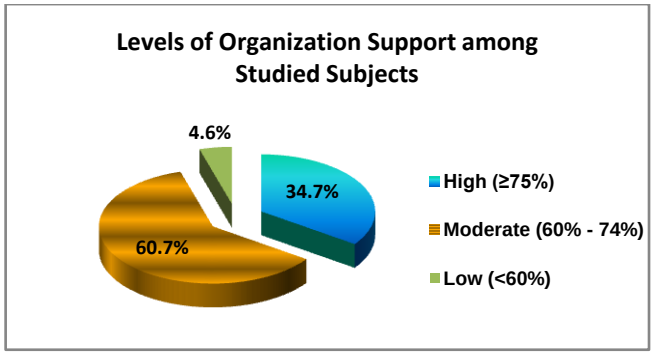


**Figure 1.** Percentage distribution levels of organization support among studied subjects

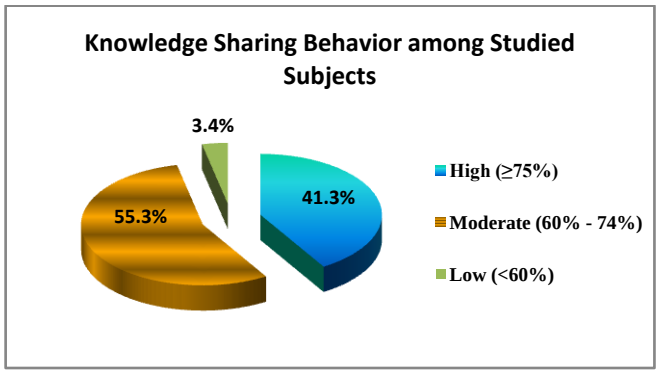


**Figure 2.** Percentage distribution levels of knowledge sharing behavior among studied subjects

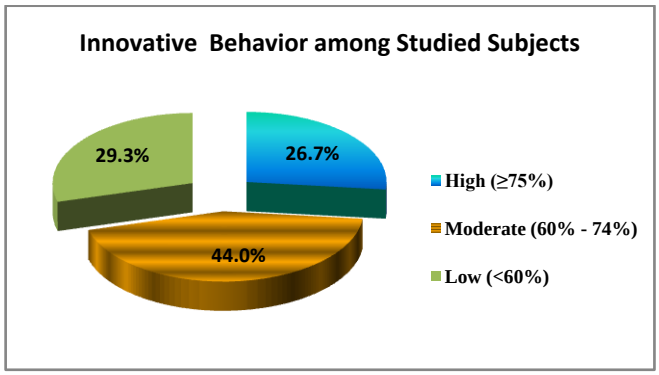


**Figure 3.** Percentage distribution level of innovative work behavior among studied subjects

**Table 4.** Correlation between Organization Support and Domains of Innovative Behavior (n=150)

| Innovative Behavior Domains | Organization Support | |
|---|---|---|
| | r | P-value |
| **Openness to experience** | .810** | 0.001 |
| **Opinion leadership** | .793** | 0.001 |
| **Acceptance to change** | .777** | 0.001 |
| **Cautiousness** | .741** | 0.001 |
| **Risk taking** | .811** | 0.001 |

**Correlation is significant at the 0.01 level (2-tailed)

**Table 5.** Correlations between Domains of Knowledge Sharing Behavior and Domains of Innovative Behavior (n=150)

| Domains | Explicit Knowledge Sharing | | Tacit Knowledge Sharing | | Participating In Knowledge Sharing Activities | |
|---|---|---|---|---|---|---|
| | r | P-value | r | P-value | r | P-value |
| **Openness to Experience** | .728** | 0.001 | .728** | 0.001 | .832** | 0.001 |
| **Opinion Leadership** | .684** | 0.001 | .724** | 0.001 | .804** | 0.001 |
| **Acceptance to Change** | .661** | 0.001 | .711** | 0.001 | .793** | 0.001 |
| **Cautiousness** | .650** | 0.001 | .713** | 0.001 | .739** | 0.001 |
| **Risk Taking** | .709** | 0.001 | .752** | 0.001 | .819** | 0.001 |

**Correlation is significant at the 0.01 level (2-tailed).

**Table 6.** Relationship between Total Scores of Organization Support, Knowledge Sharing Behavior and Innovative Work Behavior among Study Subjects (N=150)

| Variables | Organization Support | Knowledge Sharing Behavior | Innovative Behavior |
|---|---|---|---|
| **Total Organization Support Score** | 1 | 0.931 ** | 0.851** |
| **Total Knowledge Sharing Behavior Score** | 0.931 ** | 1 | 0.816** |
| **Total Innovative Behavior Score** | 0.851** | 0.816** | 1 |

* p<0.05 ** p≤ 0.001

**Table 7.1.** Multiple Regression Analysis for Organizational Support, and Knowledge Sharing Behavior Effect on Nurses' Innovative Behavior Model Summary (Coefficients of Determinant)

| Model | R | R square | Adjusted R square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .889[a] | .790 | .787 | 6.01340 |
| a. Predictors (Constant)Total Organizational Support and Total Knowledge Sharing Behavior | | | | |

**Table 7.2.** ANOVA for organizational support and knowledge sharing behavior and innovative behavior

| Model | Sum of Squares | df | Mean Square | F | Sig |
|---|---|---|---|---|---|
| Regression | 16145.96 | 1 | 16145.96 | 326.11 | 0.000[b] |
| Residual | 6584.97 | 133 | 49.51 | | |
| Total | 22730.93 | 134 | | | |
| a. Dependent variable: Total Innovative Behavior | | | | | |
| b. Predictors (Constant)Total Organizational Support and Total Knowledge Sharing Behavior | | | | | |

**Table 7.3.** Regression Coefficients of Organizational Support and Knowledge Sharing Behavior on Innovative Behavior

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t-test | Sig. | 95.0% Confidence interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower bound | Upper bound |
| 1 | Constant | -51.19 | 9.04 | | -5.66 | 0.000* | -69.06 | -33.31 |
| | Organizational Support | 1.59 | 0.29 | 0.41 | 5.58 | 0.000* | 1.025 | 2.15 |
| | Knowledge Sharing | 0.98 | .14 | 0.52 | 7.08 | 0.000* | 0.703 | 1.25 |
| a. Dependent Variable: Total Innovative Behavior | | | | | | | | |

r-square=0.79
Model ANOVA: F= 326.11, p=<0.001

**Table 8.** Correlation between Organization Support, Knowledge Sharing Behavior and Innovative Behavior, Age and Years of Experience of Nurses (n=150)

| Characteristics | Organization support | Knowledge sharing behavior | Innovative work behavior |
|---|---|---|---|
| **Age** | .620** | .749** | .617** |
| **Years of experience** | .695** | .776** | .661** |

* p<0.05 ** p≤ 0.001

# 4. Discussion

Nowadays nurses play an important role in providing optimum healthcare. For nurses to do their best, they need to provide the necessary organizational support and a suitable work environment [4]. In the current rapidly changing environment, organizations face greater challenges, and they need to foster innovative behaviors to create and deliver their products and services, to remain competitive, and to lead the change process itself and to accomplish their mission, organizations provide support to their employees to innovate their processes, methods, and procedures [29].

The study aimed to investigate the effect of organizational support and knowledge sharing on innovative behavior among nurses. Regarding organizational support, the results of the present study showed that the majority of nurses had perceived a moderate level of organizational support. This result is consistent with the study conduct by El-Aliem and Hamouda (2020) about "the relationship between organizational support and nurses' perceived citizenship and innovation" at Alexandria Main University Hospital. They found less than half of the staff nurses had a moderate level of organizational support [30]. Also, the result of the present study was supported by Abou Hashish, (2017) who reported that around half of nurses had a moderate level of organizational support [31]. Moreover, Gorji, et al., (2014) reported moderate levels of organizational support among emergency room nurses in general hospitals [32].

However, the finding of the current study was contradicted with Robaee et al., (2018) who found in their study about "Perceived organizational support and moral distress among nurses" low perceived organizational support in the nurses [33]. Additionally, the present study result was not in the same line with Bobbio et al., (2012) who studied organizational support among nurses in Italy and they revealed low levels of organizational support among nurses [34].

According to the results of the present study more than half of the study subjects perceived a moderate level of knowledge sharing behavior. This result may be attributed to the stressful work environment because all subjects of the study are from intensive care units and immediate care units which have critical cases that require close observation and com-plex care, need more time and put nurses under high levels of stress. Also, one of the potential reasons that nurses have a moderate level of sharing knowledge may be that the majority of the subjects were aged less than 30 years and had less than 5 years of experience which lead to their lack of trust within an organization in knowledge sharing behavior in the workplace. This finding was in the same line with Yoo et al., (2019) who stated that nurses perceived their level of knowledge sharing to be above average [35]. While Castaneda and Durán (2018) who measured knowledge sharing behavior among participants and found workers had a high mean score of knowledge sharing behavior [36].

Another important result regarding innovative behavior the results of the present study revealed that less than half of the study subjects perceived a moderate level of innovative behavior. The possible explanation for this finding could be ascribed to the fact that the concept of innovation behavior is a relatively new and unfamiliar concept. The result of the current study was supported by Abd El-Fattah (2017) who conducted a study in Egypt about "innovation behavior levels and its relation with TIGER-based nursing informatics competencies among critical care nurses" who assured that more than half of nurses had scored a moderate percentage as regards the perceived innovation behavior [37]. Moreover, the result of the present study was in the same line with Ahmed, et al., (2019) who revealed that slightly less than half of the participants have a high average level of innovative work behavior [38]. Besides, the study conducted by Jung and Yoon (2018) at the Republic of Korea revealed that participants showed a moderate level of innovative behavior [39].

On the opposite, the result of the present study was contradicted with the result of a study conducted by Kamel and Aref (2017) at Benha university hospital, Egypt who found that half of the staff nurses have high levels of innovative work behavior [40]. Also, the result of the current study was incongruent with Asurakkody and Kim (2020) who found a high level of innovative work behavior among the nursing students in Sri Lanka [41]. Additionally, the present study was inconsistent with Mahgoub et al., (2019) who conducted a study in Egypt about "the relationship between work environment and innovative behavior among staff nurses" at Beni-sueif university hospital and revealed that staff nurses have a high level of the agreement upon innovative behavior [42]. Also, the result of the present study was contradicted by the American Association of Critical-Care Nurses (2015) who emphasized that nurses work in critical areas are creative, support lifelong learning, search for information, and long-run become more innovative [43].

The present study findings revealed that there was a highly significant positive correlation between organizational support and innovative behavior. This result is congruent with Zaman et al., (2020) who found in their study a positive relationship between perceived organizational support and innovative work behavior of nursing employees [1]. Also, this result is consistent with El-Aliem and Hamouda (2020) revealed that a highly statistically significant positive correlation between organizational support and nurses' perceived innovative behavior [30]. In the same context, a study performed by Nazir et al., (2019) on How organization justice and perceived organizational support facilitate employees' innovative behavior at work, revealed that a significant and positive association between perceived organizational support and innovative behavior at work [44].

Moreover, this result is confirmed by Abo Gad, (2018) who recommended that organizations need to build a positive work practice environment as supportive management to enhance nursing staff innovative behavior [45]. Furthermore, this study agreement with Nazir et al., (2018) who reported there was a correlation between

organizational support and innovation behavior of nursing employees [46]. Otherwise, Choi et al. (2016) argued that perceived organizational support stimulates employees to participate in innovation and decision-making processes related to innovation through its supportive mechanism [47]. On another hand, Suifan et al. (2018) indicated that perceive organizational support will generate a sense of duty of employees in caring about the organization's benefit and strive to achieve its goals in the most creative way [48]. Besides that Ghasemi and Keshavarzi (2014) stated that nurses who consider their work environments to be friendly and supportive are more appropriate to demonstrate positive behaviors and excellent performance and the appropriate organizational climate helps inspire innovation and has a beneficial function to achieve the goals of the organization [49].

Regarding the correlation between knowledge sharing and innovative behavior. The result of the present study confirmed a statistically significant positive correlation between nurses' perceived innovative behavior and their knowledge sharing behavior. This result was congruent with Asurakkody and Kim (2020) who found a close correlation between knowledge sharing behavior and innovative work behavior [41]. Also, Wang and Hu (2020) claimed that knowledge sharing was a mediator between collaborative innovation and organizational performance [50]. Additionally, Belso and Diez (2018) firms that increase their involvement in knowledge networks tend to increase their innovative capacity [51]. On the other hand, Podrug et al., (2017) in a survey of Croatian companies, noted that knowledge sharing increased innovative capability [52]. Moreover, Hu and Zhao (2016) recognized the positive effect of knowledge sharing behavior on innovative work behavior [53].

In the same line with Li-Ying et al., (2016) who conducted a study about "knowledge sharing behavior and intensive care nurse innovation: the moderating role of control of care quality" and who found that knowledge sharing among ICU nurses was positively associated with individual nurse innovation [54]. Moreover, previous research results revealed that implicit knowledge transfer has a significant positive impact on innovation [55]. Furthermore, Kim and Park (2015) found that organizational knowledge sharing affected nurses' innovative behaviors at general hospitals [56]. The same two scientists conducted another study (2017) of employees in Korean organizations and demonstrated that employee knowledge sharing enhances their innovative work behavior [57]. Otherwise, Radaelli et al., (2014) who revealed a direct and unmediated link between knowledge sharing behaviors and innovative work behavior and also, they reported that sharing knowledge enhances innovative work practices and their results provide original evidence that employees who share knowledge will engage more in creating, promoting and implementing innovations [58].

The present study findings revealed that there was a highly significant positive correlation between organizational support and knowledge sharing. This result is congruent with Yang et al., (2020) showed that perceived organizational support was positively related to knowledge sharing for employees [59]. Moreover, the results were agreed with Hameed et al., (2019) who indicated that a higher level of perceived organizational support strengthens the relationship between psychological ownership and knowledge sharing behavior [60]. Similarly, the findings of Cugueró-Escofet et al., (2019) confirmed that employees' perceived organizational support had a significant positive relationship with knowledge sharing [61]. Moreover, Kim et al., (2015), emphasized that the cooperative or ethical behavior of a supervisor may facilitate the knowledge sharing of individuals by minimizing any potential risks of such knowledge sharing [62]. Moreover, the supervisor may need to try to provide more resources to encourage knowledge-sharing by the employees. Also, Rafieian-Isfahani et al., (2020) found a statistically significant association between extrinsic motivation and knowledge sharing intention among the nursing staff and also, indicate that both intrinsic and extrinsic motivations can be used to encourage knowledge-sharing practices among the nurses [63].

# 5. Conclusions

In light of the current study findings, it can conclude that the majority of the study subjects had perceived a moderate level of organizational support while and more than half had a moderate level of knowledge sharing behavior, and the highest percentage of study subjects had perceived a moderate level of innovation behavior. Moreover, there was a statistically significant positive correlation between organizational support and all domains of knowledge sharing behavior and between all domains of innovative behavior. Also, there was a statistically significant positive correlation between all domains of knowledge sharing behavior and all domains of innovative behavior. Finally, there was a statistically significant positive correlation between total scores of organization support, knowledge sharing behavior, and innovative behavior among nurses working in critical care units at University Hospital in the Menoufia governorate. The results revealed that organizational support and knowledge sharing had a statistically significant effect on the innovative behavior of studied nurses.

# 6. Recommendations

**In light of the results, it may be recommended the following:**

1. Healthcare organizations should integrate the concepts of work innovation and knowledge sharing behaviors into the main values and improve them through strategic management.
2. Nursing Managers must be developing ways to ensure innovative behavior is practice efficiently among the nurses.

3. Nurse Managers should provide support to staff nurses through open communication, problem-solving, and shared decision making.
4. Hospital officials have to provide operational and administrative activities to help organizational support.
5. Hospital management can create a perception of equality among employees which helps nurses to engage in sharing their valuable knowledge with their team members and other staff in the organization.
6. Conduct workshops on innovative thinking and design strategies to improve and facilitate innovation behavior among nurses.
7. Healthcare organizations and managers should use integrated knowledge management approaches to foster knowledge sharing among nurses.
8. Hospital management should introduce reward programs that motivate nurses to continuously share knowledge to improve the quality of patient care.
9. Creating an appropriate work environment and facilitating knowledge sharing among nurses will encourage a more productive and constructive innovative environment.
10. Further research to identify strategies that help nurses develop innovative work behavior.
11. The study should be conducted in different healthcare units and settings with a large sample size to generalize the results.

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