

Nursing Personnel Perception toward Entrepreneurship and its Relation with their Empowerment and Motivation

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Abstract

Background: Entrepreneurship presents a career opportunity for nurses seeking autonomy in their profession. Nursing entrepreneurship provides nurses with self-employment opportunities which allow them to follow their passion and personal vision to improve health outcomes using creative solutions. **Aim:** Evaluating nursing personnel perception toward entrepreneurship and its relation with their empowerment and motivation. **Design:** A descriptive correlational research design was utilized for this study. **Setting:** The study was conducted at Beni-Suef University Hospital. **Sample:** A convenient sample of 306 of staff nurses. **Data collection tools:** Five data collection tools were utilized: **Tool I:** Nursing Personnel Knowledge about Entrepreneurship: consists of 2 parts: **Part 1:** Personal characteristics, **Part 2:** Nursing Personnel Entrepreneurship Knowledge. **Tool II:** Nursing Personnel Attitude toward Entrepreneurship. **Tool III:** Nursing Personnel Skills toward Entrepreneurship. **Tool IV:** Nursing Personnel Empowerment. **Tool V:** Nursing Personnel Motivation. **Results:** About two thirds of studied nursing personnel had unsatisfactory knowledge levels and incompetent skills levels. Nearly three quarters of studied nurses had negative attitudes concerning entrepreneurship, more than half of them had moderate levels of empowerment and motivation. **Conclusion:** There were statistical positive significant correlations between nursing personnel's knowledge, attitudes, and skills regarding entrepreneurship and their empowerment and motivation. **Recommendations:** Incorporate entrepreneurship courses in nursing students' curricula to prepare them to be nurses' entrepreneurs. Provide support and improve policies by policymakers that inspire young and creative entrepreneurs to succeed in nursing. Investigate impact of entrepreneurship knowledge on direction of nursing career.

Keywords: Empowerment, Entrepreneurship, Motivation & Nurses

Introduction

Healthcare system's rapid developments have created excellent prospects for nurses with creativity, ingenuity, and business expertise to become entrepreneurs. There is no denying the significance of nurses' contributions to health system investments and enhancing societal economic development. Nursing entrepreneurship or, in another way, nurses with entrepreneurial opportunity to pursue their own opinions and ideas to improve health outcomes through innovative and creative approaches. (Ali et al., 2020).

The French word "entreprendre," which means "to undertake," is the source of the English word "entrepreneurship," which was first used in 1848, which refers to planning, overseeing, and taking risks in a business or venture. Entrepreneurship can be defined as the process of coordinating and carrying out projects, services, and businesses in order to attain success. (Malakoti et al., 2023).

The term "entrepreneurship" also describes the process of creating something new or improving something that already exists by investing the required time and energy, taking on the associated

financial, psychological, and social risks, and gaining the benefits of independence and financial and personal fulfillment. (Abdo et al., 2023)

"A business owner that provides nursing services of a direct care, educational, research, administrative, or consultative nature" is how the International Council of Nurses defines a nurse entrepreneur. In the modern world, nursing entrepreneurship is crucial to the profession's increased recognition and integration as a science, technology, and innovation in the widest range of contexts and domains of practice. (Vannucci & Weinstein, 2017). Only then would society be aware of the profession's advancements in terms of its health benefits and social mission. The promotion of nursing's social visibility and the attainment of new professional development levels for nurses are thus guided by the approach to the idea of entrepreneurship. (Copelli et al., 2019).

For nurses who desire autonomy in their practice, entrepreneurship presents a career choice, by promoting the development of specialized products and services, better software, technology, and safety measures, this makes entrepreneurship a viable career option for nurses who want autonomy in their practice. This development provides the health

system with an opportunity to address needs within the health system through the use of private nurse consultants and practitioners. **(Ismail et al., 2020)**

Empowerment is a culturally specific term that has multiple cultural meanings. **(Ghasemi et al., 2015)**. When workers feel empowered, they are more involved in making decisions, providing high-quality care, and achieving the organization's objectives. Freedom of choice, action, and decision-making are all components of empowerment. **(Van Bogaert et al., 2016)**. Power is the ability to fulfill goals, organize resources, and use all necessary tools to achieve one's objectives, according to Kanter's 1993 theory of structural empowerment. **(Saleh et al., 2022)**.

There are two types of empowerment: psychological and structural. Workplace environments that promote optimum performance at work and provide employees the necessary resources, knowledge, support, and learning and opportunity for development are known as structural empowerment. **(Orgambidez-Ramos et al., 2017)**. A person's mental state that is defined by a sense of perceived competence, control and goal internalization is known as psychological empowerment. It has four dimensions; meaning, competency, autonomy, and influence. **(Neergård et al., 2022)**.

Vannucci & Weinstein (2017) made a distinction between structural and psychological empowerment in relation to nurse entrepreneurship and discovered that, in terms of obtaining the drive required to launch a business, nurse entrepreneurs valued psychological empowerment (such as meaning, impact, and confidence) more than structural empowerment (such as power, information, and resources).

Motivation is a key concept commonly connected to empowerment. **(Gabra et al., 2019)**. "Values-based, psycho-biologically stimulus-driven inner urge that activates and guides human behavior in response to self, others, and environment" is the standard definition of motivation. A health system cannot produce the intended outcomes without motivated healthcare personnel. Motivation is crucial for keeping healthcare workers, enhancing provider productivity, and ultimately improving patient outcomes. **(Gabra et al., 2019)**.

Human motivations influence who explores entrepreneurial possibilities, and how the entrepreneurial process is carried out. **(Ismail et al., 2020)**. The choices people make during that process are what determine whether or not they become entrepreneurs. **(Dimitratios et al., 2016)**. Entrepreneurial motivations refer to the drive or inclination to organize, control and master organizations, people or ideas as instantly and autonomously as possible. People who are very motivated to start their own business are more likely

to do so. **(Batz Liñeiro, 2024 & Ismail et al., 2020)**.

Numerous factors, including prior experience, culture, gender, aging, role model, personality traits, economic factors of one's own and one's culture, values, beliefs, social norms, self-confidence, attitude toward entrepreneurship, internal as well as external motivation, awareness of self and entrepreneurship awareness, and moral and financial support from one's family, may have impacted the intention of becoming an entrepreneur. **(Tiwari et al., 2020)**.

Notwithstanding the difficulties faced by nurse entrepreneurs, entrepreneurship may optimize nurses' chances of attaining clear goals, increased career and job satisfaction, and better health. Entrepreneurial motivation is an important connection between entrepreneurial intention and action. Entrepreneurial intention relates to the drive to establish one's own business. Entrepreneurial intention was defined by **(Schneider & Bartram, 2017)** as "It's the personal perspective of possible entrepreneurs concerning whether to carry out entrepreneurial endeavors, and it is an effective indicator for entrepreneurial actions." **(Hien, & Beri, 2018)**.

Significance of the Study

Tackling the future global health challenges that face the health care system requires innovative and creative approaches from the young nursing generation. In order to produce any innovative product, idea, or service requires the development of nurses abilities and skills to match the needs of the labor market. This aim suggests the need to stimulate nurses to develop and acquire the appropriate knowledge, skills, and behavior that promote creation and innovation solutions to complex problems in the health care environment that help to improve the quality of nursing care, and improve access to health care services. **(Abdel Rahman & Abdelatif, 2024)**.

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. 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. **(Abdel Ghany et al., 2024)**.

Entrepreneurship in nursing is important and can help with issues like nurses' dissatisfaction with their payment, there for, Entrepreneurship could overcome another problem as leaving the nursing profession to pursue other fields, this is a major issue that hospitals

face since it causes staff shortage, increase absenteeism and turn over, and decrease staff commitment to the profession. (Cadmus et al., 2017). In a study conducted by (Ahmed, 2017) who revealed that 71% of nurses prefer to leave the nursing profession and study another field this is a serious problem which facing hospitals that leads to shortage of the staff, increase absenteeism rate and turn over, and decrease commitment of the staff to the profession. Thus entrepreneurship offers a chance to learn more about nursing and raises awareness of the value of nursing services, which increases job satisfaction, lowers absenteeism and turnover, increases commitment to the profession, increases autonomy, and generates financial income for nurses. (Cadmus et al., 2017).

The most valuable resources in any health system are motivated human resources. Yet, it is commonly known that health systems are failing to achieve the intended results of health interventions because of a number of issues, including shortage of qualified and experienced healthcare providers, discouraged healthcare workers, lacking of managerial abilities, poor workplace and surroundings, and insufficient compensation. Employee empowerment, which is addresses confidence, inspiration, making decisions, and encouraging entrepreneurial intention, puts organizations in a position to inspire and retain their workforce.

Aim of the Study:

The aim of the current study was to evaluate nursing personnel perception toward entrepreneurship and its relation with their empowerment and motivation at Beni-Suef University Hospital.

Objectives:

The current study's aim was achieved by the following objectives:

1. Determining nursing personnel' entrepreneurship knowledge levels.
2. Assessing nursing personnel' attitudes toward entrepreneurship.
3. Assessing nursing personnel' entrepreneurship skills levels.
4. Determining nursing personnel empowerment levels.
5. Measuring nursing personnel motivation levels.
6. Finding out the relationship among nursing personnel knowledge, attitudes and skills regarding entrepreneurship and their empowerment and motivation.

Research Questions:

Based on the study's objectives, six research questions were developed:

- Q1:** What is the level of nursing personnel' knowledge regarding entrepreneurship?

- Q2:** What is the level of nursing personnel' attitudes toward entrepreneurship?

- Q3:** What is the level of nursing personnel' skills regarding entrepreneurship?

- Q4:** What is the level of nursing personnel' empowerment?

- Q5:** What is the level of nursing personnel' motivation toward entrepreneurship?

- Q6:** Are there relationships among nursing personnel knowledge, attitudes and skills regarding entrepreneurship and their empowerment and motivation?

Subject and Method

Research Design:

A descriptive correlational research design was used for carrying out this study.

Research Setting:

The current study was carried out at all departments of Beni-Suef University Hospital. The hospital consists of (3) floors, with a bed capacity (1420) beds to provide cost free services for all departments with a wide range of ambulatory care services such as outpatient, pharmacy, emergency, radiology, physiotherapy and paramedical services such as dietary, laundry, and maintenance. It also provides care for patient with different specialties like Medicine (General, Rheumatoid, and Neurology), Surgery (General, Cardio-Thoracic, Plastic, Orthopedic, Obstetrics and Gynecology), Cardiology, and Critical Care units.

Subjects

A convenient sample of 306 nurses from total of 1500 nurses was selected from the aforementioned context according to Thompson equation and consented to participate in the study.

Sample size

Sample size was calculated using Thompson equation (2012)

$$n = \frac{Np(1 - p)}{(N - 1)(d^2/z^2) + p(1 - p)}$$

N= Population (1500)

Z= confidence level 95% (1.96)

P= probability (50%)

d= margin of error (0.05)

Data Collection Tools:

Five data collection tools were used to collect data:

Tool I: Nursing Personnel Knowledge about Entrepreneurship Questionnaire: It was adapted from Abdo et al. (2023) and consists of 2 parts: **Part 1: Personal characteristics:** included questions related to subjects' gender, age, education, and experience. **Part 2: Nursing Personnel Entrepreneurship Knowledge Questionnaire:** It

consists of 25 items divided into four dimensions: Definitions (4 items), Importance (6 items), Characteristics (7 items) and Barriers (8 items).

Scoring system: the items were scored either (1) for correct answer or (0) for incorrect answer. The overall scores of items were summed up and categorized as: Satisfactory knowledge level ($\geq 75\%$) or Unsatisfactory knowledge level ($< 75\%$).

Tool II: Nursing Personnel Attitude toward Entrepreneurship Questionnaire: It was adapted from **Abdo et al. (2023)** and consists of 7 items asking nursing personnel about their attitudes toward Entrepreneurship. **Scoring System:** Items were scored using three points Likert scale; (1) for disagree, (2) for neutral and (3) for agree. The overall score of items were summed up and categorized as: Positive attitude ($\geq 90\%$) or Negative attitude ($< 90\%$).

Tool III: Nursing Personnel Skills toward Entrepreneurship Questionnaire: It was adapted from **Abdo et al. (2023)** and consists of 24 items divided into ten dimensions: It included 10 dimensions: opportunity seeking (2 items), perseverance (2 items), risk-taking (2 items), demand for efficiency and quality (2 items), commitment to work contract (2 items), information seeking (3 items), goal setting (2 items), planning (3 items), persuasion and networking (3 items) and self-confidence (3 items). **Scoring system:** Items were scored using three points Likert scale; (1) for disagree, (2) for neutral and (3) for agree. The overall score of items were summed up and categorized as: Competent skills ($\geq 75\%$) or Incompetent skills ($< 75\%$).

Tool IV: Nursing Personnel Empowerment Questionnaire: It was developed by **(Laschinger et al., 2014)**, with the aim of assessing the empowerment level among nursing personnel. It consists of 38 items with four dimensions: Access to Information (12 items), Access to Support (9 items), Access to Opportunity (9 items) and Access to Resources (8 items). **Scoring System:** A five-point Likert scale, with 1 denoting never and 5 denoting always, was used to assess the items. The overall score of items were summed up and categorized as: High empowerment ($\geq 75\%$), Moderate empowerment ($50\%: < 75\%$), and Low empowerment ($< 50\%$).

Tool V: Nursing Personnel Motivation Questionnaire: It was adapted from **Abdo et al. (2023)** and has 19 items that measure the entrepreneurial motivation of nursing personnel. **Scoring system:** A five-point Likert scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree," was used to rate the items. After adding together all of the item scores, they were divided into three categories: low motivation (less than 50%),

moderate motivation ($50\%: < 75\%$), and high motivation ($\geq 75\%$).

Validity and Reliability:

Face validity of the data collection tools was evaluated by five nursing experts (Three professors from faculty of nursing Cairo University and two assistant professors from faculty of nursing Beni-Suef University and South Valley University) for tools clarity, applicability, and adequacy. The tools were modified in accordance with the nursing experts' suggestions. The tool's reliability was then assessed using Cronbach's alpha coefficient, which showed excellent reliability scores of (0.905) for the entrepreneurship knowledge questionnaire, a good reliability scores of (0.876) for the attitude questionnaire, (0.812) for the skill questionnaire, and (0.798) for the empowerment questionnaire, for motivation questionnaire it showed (0.913) which indicated excellent internal consistency.

Field work:

Official permissions from the medical and nursing manager of Beni-Suef University hospital were obtained. Participation in the study was open to all nursing personnel. Each participant completed a written informed permission form after the researchers informed the medical and nursing directors of the hospital about the study's nature and goal in order to simplify and supervise the data gathering procedure. They were told by the researchers that participation was completely voluntary. The information was guaranteed to remain anonymous. Data were gathered from nurses using data collection tools. Since the nurses' workload was light and they had enough time to finish the questionnaires, data collection took place during the evening shifts. Completing the questionnaires took roughly thirty minutes. The duration of data collection was three months. Ultimately, the surveys that were free of logical mistakes and incompleteness were examined.

Pilot Study:

To assess the applicability and clarity of the constructed tools, a pilot study was carried out with 31 nurses, that represent 10% of the nurses at the aforementioned setting. Additionally, the pilot helped determine how long it would take each participant to complete the questionnaire. Nurses who were chosen for the pilot study were not included in the study because changes were made in response to the pilot's findings.

Ethical Considerations:

In November 2024, the study was revised and approved by the Beni Suef University faculty of nursing's research ethics committee. Voluntary participation and the right to informed consent were guaranteed to participants. The information was kept

completely confidential and utilized exclusively for research purposes.

Statistical Data Analysis:

For descriptive statistics in the form of frequencies and percentages for categorical variables, the statistical package for social sciences (SPSS 22.0)

was used for analyzing the gathered data. For continuous variables, means and standard deviations were calculated. The associations between the research variables were examined using Pearson correlation coefficients. The level needed for significance was established at $P < 0.05$.

Results

Table (1): Frequency distribution of studied nursing personnel personal characteristics (n=306)

Characteristics	N	%
Gender		
– Male	91	29.7
– Female	215	70.3
Age (Years)		
– 20-<30	189	61.8
– 30-<40	78	25.5
– 40-<50	23	7.5
– ≥50	16	5.2
Mean±SD	29.76±5.34	
Marital Status		
– Married	218	71.2
– Unmarried	88	28.8
Educational Qualification		
– Diploma in nursing	34	11.1
– Bachelor degree	235	76.8
– Post graduate Studies	37	12.1
Experience (Years)		
– <5	56	18.3
– 5-<10	195	63.7
– ≥10	55	18
Mean±SD	8.96±4.57	

Table (2): Overall mean score of studied nursing personnel knowledge, attitudes, and skills regarding entrepreneurship and their empowerment and motivation (n=306)

Dimensions	Min - Max	Mean \pm SD	Mean %	Rank
Knowledge				
– Definitions	0 – 4	2.43 \pm 0.89	60.8	2
– Importance	0 – 6	3.54 \pm 1.21	59	3
– Characteristics	0 – 7	3.59 \pm 1.46	51.3	4
– Barriers	0 – 8	5.38 \pm 1.85	67.3	1
– Overall Knowledge	0 – 25	15.49 \pm 4.72	62	
– Overall Attitude	7 – 21	17.56 \pm 3.67	83.6	
Skills				
– Opportunity Seeking	2 – 6	3.46 \pm 1.23	57.7	8
– Perseverance	2 – 6	3.65 \pm 1.65	60.8	6
– Risk Taking	2 – 6	4.05 \pm 1.82	67.5	3
– Demand For Efficiency And Quality	2 – 6	4.53 \pm 1.98	75.5	1
– Commitment To Work Contract	2 – 6	3.86 \pm 1.45	64.3	5
– Information Seeking	3 – 9	5.35 \pm 2.11	59.4	7
– Goal Setting	2 – 6	3.96 \pm 1.75	66	4
– Planning	3 – 9	4.89 \pm 1.56	54.3	10
– Persuasion and Networking	3 – 9	5.11 \pm 2.13	56.7	9
– Self-Confidence	3 – 9	6.32 \pm 2.54	70.2	2
Overall Skills	24 – 72	37.62 \pm 8.48	52.3	

Dimensions	Min - Max	Mean±SD	Mean %	Rank
Empowerment				
– Access to Information	12 – 60	33.76±5.54	56.3	4
– Access to Support	9 – 45	27.25±4.31	60.6	2
– Access to Opportunity	9 – 45	25.78±5.98	57.3	3
– Access to Resources	8 – 40	26.76±7.87	66.9	1
– Overall Empowerment	38 – 190	97.87±15.66	51.5	
– Overall Motivation	19 – 95	56.72±10.43	59.7	

Table (3): Studied nursing personnel overall levels of knowledge, attitudes, and skills regarding entrepreneurship and their empowerment and motivation (n=306)

Variables	Categories	No.	%
Knowledge	– Satisfactory	108	35.3
	– Unsatisfactory	198	64.7
Attitudes	– Positive	87	28.4
	– Negative	219	71.6
Skills	– Competent	117	38.2
	– Incompetent	189	61.8
Empowerment	– High	57	18.6
	– Moderate	170	55.6
	– Low	79	25.8
Motivation	– High	85	27.8
	– Moderate	158	51.6
	– Low	63	20.6

Table (4): Correlation between studied nursing personnel knowledge, attitudes, and skills regarding entrepreneurship and their empowerment and motivation (n=306)

Variables	Knowledge	Attitudes	Skills	Empowerment	Motivation
Knowledge	r				
	P-Value				
Attitude	r	0.543			
	P-Value	0.000**			
Skills	r	0.486	0.398		
	P-Value	0.000**	0.000**		
Empowerment	r	0.265	0.298	0.354	
	P-Value	0.021*	0.018*	0.000**	
Motivation	r	0.476	0.398	0.453	0.519
	P-Value	0.000**	0.000**	0.000**	0.000**

Table (1): Summarized the distribution of studied nursing personnel personal characteristics. Approximately three-quarters of the nurses in the study were married and female (71.2 and %70.3% respectively). Concerning their age, nearly two thirds of studied nurses were in the 20–30 age range with mean age (29.76±5.34). For their educational qualifications, more than three quarters of studied nurses (76.8%) hold bachelor degree in nursing. Regarding their experience in nursing profession, about two thirds (63.7%) of studied nurses had been in the nursing profession for five to ten years, with an average experience of (8.96±4.57).

Table (2): Displayed the overall mean score of studied nursing personnel knowledge, attitudes, and skills regarding entrepreneurship and their

empowerment and motivation. The mean score for the nursing personnel total knowledge of entrepreneurship was (15.49±4.72) with mean percent (62%) indicating unsatisfactory knowledge level. In terms of the knowledge sub-dimensions, the barriers of entrepreneurship had the highest mean percent (67.3%) while the lowest mean percent was for characteristics of entrepreneur (51.3%). Regarding studied nursing personnel attitudes toward entrepreneurship, the total mean score of attitude was (17.56±3.67) with mean percentage (83.6%) indicating negative attitude level. Regarding studied nursing personnel entrepreneurship skills, the total mean score of skills was (37.62±8.48) with mean percent (52.3%) indicating incompetent skills level. Demand for efficiency and quality had

the highest mean percentage (75.5%) among the skills sub-dimensions, whereas the lowest mean percent was for planning (54.3%). In terms of the empowerment of the studied nursing personnel, the overall mean score of empowerment was 97.87 ± 15.66 with mean percent (51.5%) indicating moderate level of empowerment. Regarding the sub-dimensions of empowerment, access to resources had the greatest mean percent (66.9%) and access to information had the lowest mean percent (56.3%). In terms of the motivation of the studied nursing personnel, the total mean score of motivation was 56.72 ± 10.43 with mean percent (59.7%) indicating moderate level of motivation.

Table (3): Revealed the overall levels of studied nursing personnel knowledge, attitudes, and skills regarding entrepreneurship and their empowerment and motivation. About two thirds of studied nursing personnel (64.7%) had unsatisfactory knowledge levels. Nearly three quarters of studied nursing personnel (71.6%) had negative attitudes regarding entrepreneurship. Nearly two thirds (61.8%) of studied nursing personnel had incompetent skills levels. The study found that more than half of studied nursing personnel showed moderate levels of empowerment and motivation (55.6% and 51.6%) respectively.

Table (4): Illustrated the relationship between studied nursing personnel knowledge, attitudes, and skills related to entrepreneurship and their empowerment and motivation. There were statistical significant correlations between all variables.

Discussion

Nursing entrepreneurship offers many benefits, including improved patient care, increased job satisfaction, financial independence, professional development, and contributions to the healthcare industry. It is an appealing option for nurses who wish to pursue their entrepreneurial aspirations and positively influence the healthcare sector. (Hamed et al., 2024).

The present study illustrated the distribution of demographic characteristics of study sample, and the results showed that about three-quarters of nurses were female and married, and nearly two-thirds of the nurses were between the ages of 20 and 30 (mean age 29.76 ± 5.34), while the minority of the total subject was fifty years old and more.

Nursing has been a female job for decades, even though the number of men entering the field has been increasing, it remains a female-dominated occupation. This result was supported by Ali et al., (2020), who investigated the impact of Entrepreneurship Orientation Program on the Entrepreneurial Intention, and found that the majority of participants were

females and their ages varied from 22 to 39 years old with mean age 23.85 ± 1.95 . Also Abdo et al., (2023) stated that more than half of nursing interns were female, in studying effect of entrepreneurship education program on nursing intern motivation.

According to their educational qualifications, more than three quarters of studied nursing personnel hold bachelor degree in nursing. Regarding their experience in nursing profession, about two thirds of the nurses in the study had been in the nursing profession for five to ten years, with an average experience of (8.96 ± 4.57). This finding is in line with that of Farghaly et al., (2023) who examined the relationship between entrepreneurship head nurses' characteristics and leadership practices, and stated that the majority of them were females and had bachelor's degree in nursing.

According to findings of the current study, only one third of the nursing personnel had satisfactory level of entrepreneurship knowledge. However, two third of them had unsatisfactory level of nursing entrepreneurship knowledge. These results were in harmony with a study by Abdel Ghany et al., (2024) that evaluate nurses' knowledge and skills in relation to entrepreneurship, and found that the most of nurses had unsatisfactory level of nursing entrepreneurship knowledge. Also El-Ebrashi (2018) found that majority of study sample possessed unsatisfactory level of entrepreneurship knowledge.

Additionally, these results were consistent with the research of Hamed et al., (2024) which found that most of the participants' entrepreneurship knowledge was unsatisfactory. Besides, Abdo et al., (2023) who carried out a study to evaluate effect of entrepreneurship training program on nursing interns' motivation, reported that almost two thirds of participants possessed unsatisfactory knowledge levels.

In addition, the findings of the study showed that the barriers of entrepreneurship had the highest mean percentage of studied nursing personnel perception of entrepreneurship knowledge, while the lowest mean percentage was for characteristics of entrepreneur. These findings were congruent with the findings of the study conducted by Radwan, & Khalil (2023) to explore the barriers of entrepreneurship in nursing as perceived by nurse managers, and stated that the barriers to nursing entrepreneurship had the highest mean percent of nurse managers' perception regarding attitudes toward entrepreneurship. Also, Trombeta et al. (2020), in assessing experience of nurse entrepreneurs, found that the study sample had lowest knowledge percentage regarding entrepreneurship.

These results were in line with those of a study by Jakobsen et al. (2021) which discovered that the nurses before working in entrepreneurship field do

not have any idea about entrepreneurial business steps. According to the researchers, Most of the study sample only has a bachelor's degree in nursing; they do not hold a master's or doctoral degree in nursing, and the undergraduate curriculum does not cover the topic of entrepreneurship. As a result, most of the study sample views entrepreneurship as a novel issue and has no prior knowledge of it.

These findings contradicted those of a research by **Abdel Ghany et al., (2024)** which found that the highest incorrect answer in assessing knowledge of entrepreneurship was regarding the item "Sequences of the entrepreneurial process".

Regarding studied nursing personnel attitudes toward entrepreneurship, the results indicated a negative attitude level. These results were in line with those by **Abdo et al. (2023)** who carried out a study to evaluate effect of entrepreneurship training program on nursing interns' motivation and stated that approximately three quarters of participants had negative attitudes of entrepreneurship. According to a related study by **Ashari et al. (2021)** the main factor influencing entrepreneurial inclination was a negative personal attitude.

Also, these findings were consistent with those of **Mohamed (2020)** in studying the impact of entrepreneurship training program on nursing intern awareness and entrepreneurial intention, stated that the students have a positive attitude towards entrepreneurship after implementation of the training program compared to having negative attitude preprogram.

From the researchers' point of view, personal attitude has a very strong and considerable impact on entrepreneurial performance and skills. Therefore, if the nurses' entrepreneur has a positive attitude and acquired multiple skills as interpersonal, business and entrepreneurial skills regarding entrepreneurial process steps they will be successful in putting their entrepreneurial endeavors into action.

Regarding the dimension of entrepreneurship skills, the results indicated an incompetent skills level. These findings were congruent with study conducted by **Borimnejad et al. (2023)** which found that most of the study sample had low level toward nurses' entrepreneur skills. Additionally, **Effendy et al. (2021)** found that the nurses had lowest level of skills of entrepreneurship. Also, reported that the skills are the most supporting factors for nurses during implementation of entrepreneurial activities.

According to the researchers, the study sample is unaware of any entrepreneur skills and is not aware of whether they possess any of them. As a result, they struggle with the lack of skills related to nurses' entrepreneur and are unable to assess their own

abilities. In the same line, the findings of the current study were agreed with the findings of **Wardan et al. (2020)** in studying entrepreneurship and work innovation among nurse managers, the findings suggest that approximately 50% of nurse managers lack entrepreneurial skills.

This study contradicts the results of **Dehghanzadeh et al. (2016)** in examining entrepreneurship psychological characteristics of nurses, as they determined that a significant portion of the nurses possess moderate entrepreneurial skills.

Also, when the items within the dimension of entrepreneurship skills were investigated, the analyzed results revealed that the highest percentage was recorded for demand for efficiency and quality, while the lowest mean percentage was for planning skills. These results were in line with those of a study by **Layton et al. (2022)** which found that efficiency and quality of business skills represented the most common skills among study sample.

These results contradicted those of a study by **Abdel Ghany et al. (2024)** which discovered that highest correct answer of entrepreneurship skills was regarding the item "Interpersonal skill for entrepreneurship in nursing".

The study's findings indicated a moderate level of empowerment and motivation among the studied nursing personnel. Concerning the sub-dimensions of empowerment, the highest mean percentage of studied nurses' perception was related to "access to resources" followed by "access to support", while the lowest mean percentage was for "access to information". This outcome may be related to the settings where the study was conducted, a hospital aiming for accreditation that places a strong emphasis on worker and work environment empowerment.

This result was similar to **Saleh et al. (2022)** in their study of empowerment predicting nurses' work motivation and occupational mental health, as they stated that nurses participated in the study reported a moderate level of structure empowerment. In line with earlier findings, **Vannucci, Weinstein, (2017)** also showed that nurses have a good level of access to the organization's resources and that they receive a respectable amount of assistance from peers and leaders within the organization.

Regarding the dimension of studied nursing personnel motivation, the results indicated a moderate level of motivation. Low performance, empowerment, and motivation may result from a lack of staff nurses, an increase in workload, an increase in patients' number, a lack of equipment, and a crowded work environment in the general care unit. This was in line with **Gabra et al. (2019)** who claimed that nurses' motivation as well as power are affected by the general care unit's work environment. They propose

that nurses' motivation and perceptions of work satisfaction may be impacted by their sense of personal control over their work in a general care unit that is stuffed with doctors, nurses, and students. They must constantly interact with other staff members, visitors, and physicians, and they have no control over achieving a balanced workload.

The current study's findings showed a statistically significant positive relationship between the empowerment and motivation of the nursing personnel under study and their knowledge, attitudes, and skills related to entrepreneurship. These results were consistent with a study by **Abdo et al. (2023)** that found a highly statistically significant positive link between total motivation across all program phases and total knowledge, total attitude, and total skills related to entrepreneurship. Also, **Saeed et al. (2018)** found a highly statistical significant positive correlation between total knowledge, total attitude, total skills of entrepreneurship and total motivation through all program phases when they examined the role of perceived university support in the formation of students' entrepreneurial intention.

According to the researchers these findings are realistic because nursing personnel who learn more about entrepreneurship will have a different perspective, vision, feelings, and attitude toward this issue, they will also have a better understanding of all aspects of entrepreneurship, including its significance, opportunities, challenges, and motivators. This outcome is consistent with a study carried out in Turkey by **Sarasvathy, & Venkataraman, (2019)** which elaborated that students' motivation for entrepreneurship and their knowledge, attitude, and skills in the entrepreneurship class were significantly positively correlated.

These results were inconsistent with a study by **Abdel Ghany et al. (2024)** which found a statistically insignificant relationship between staff nurses' perceived entrepreneurship skills and their knowledge of entrepreneurship. Additionally, **Anwar et al. (2020)** found no statistically significant relationship between nurses' entrepreneurship skills and their entrepreneurial knowledge.

Concerning the relation between entrepreneurship level of knowledge and motivation, the findings of the current study showed a statistically significant relationship between nursing personnel entrepreneurship level of knowledge and motivation. According to the researchers, this is because increasing knowledge and awareness affect positively the behavior and attitude toward entrepreneurship and this improve the entrepreneurial motivation. Additionally, this outcome is consistent with a Chinese study by **Samimi, & Jenatabadi, (2019)** which elaborated that students' entrepreneurial

knowledge increases with increasing their attitude, skills and motivation about entrepreneurship.

This result was in line with that of **Wardana et al. (2020)**, who discovered a positive correlation between an entrepreneurial attitude and motivation. Through e-learning, which has grown more popular and accessible in today's technologically advanced world, interacting with role models, or taking part in online workshops, the researchers proposed that nurses might enhance their capacity to recognize opportunities and think creatively. By doing this, nurses can create innovative ideas and adjust nursing services to fit in with the market's current trends and take advantage of favorable prospects.

The current study's findings, however, were in conflict with those of **Karyaningsih (2020)**, whose research showed that while entrepreneurial knowledge significantly influences students' desire to start their own business, it has no noticeable impact on their attitudes toward entrepreneurship.

Furthermore, the findings of the current study were in conflict with a study by **Rotimi et al. (2022)**, which found that, improving entrepreneurship knowledge is not relevant in improving the motivation of the graduate students to become entrepreneurs.

Furthermore, the results of the study showed a strong relationship between the knowledge and skills of study participants and their motivation and attitudes toward entrepreneurship. Having good entrepreneurship knowledge and skills can help to improve motivation and attitude toward entrepreneurship, which are essential qualities needed to successfully complete entrepreneurial tasks, according to a research by **Mahendra et al. (2017)**.

From the researcher point of view, these findings could be explained as pursuing an entrepreneurial career and then taking risks and dealing with a variety of issues require strong motivation and drivers, nurses need more than just financial incentives to pursue nursing entrepreneurship and stay in this line of employment. The study by **Malakoti et al. (2023)** agreed showed with our results and claimed that in order to overcome current issues and obstacles to nursing entrepreneurship, immaterial and higher motivational factors-such as career growth, community service, and spiritual accomplishments-are required. Nursing entrepreneurship also offers the advantages of high-quality care and job happiness, whereas nurses who are less motivated or have personal issues also have negative influences on society's health and lose revenue.

The current study's findings also showed a statistically significant positive relationship between the motivation of the nursing personnel and their views on entrepreneurship. According to **Eliyana et al. (2020)**, there is a positive unidirectional

relationship between motivation and entrepreneurial attitudes. This means that students who are more motivated will act and think positively about entrepreneurial activities that will help them succeed in their businesses.

Additionally, the current study's findings demonstrated a strong relationship between the empowerment and motivation of the nursing personnel in the study. This illustrates how a sense of empowerment will raise nurses' level of motivation at work. In this regard, the current study's findings concurred with those of **Saleh et al. (2022)**, who reported a strong positive correlation between nurses' job motivation and both structural and psychological empowerment. Also, **Gabra et al. (2019)**, summarized that, there were strong positive correlation and statistically significant between empowerment and motivation among staff nurses. Thus, from the researchers' point of view, an organization should take care of its workers by offering internal opportunities, making use of its resources and information, offering training and education, and implementing an intensive and rewarding system in order to achieve high quality of care, boost productivity, and promote an entrepreneurial culture. As a result, nurses will experience an increase in motivation, feel more satisfied, and cultivate positive views regarding entrepreneurship.

Conclusion

Nearly two thirds of nursing personnel had inadequate knowledge and incompetent skills regarding entrepreneurship, according to the study's findings. More than half of the nursing personnel in the study showed moderate levels of motivation and empowerment, and nearly three-quarters had negative attitudes toward entrepreneurship. There were statistically significant positive relationships between nursing personnel motivation and empowerment and their knowledge, attitudes, and skills related to entrepreneurship.

Recommendations

The following suggestions were developed in light of the study's findings:

Faculties of Nursing:

- Incorporate entrepreneurship courses in nursing students' curricula to prepare them to be nurses' entrepreneurs.

For Healthcare Organizations:

- Create a fair rewarding and incentive systems for nurses by hospital management to enhance nurses' motivation level in work and ensure empowering factors at organization.

- Provide support and improve policies by policymakers that inspire young and creative entrepreneurs to succeed in nursing.

- Emphasis on new trends in nursing administration by hospital management should such as nursing entrepreneurship to boost nurses' motivation.

For researchers:

- Replicate the study on a large sample to obtain generalizable conclusions.
- Investigate the impact of entrepreneurship knowledge on direction of nursing career

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