

## Assess' Nurses Knowledge and Skills Regarding Entrepreneurship

Howida Abdel Ghany Mohamed<sup>1</sup>, Rasha Ibrahim Anany<sup>2</sup> and Eman Salman Taie<sup>3</sup>.

<sup>1</sup> Assistant Lecturer of Nursing Administration- Faculty of Nursing, Helwan University.

<sup>2</sup> Professor of Nursing Administration - Faculty of Nursing, Port-Saied University.

<sup>3</sup> Professor of Nursing Administration - Faculty of Nursing, Helwan University.

### Abstract

**Background:** Entrepreneurship refers to an individual's ability to turn ideas into action .So, entrepreneurial knowledge and skills take important roles in identifying opportunities and making decisions to start entrepreneurship. **Aim:** Assess' nurses knowledge and skills regarding entrepreneurship. **Study Design:** Descriptive study design was used in this study. **Setting:** The study was conducted at Ain shams Medical Hospital University. **Sample:** A convenient sample composed of (50) staff nurses. **Tools:** Data was collected using nursing entrepreneurship knowledge questionnaire and evaluation of nurses' entrepreneur reported skills tool. **Results:** Only one fifth of staff nurses had satisfactory knowledge level regarding nursing entrepreneurship. While the majority of them had unsatisfactory knowledge level .Also, slightly less than one quarter of studied staff nurses had high level of entrepreneur reported skills, while about one third of them had moderate level and slightly less than half of them had low level. **Conclusion:** The majority of studied staff nurses had unsatisfactory level about nursing entrepreneurship knowledge and low level of nurses' entrepreneur skills regarding entrepreneurship. **Recommendation:** Create a competency-based curriculum and creative learning to support sustainable entrepreneurship learning. Review and improve curricula and content in order to incorporate an entrepreneurial culture in nursing education. Offer entrepreneurship training programs for nurses. Support the intra- entrepreneurship within the hospital.

**Key words:** *Entrepreneurship, Entrepreneur nurse, Entrepreneur skills.*

### Introduction

Entrepreneurship can be a favorable tool to provide nursing professionals with a new way to recreate their profession and create new professional possibilities to generate quality for patients, and obtain good salaries and satisfaction with the production of their service.(1) Entrepreneurs are those who have the capacity or ability to identify opportunities and organize resources to implement it in a new way to implement an existing idea (2). Entrepreneurs play a crucial role in economic development. Because it provides additional job opportunities and has an impact on national growth and income distribution in a nation, entrepreneurship is seen as being important for social economic advancement and expansion.(3) Knowledge of entrepreneurship take an important role in identifying opportunities and making decisions to start entrepreneurship, by having enough entrepreneurial knowledge the entrepreneur can know opportunities that not all entrepreneurs can know about, such as identifying obstacles and how to deal with them.(4)

Entrepreneurial skills are key or foundational skills that may be applicable in any entrepreneurial venture including cognitive skills, interpersonal skills, business skills and strategic skills (5). The International Council of Nurses defines a nurse entrepreneur as a proprietor of a business that offers nursing services of a direct care, educational, research, administrative, or consultative nature. Nurse entrepreneurs can play an essential role in the healthcare system by supporting the development of targeted services, such as nursing entrepreneurship or nursing businesses(6) . Entrepreneurship makes a significant contribution to national economies in maintaining prosperity, creating new job opportunities and reducing unemployment. Like many professions in the health sector, nursing initiative is encouraged all over the world due to its contributions to individual and community health. Entrepreneurship has the potential to increase the visibility of the nursing profession and create new spaces for nurses (7).

### Significance of the study

Worldwide, there are 582 million entrepreneurs. According to the Global Entrepreneurship Monitor (GEM) 2020-2021 report, the early-stage entrepreneurial activity rate was 18.3% of the total population.

Global Entrepreneurship Monitor (GEM) Egypt National Report indicated that more than 73 % of Egyptians think entrepreneurship is a good career choice. While more than 30 % of Egyptians shy away from starting a new private practice due to fear of failure, lack of support and insufficient needed skills .

In Egypt, the early-stage entrepreneurial activity rate decreased in 2021 to 9.2% from 11.3% in 2020 due to a lack of entrepreneurial knowledge, experience and skills. The solution to develop nurses' entrepreneurship is to increase knowledge, skills, training and experience of nursing entrepreneurs. So, entrepreneurship knowledge and skills among nurses should be assessed to detect the gap and causes of lack of knowledge and skills to identify potential opportunities and various obstacles and how to deal with them.

### Aim of the study

The aim of this study was assess' nurses knowledge and skills regarding entrepreneurship.

### Research question

- 1- What is the level of nurses' knowledge regarding entrepreneurship?
- 2- What is the level of nurses' skills regarding entrepreneurship?

### Research design:

Descriptive study design was used in this study.

### Research setting:

The study was conducted at Ain shams Medical Hospital University.

### Subjects

A convenient sample composed of (50) staff nurses in the previous mentioned hospital. The inclusion criteria were nurses who had bachelor degree in nursing and at least two years of experience in nursing profession.

### Tools of data collection

Two tools were used to collect study data as follows:

#### Tool I: Nursing Entrepreneurship Knowledge Questionnaire

It consisted of two parts:

##### Part 1: Personal data of staff nurses

This part included personnel data for staff nurses as (age, gender, hospital department, monthly income and years of experience....etc) .

##### Part two: Nursing Entrepreneurship Knowledge Questionnaire

It was developed by the researcher based on reviewing the relevant literature guided by (Henry and Lewis, 2018; Garaika et al., 2020 & Lim et al., 2021). It aimed to assess nurses' knowledge regarding the nursing entrepreneurship.

It included multiple choice questions included for example definition, purpose, benefits and barriers of entrepreneurship. It included (26) questions .

### Scoring system :

**The score for each item** ranging from (1) incorrect to (2) correct. The total score (52). Scoring system ranged between (26-52). The final score was classified as:

- Satisfactory level >60% > (31-52 degree)
- Unsatisfactory level ≤ 60% ≤ (26-31 degree )

#### Tool II: Evaluation of Nurses 'Entrepreneur Reported Skills

It was developed by (Mamabolo and Myres, 2019) then modified by the researcher. It was used to determine entrepreneur' skills among nurses. It consisted of (27) items .

### Scoring system:

**The score for each item** was measured on three points Likert scale ranging from (1- 3), (3) refers to Yes, (2) refers to To some extent and (1) refers to No. The total score (81). Scoring system ranged between (27-81). It was calculated according to three levels :

- High level >75-100% (>60-81 degree)

- Moderate level <math><60-75\%</math> (<math><48-60</math> degree)
- Low level <math>\leq 60\%</math> (<math>\leq 27-48</math> degree)

### **Tools validity**

The two tools were translated into Arabic and tested by three experts in nursing administration field. Face and content validity for the study tools were done. Accordingly, the necessary modifications were done. It was ascertained by a jury group of experts specialized in nursing administration from three different universities, Cairo university, Tanta university and port-Saied University.

### **Reliability of the tools:**

To assess reliability, the study tools were tested by the pilot subjects at first time and retested after 2 weeks as test-retest reliability for calculating Cronbach's Alpha coefficient test, which revealed that each of the two tools consisted of relatively homogenous items as indicated high reliability of each part of the tool. For nursing entrepreneurship knowledge was 0.95 and nurses' entrepreneur reported skills was 0.889.

### **Pilot study:**

It was conducted at the beginning of the study. On (5) staff nurses (10% of total sample) to test the applicability, clarity of language, the feasibility and suitability of tools and estimate the time needed to complete the questionnaires.

Collecting pilot study data lasts for three weeks. The time needed to fulfill nursing knowledge ranged between (30-35) minutes. While evaluation of nurses' entrepreneur reported skills it was ranged between (25-30) minutes. Subjects included in the pilot study were included in the actual study sample because there was no modification.

### **Fieldwork**

Prior to data collection, the researcher met the nursing director to explain the aim and nature of the study, this was done to facilitate data collection and gain the approval for data collection. The actual field work started at the beginning of November 2022 and was completed by the end of October 2023. The researcher arranges for meeting every nurse by referred to nursing supervisor of each unit and asked for a copy of nurse's schedule to obtain data about the number of nurses available and who met the previous mentioned inclusion criteria. The two tools were handed individually or in a group in different shifts and were collected in the same day. The researcher was present all the time during fulfilling forms to answer any questions.

### **Ethical considerations:**

The research approval was obtained from scientific ethical research committee at faculty of nursing, Helwan University. Before starting the study the researcher assured anonymity and confidentiality of the subject's data, staff nurse were allowed to choose to participate or not in the study and that they have the right to withdraw from the study at any time, ethics values, cultures and behaviors were respected. Study subjects were informed about study purpose and informed consents were obtained.

### **Statistical analysis:**

Data collected from the studied sample were revised, coded and entered using P.C. Computerized data entry and statistical analysis were fulfilled using the statistical package for social sciences (SPSS) version (23). Data were presented using descriptive statistics in the form of frequencies, percentage. The comparison between groups with qualitative data was done by using Chi-square test. The confidence interval was set to 95% and the margin of error accepted was set to 5%. So, P-value  $\leq 0.05$  was considered significant, P-value  $\leq 0.001$  was considered as highly significant and P-value  $> 0.05$  was considered insignificant.

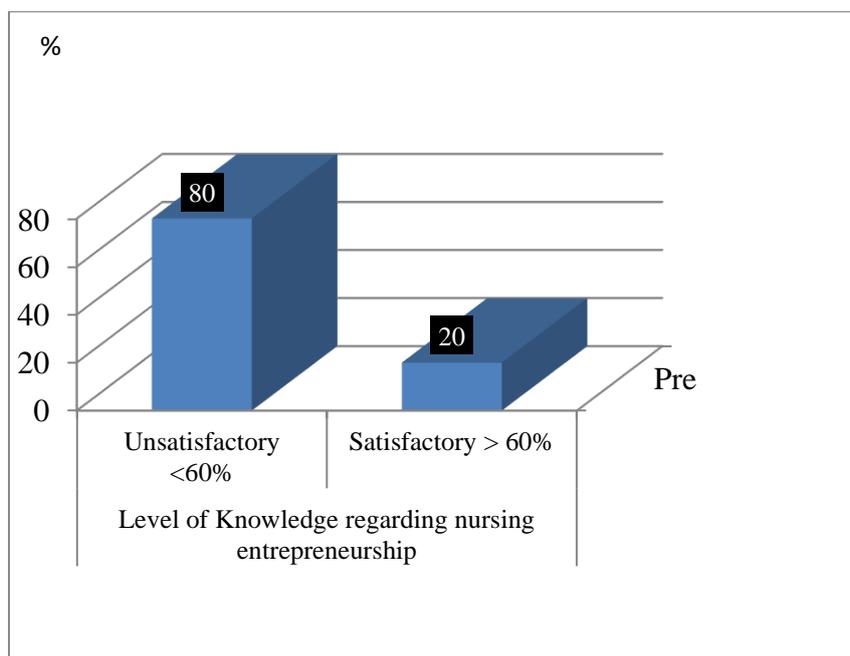
**Results:**

**Table (1):** Frequency and percentage distribution of nurses personal data (N=50)

Personal data	No.	%
<b>Gender</b>		
Female	38	<b>76</b>
Male	12	24
<b>Age (years)</b>		
25-<30 years	27	<b>54</b>
30-<35 years.	13	26
35-45 years	10	<b>20</b>
<b>Mean±SD</b>	<b>30.56±5.20</b>	
<b>Hospital department</b>		
ICU	20	40
Ward unit	30	<b>60</b>
<b>Years of experience (years)</b>		
<5 years	27	<b>54</b>
5-<10 years	13	26
≥10 years	10	<b>20</b>
<b>Mean±SD</b>	<b>7.88±4.54</b>	
<b>Monthly income</b>		
Insufficient	45	<b>90</b>
Sufficient	5	10
<b>Previous training about entrepreneurship</b>		
Yes	0	0
No	50	<b>100</b>

The table shows that (76%) of study sample were female and (24%) were males. Pertaining to age of the study sample mean and standard deviation was (30.56±5.20) and (54%) of them had from 25 to less than 30 years old and (20%) of them had 35 - 45 years old. Mean and standard deviation for years of experience was (7.88±4.54) and (54%) of study sample had years of experience less than 5 years, and (20%) of them had less than or equal 10 years of experience.

Also, (60%) of the study sample were worked at in-patient wards. While, (40%) of them were worked at ICU. According to monthly income (90%) of the study sample had insufficient income. Whereas (10%) of them had sufficient income. Pertaining to previous training about entrepreneurship (100%) of study sample had not attend previous training about entrepreneurship.



**Figure (1):** Percentage distribution of nurses' total knowledge level about nursing entrepreneurship (N=50).

The figure indicates that only (20%) of staff nurses' total knowledge level about nursing entrepreneurship was satisfactory level. While (80%) of them was unsatisfactory level.

**Table (2):** Frequency and percentage distribution of nurses' knowledge about nursing entrepreneurship (N=50).

Knowledge Items	Correct		Incorrect	
	No.	%	No.	%
<b>1-Definitions</b>				
1-What is the entrepreneurship	9	18	41	82
2-Who is the entrepreneur? He/she is the person who	12	24	38	76
3-Who is the nurse entrepreneur? He/she is the person who	8	16	42	84
4-What is the intrapreneurship? It is:	5	10	45	90
5-What is the social entrepreneurship? It is:	13	26	37	74
<b>2-Types</b>				
1-Which one of the following is considered as type of entrepreneurs?	8	16	42	84
<b>3-Characteristics</b>				
1-Which of the following is considered as one of the	8	16	42	84

characteristics of entrepreneurship?				
2-Which of the following are considered as characteristics of entrepreneurs?	2	24	38	76

**Table (2):** Frequency and percentage distribution of nurses' knowledge about nursing entrepreneurship (N=50)  
*Cont.*

Knowledge Items	Pre			
	Correct		Incorrect	
	No.	%	No.	%
<b>4-Roles</b>				
1-Which of the following is considered as one of the entrepreneurs roles?	10	20	40	80
<b>5- Competencies</b>				
1-Which of the following are considered competencies for entrepreneurs?	6	12	44	88
<b>6-Entrepreneurship pre-requisite</b>				
1-What are pre-requisites to become a nurse entrepreneur?	4	8	46	92
<b>7-Benefits</b>				
1-Which one of the following are considered as benefits of being entrepreneurs?	11	22	39	78
<b>8- Challenges</b>				
1-Which of the following are considered as challenges for entrepreneurship?	8	16	42	84
2-Which of the following are considered as challenges for	12	24	38	76
<b>9-Barriers</b>				
1-Which of the following are considered as barriers for entrepreneurship?	7	14	43	86
<b>10-Entrepreneurship process</b>				
1-What are the sequences of the entrepreneurial process?	2	4	48	96
2-What are the sequences of building of the entrepreneurship business?	15	30	35	70
3-What is the main drive of entrepreneurship business?	7	14	43	86
<b>11-Funds and supply of entrepreneurship</b>				
1-Which of the following are considered sources of funds for entrepreneurship?	17	34	33	66
2-Which of the following are considered factors which affect the	10	20	40	80

supply of entrepreneurship?				
<b>12-Motivation of entrepreneurship</b>				
1-Which of the following are considered as motivational influences for entrepreneurs?	13	26	37	74

**Table (2):** Frequency and percentage distribution of nurses' knowledge about nursing entrepreneurship (N=50)  
*Cont.*

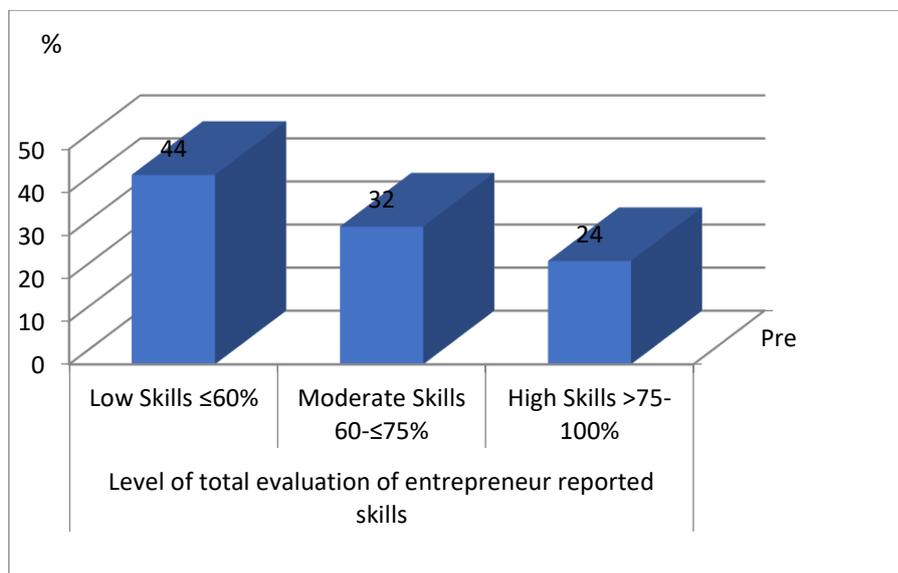
	Correct		Incorrect	
	No.	%	No.	%
<b>13-Skills</b>				
1-Which of the following are considered skills for entrepreneurs?	14	28	36	72
2-Which one of the following is considered cognitive skills for entrepreneurship in nursing?	3	6	47	94
3-Which one of the following is considered interpersonal skill for entrepreneurship in nursing?	20	<b>40</b>	30	60
4-Which one of the following is considered business skill for entrepreneurship in nursing?	17	34	33	66
5-Which one of the following is considered strategic skill for entrepreneurship in nursing?	10	20	40	80
<b>Total score</b>	10	<b>20</b>	40	80

The table shows that the total score of nurses' knowledge about nursing entrepreneurship. The total score of correct answer was (20%). Regarding correct answers. The highest percentage was (40%) for item " Which one of the following is considered interpersonal skill for entrepreneurship in nursing?" Meanwhile, the highest incorrect was (96%) for the item " What are the sequences of the entrepreneurial process? "

**Table (3):** Mean percentage of nurses' knowledge about nursing entrepreneurship (N=50).

Tool	Mean %
Knowledge regarding nursing entrepreneurship	6.22

The table shows that the lowest mean percentage was (6.22%) regarding nursing entrepreneurship knowledge.



**Figure (2):** Percentage distribution of nurses' total levels of entrepreneur 'skills (N=50).

The figure shows that (24%) of studied staff nurses had high level of nurses' entrepreneur reported skills, while (32%) of them had moderate level and (44%) of them had low level.

**Table (4):** Mean percentage of nurses' entrepreneur reported skills (N=50).

Tool	Mean %
Nurses' entrepreneur reported skills	7.23

The table shows that lowest mean percentage was (7.23%) of nurses' entrepreneur reported skills.

**Table (5):** Correlation between nurses' knowledge level about entrepreneurship and their personal data, (N=50).

Personal data	Level of staff nurses knowledge about nursing entrepreneurship (n=50)			
	Satisfactory (N=10)		Chi-square test	
	No.	%	x <sup>2</sup>	p-value
Age (years)				

25-<30 years	3	30.0	1.380	0.596
30-<35 years	4	40.0		
35-45 years	3	30.0		
<b>Gender</b>				
Female	6	60.0	3.433	0.511
Male	4	40.0		
<b>Hospital department</b>				
ICU	3	30.0	3.198	0.542
Ward unit	7	70.0		
<b>Years of experience (years)</b>				
<5 years	5	<b>50.0</b>	4.344	<b>0.017*</b>
5-<10 years	3	30.0		
≥10 years	2	20.0		
<b>Monthly income</b>				
Insufficient	7	<b>70.0</b>	5.448	<b>0.011*</b>
Sufficient	3	30.0		

P-value >0.05 is insignificant; \*p-value <0.05 is significant; \*\*p-value <0.001 is highly significant

The table shows that there was statistically significant relationship between staff nurses knowledge level about nursing entrepreneurship and their years of experience and monthly income ( $\chi^2$ : 4.344, p: 0.017\* /  $\chi^2$ : 5.448, p: 0.011) respectively.

**Table (6):** Correlation between level of nurses' entrepreneur reported skills and their personal data, (N=50).

Personal data	Level of total evaluation of nurses' entrepreneur reported skills (n=50)	
	$\chi^2$	p-value
Age (years)	0.393	0.055
Gender	0.127	0.754
Hospital department	0.147	0.604
Years of experience (years)	0.853	<b>0.007*</b>

Monthly income	0.789	0.002*
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*P-value >0.05 is insignificant; \*p-value <0.05 is significant; \*\*p-value <0.001 is highly significant*

The table shows that there was a statistically significant positive correlation between nurses' entrepreneur reported skills by staff nurses and years of experience and monthly income ( $x_2: 0.853, p: 0.007^*/ x_2: 0.789, p: 0.002^*$ ) respectively

**Table (7):** Correlation matrix between total score of knowledge regarding nursing entrepreneurship and total score of evaluation of nurses' entrepreneur reported skills (N=50).

		Total score of knowledge regarding nursing entrepreneurship
Total score of knowledge regarding nursing entrepreneurship	r-value	
	p-value	
Total score of evaluation of nurses' entrepreneur reported skills	r-value	0.301
	p-value	0.144

*P-value >0.05 is insignificant; \*p-value <0.05 is significant; \*\*p-value <0.001 is highly significant*

The table shows that there was a statistically insignificant correlation between knowledge regarding entrepreneurship and nurses' entrepreneur reported skills by staff nurses ( $r: 0.301, p: 0.144$ ).

### Discussion

Entrepreneurship as the ability of individuals to turn their thoughts into action and are a skills that consists of many components such as realizing the possibilities around individuals, setting goals, making plans, having innovative thinking, seeing opportunities, taking risks, being willing to be successful, and self-confidence (8)

According to the current study, only one fifth of the studied staff nurses' total knowledge level about nursing entrepreneurship was satisfactory level. While the majority of them had unsatisfactory level regarding nursing entrepreneurship knowledge. These findings were in harmony with the findings of study conducted by **El-Ebrashi** <sup>(9)</sup> who found that most of study sample had unsatisfactory knowledge level regarding nursing entrepreneurship knowledge.

In addition to, the study results revealed that lowest mean percentage of staff nurses' knowledge about nursing entrepreneurship. These findings were consistent with the findings of the study conducted by **Trombeta et al.** <sup>(10)</sup> who found that the study sample had lowest knowledge percentage regarding entrepreneurship. Also, the present study results revealed that the highest correct answer was regarding the item " Interpersonal skill for entrepreneurship in nursing" These findings were inconsistent with the findings of the study conducted by **Layton et al.** <sup>(11)</sup> who indicated that business and leadership skills represented the most common skills among study sample.

In addition to, the study results revealed that the highest incorrect answer was regarding for the item " Sequences of the entrepreneurial process" These findings were consistent with the findings of the study conducted by **Jakobsen et al.** <sup>(12)</sup> who found that the nurses before working in entrepreneurship field do not have any idea about entrepreneurial business steps. From the researcher's point of view, the study sample level of education is only Bachelor degree in nursing and do not have master or doctorate degree in nursing and this entrepreneurship topic do not included in the curriculum of the undergraduate. So, the majority of the study sample do not have any idea about entrepreneurship concept previously and consider it a new topic. So, nurses' total knowledge level about nursing entrepreneurship was unsatisfactory level.

Results of the present study revealed that the majority of nurses had low level toward nurses' entrepreneur skills. These findings were congruent with study conducted by **Borimejad et al.** <sup>(13)</sup> who indicated that the majority of study sample had low level toward nurses' entrepreneur skills. From the researcher's point of view, the study sample do not know any of the types of the entrepreneur skills and they lack the aware if they have any of these skills. So, they suffer from lack of skills toward nurses' entrepreneur's skills and unable to judge on themselves and determine if they have or not these skills. Also, results of the present study revealed that lowest mean percentage of nurses' entrepreneur reported skills. These findings were congruent with study conducted by **Effendy et al.** <sup>(14)</sup> who found that the nurses had lowest level of skills. Also, reported that the skills are the most supporting factors for nurses during implementation of entrepreneurial activities.

Also, results of the present study revealed that about more than of three quarters of the study sample had skills for item "Have ability to listen attentively to others". These findings were consistent with study conducted by **Razak et al.** <sup>(15)</sup> who found that entrepreneurial nurses need personal, interpersonal, commercial and strategic skills to become successful entrepreneurial nurses. Also, proved that entrepreneurial skills can be trained and developed if entrepreneurs have attended and completed appropriate training programs. From the researcher's point of view, skills have a very strong and significant impact on entrepreneurial performance and skills may be improved by experience and training. So, if the nurses' entrepreneur acquired multiple skills including interpersonal, business and entrepreneurial skills regarding entrepreneurial process steps they succeeded in implementation of entrepreneurial activities.

Results of the present study revealed that there was statistically significant relationship between staff nurses' knowledge level about nursing entrepreneurship and their years of experience and their monthly income. These findings were congruent with the study conducted by **Lim et al.** <sup>(16)</sup> who showed that the nurses who had greater years of experience and insufficient income had high level of entrepreneurial knowledge. And there was statistically significant relationship between study sample knowledge level about nursing entrepreneurship and their years of experience and income. While these results of the present study was contradicted with the findings of the study conducted by **Cetinal and Kumcu** <sup>(17)</sup> their result indicated that there was no statistically significant positive correlation between knowledge and income. Also, stated that most of the nurses who think to change their career and tended to work in private sector due to their stable and insufficient salary. From the researcher's point of view, nurses who had greater years of experience become more interested to work in private sector and able to calculate risk and had an inner drive to start the first step in building new business. Also, low and insufficient income motivate the nurses to practice her profession in a new sector to achieve her objectives and gaining money and wealth.

Results of the present study revealed that there was a statistically significant positive correlation between entrepreneur reported skills by staff nurses and years of experience and monthly income. These findings were congruent with study conducted by **Anderson** <sup>(18)</sup> who revealed that there was a statistically significant correlation between nurses' entrepreneur skills and years of experience and income. From the researcher's point of view, nurses who had greater years of experience and suffer from low and insufficient salary and become knowledgeable about entrepreneurship and its process and steps of building a business and the intension to practice entrepreneurship. So, consequently nurses' entrepreneur skills improved.

Furthermore, results of the present study revealed that there was a statistically insignificant correlation between knowledge regarding entrepreneurship and nurses' entrepreneur reported skills by staff nurses. These findings were congruent with study conducted by **Anwar et al.** <sup>(19)</sup> who revealed that there was no statistically significant correlation between entrepreneurial knowledge and nurses' entrepreneur skills. From the researcher's point of view, the study sample suffers from lack of knowledge and skills about entrepreneurship. So, absence of correlation is normal and logic results.

## Conclusion

**Based on the study findings, it was concluded that:** The majority of studied staff nurses had unsatisfactory level about nursing entrepreneurship knowledge and low level of nurses' entrepreneur skills regarding entrepreneurship.

### Recommendations

Based on the study findings, the following recommendations were suggested:

#### I- Faculties of Nursing:

- 1- Address entrepreneurship subject into undergraduate nursing courses.
- 2- Create a competency-based curriculum and creative learning to support sustainable entrepreneurship learning.
- 3- Review and improve curricula and content in order to incorporate an entrepreneurial culture in nursing education.
- 4- Provide training programs, seminar and conferences about entrepreneurship particularly in healthcare field specially for nurses.
- 5- Provide assistance for nursing students who want to succeed as entrepreneurs.

#### II: Healthcare organizations:

- 1- Offer entrepreneurship training programs for nurses.
- 2- Encourage nurses within the hospital to exhibiting entrepreneurial qualities at various levels of care in order to meet the expanding and changing needs in the healthcare sector.
- 3- Support the intra- entrepreneurship within the hospital.
- 4- Emphasis on new trends in nursing administration such as nursing entrepreneurship.

#### III- Further studies:

- 1- The impact of entrepreneurship knowledge on direction of nursing career.
- 2- Effect of entrepreneur' skills on innovative behavior of nurses.

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