

Effectiveness of Nursing Administration Educational Course on Nursing Students' Self-learning Readiness.

⁽¹⁾ Dr. Doaa Ali Seliman Ali, ⁽²⁾ Assist. Prof. Amira Fathy Akeel

(1) Lecturer of Nursing Administration, Technical Institute of Nursing, Faculty of medicine for Girls (Cairo), Al-Azhar University.

(2) Assistant professor of Nursing Administration, Faculty of Nursing, Modern University for Technology and Information (MTI).

Corresponding authors' E-mail: doaa.aly100@gmail.com

Contributing authors' E-mail: amira.akeel@nur.mti.edu.eg.

Abstract

Introduction: The inclusion of nursing administration in nursing education provides nursing students with scientific leadership and management skills to make well-founded decisions. Nurse educators have a vital role in supporting student nurses in developing nursing administration skills, accessing research products and participating in research projects related to nursing administration. This requires more innovative teaching approaches to promote active participation, creativity and critical thinking in students to increase their self-learning readiness to nursing administration. **Aim:** This study aimed to investigate the effectiveness of "Nursing Administration" educational course teaching nursing students' self-learning readiness. **Research design:** A Quasi-experimental research design was used. **Setting:** The study was carried out at "Technical Nursing Institute" affiliated to Faculty of Medicine for Females, Al Azhar University, which is located at Alzahraa University Hospital. **Subjects:** The study included 167 undergraduate nursing students. **Tools of data collection:** the data was collected using "Nursing Administration Knowledge Pre Post-test and Self-Directed Learning Readiness Scale. **Results:** The study denoted that pre teaching nursing administration course, the majority (88%) of studied nursing students had unsatisfactory knowledge level about "Nursing Administration", while post teaching the majority (93.4%) of the study sample had satisfactory knowledge level. Additionally, more than half of nursing students (61.4%) had low level of self-learning readiness pre teaching. Meanwhile, about three thirds of them (74.4%) had high level of self-learning readiness post-teaching. **Conclusion:** There was a highly statistically positive correlation between "Nursing Administration" educational course teaching and level of nursing students' self-learning readiness to nursing administration. **Recommendations:** "Educational Nursing Institutions" should ensure incorporating "Nursing Administration" course in teaching and learning process and map out strategies to create a supportive teaching learning environment to improve students' self-learning readiness to nursing administration to ensure highly qualified nursing education

Keywords: Nursing Administration, Nursing students, Self-learning readiness.

Introduction

"Nursing Administration" teaching and learning has become an important function for nursing education (Aithal, & Aithal,2020). Teaching Nursing Administration (in nursing education varies among nurse educators and educational institutions (Al Balushi,2021). Nursing Administration is a method by which nursing students across healthcare professions review and assess the most current, highest-quality leadership and management process (AlRadini et al.,2022). It is a problem-solving approach to clinical decision making in

healthcare. Nursing Administration is an important tool for promoting quality care and improving patient outcomes. The objective of education in the 21st century is not only to provide students with a huge amount of knowledge and information but also to prepare students to become effective and independent learners, who have self-regulatory skills and can achieve academic success as long with life success (Ahmad et. Al,2023).

Although there is no precise standard for what constitutes "Nursing Administration ", the approach consists of 5 main components

according to research evidence: planning, organizing staffing directing and controlling (*Anwar, et.al. ,2021*). It has been recommended that educational nursing administration curricula for nursing students should be based on the five steps of management process in order to support developing knowledge, skills, and positive attitudes toward nursing administration (*Álvarez-Nieto, et.al.,2022*). These steps are the basic process for each future manager success and satisfaction (*Algabar, et.al. ,2023*).

Achieving excellence in academic performance is founded on the student's self-learning readiness, which plays a vital role in the learning process and human's life activities (*Ayish, & Deveci,2019*). Learners are not only information recipients, but they should be active participants in the process of learning, which requires full engagement and deep involvement of students(*Aronsson, et. al.,2020*). self-learning as a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes(*Avelino, 2021*). Readiness for self-learning includes self-discipline, autonomy, effective organization, effective communication, acceptance of constructive feedback, engagement in self-reflection, and self-evaluation. Self-learning requires various skills and attitudes to ensure successful independent study. Therefore, students must analyze their current situations, support networks, study habits, and family situations(*Astuti et al.,2023*).

The notion of self-learning readiness examines the degree at which the self-directed learner takes personal control and acknowledges the freedom that is associated with learning what the individual considers important. The degree of control is dependent on the learner's personality characteristics, attitudes, and abilities (*Bhandari et al., 2020*). stated that self-learning readiness can be defined as the degree of the attitudes, abilities, and personality characteristics that the individual possesses for self-learning. Self-learning readiness to Nursing Administration is highly individualized and representative along

the continuum. As such, evidence has shown that students who possess low self-learning readiness that are subsequently exposed to a self-learning assignment, demonstrate high anxiety levels that are similar to the responses of learners who have high readiness for self-learning and are exposed to environments that have increased levels of structure and teacher direction (*Baixinho et.al.,2022*).Therefore, this study was done to evaluate the effectiveness of nursing administration educational course teaching on undergraduate nursing students' self-learning readiness.

Significance of the study

President El Sisi ensured in Egypt vision 2030 his caring and support to the nursing professional development of health care system and the nursing education was high lightened in it. This vision ensures updated nursing education, by empowering nursing teachers and students and supporting them with necessary resources. Egypt magnifies the necessity of a supporting nursing educational environment that leads to quality and success of nursing students who will be future nurses (*Astuti et al.,2023*).

Evaluating the effectiveness of nursing administration educational course teaching on undergraduate nursing students' self-learning readiness has been studied in various research, pronouncing its special importance in nursing education. Studies revealed that high levels of studying nursing administration courses in nursing education are associated with high levels of self-learning readiness which benefit students and prepare them to be future independent leaders (*Baixinho et.al.,2022*).

This research discusses approaches for educational nursing organizations to develop self-learning readiness among nursing students that encompass a supportive educational culture leading to quality improvement (*Ahmad et. Al,2023*). Moreover, other research studies ensured that one in every five students exhibits self-learning readiness which improved the wellbeing of both students and nursing teachers. Additionally, research results identified that the nursing administration educational course teaching on undergraduate nursing students was

positively correlated to their self-learning readiness (*Algabar, et.al. ,2023*).

Aim of the Study:

Aim: This study aimed to investigate the effectiveness of "Nursing Administration" educational course teaching on nursing students' self-learning readiness through:

1. Assess nursing students' knowledge about "Nursing Administration".
2. Assess level of nursing students' self-learning readiness.
3. Finding out the effect of "Nursing Administration" educational course teaching on nursing students' self-learning readiness.

Operational definitions for this study:

Self-learning readiness is a process to help the learner to manage learning without planning, be responsible and controller until the process of evaluation, decide, improve skills of learning and interrogation and his/her self-confidence to develop learning capabilities.

Research Questions:

- Q1. What is the level of nursing students' knowledge about Nursing Administration?
- Q2. What is the level of nursing students' self-learning readiness?
- Q3. Is there a relationship between "Nursing Administration" course teaching and nursing students' self-learning readiness?

Research hypothesis:

H1. Nursing Administration course teaching will improve nursing students' knowledge regarding nursing administration.

H2. Nursing Administration course teaching will improve nursing students' self-learning readiness.

H3. There is relationship between "Nursing Administration" course teaching and self-learning readiness of undergraduate nursing students.

Subjects and Methods

1.Research design

A Quasi-experimental research design was used to achieve the aim of this study.

2.Setting

This study was conducted at "Technical Nursing Institute" related to Faculty of Medicine for Females, Al Azhar University, which is located at Alzahraa University Hospital. After study completion, graduates will be recruited at Alzahraa University Hospital as technical nurse. Technical Nursing Institute bylaw denotes that the study is distributed to five years. Students which are accepted to study at the "Technical Nursing Institute" should be female, unmarried and graduated from Al-Azhar schools only.

3.Subjects

The total study subjects were (167) nursing students who were registered for "Nursing Administration" course at the time of the study. Their selection was made by simple random sampling. The sample size was calculated using Open Epi. Version 3, open-source calculator taking into consideration, that sample size was calculated with a 5% standard error at 95% confidence level and a power of 80%. The sample size calculated according to this equation: $n = [DEFF * N * p (1-p)] / [(d2/Z21 - \alpha/2 * (N-1) + p * (1-p)]$ (**Dean & Sullivan, 2013**).

Sampling technique: Simple randomized technique was used in this study.

Inclusion criteria: Those who were registered for "Nursing Administration" course at the time of the study and didn't study self-learning readiness or nursing administration before.

Exclusion criteria: Those who were previously enrolled on the "Nursing

Administration" course but didn't succeed. Or had previous training about self-learning or nursing administration.

Tools of data collection

Two tools were used for data collection namely, Nursing Administration course knowledge pre and post-test and self-learning readiness scale.

1- Nursing Administration course pre and post-test:

This tool was used to assess nursing students' level of knowledge about Nursing Administration. It was developed by the researchers based on review of relevant literature (*Álvarez-Nieto, et.al.,2022; Ahmad et. Al,2023*) and nursing practice standard, and is consisted of two parts; the first part was concerned with personal data of nursing students such as age, gender, previous graduation school , while the second part included (30) questions grouped into (6) main heading domains; each domain contains (5) items, namely "management process and managerial role , management theories overview, management functions and their applications, organizational structure, Time management, quality management, and scheduling".

Scoring system:

The total score for the test was (30) grades; each right answer took one grade. The scoring system classified as follows: Scores less than (22.5 grads or < 75%) were unsatisfactory, while scores equal or more than (22.5 grads or ≥75) were satisfactory.

2- Self-Directed Learning Readiness Scale Instrument: It was developed by (*Fisher M., King J.& Tague G., 2001*) was used to evaluate students' self-learning readiness to Nursing Administration. This scale has (40 items). This questionnaire is made up (3) sub-scales; self- management (13 items), desire for learning (12 items), and self-control (15 items).

Scoring system:

Responses were measured on a Five-point Likert Scale ranged from (1- 5). The (1) on the scale indicated "strongly disagree", and (5) "strongly agree". The scores of items were summed up and the total divided by number of the items, giving a mean score of the part. These scores were converted into a percent score. Study subjects considered low if the percent score was less than 60%, moderate from 60% - <75% and high if 75% or more.

Tools validity:

Validity of the study tools were presented to a panel of experts for face and content validation, the jury panel consisted of five experts, professors of nursing administration and psychiatric nursing. The process involved their overall opinion about the tools. Then, they assessed each item for clarity, comprehensiveness, simplicity, understanding and applicability. Their suggestions were also sought in the structure of MCQ. Accordingly, to their opinions recommended modifications were performed by the researchers. A pilot study was done on 17 nursing students representing approximately 10% of the main study sample. The pilot served to assess the clarity of the knowledge questionnaire as well as the feasibility of self-directed learning readiness scale. Since no changes were made to the tools, the pilot sample was included in the main study sample.

Reliability

The reliability of the scales used in the tools was examined through assessing their internal consistency. The scales showed an excellent result as indicated by their Cronbach's Alpha coefficient (0.95) for Nursing Administration knowledge pre and post-test. As for the self-directed learning readiness scale instrument, reliability was assessed as (91.0).

Field work

The field work for this study extended through four months. It started at the beginning of February 2025 and was completed by the end

of June 2025. Researchers interacted with nursing students and simply explained the purpose of the study to students who agree to participate in the study and had written consent from them. Approval of the Institute dean was taken first; also, suitable time for data collection was determined according to participants study schedule and not in the break time. Data was collected two days per week in the presence of researchers to explain any ambiguity. On the following phases:

Phase I (Assessment Phase): During the assessment phase, administering pretests to assess nursing students' knowledge level about nursing administration, using "tool I". Tool II was administered to them to assess their self-learning readiness. Data collection occurred during participants' presence at study setting in the morning but not in the break time. Researchers were available to offer guidance and clarification as needed and gathered the completed tools immediately after their completion. Completion time for tool I and II ranged from 15 to 20 minutes for each tool.

Phase II (Planning): The planning phase was prepared based on an analysis of the assessment phase results and relevant literature. Prior to starting the study, the content validity of the course was assessed by estimating the content validity index (CVI). A panel of three experts, comprising five nursing professors, participated in the validation process. The experts evaluated the clarity and relevance of the study tools and offered recommendations to enhance their quality. The resulting CVI for the study course was determined to be 0.95, indicating strong content validity. The course's content and teaching methods were meticulously chosen. Additionally, the researcher designed the time schedule, teaching sessions, and selected appropriate media for instruction. The teaching methods encompassed lectures, discussions, and real-life examples drawn from work situations, supplemented by visual aids such as data shows and handouts. This phase of course development was completed within a span of two weeks.

Phase III (The educational course implementation): Researchers had applied the educational course teaching. All nursing students

attended six sessions, with each session lasting one hour in morning. They perceived the course contents using teaching strategies and handout. Various teaching methods were used, including lectures, discussions, and brainstorming. Instructional materials consisted of course booklet prepared by the researchers and distributed to all participants on the first day of the course's implementation, in addition to PowerPoint presentation for course sessions. The course addressed key topics related to "management process and managerial role , management theories overview, management functions and their applications, organizational structure, Time management, quality management, and scheduling". Course's sessions were performed at the class room during the last two hours of the nursing students' school day. The educational sessions lasted for three months, running from the beginning of February to the end of April 2025.

Phase IV (Evaluation phase): In the evaluation phase, Tool I was employed directly after the application of the course to assess nursing students' knowledge levels about nursing administration. Tools II, was then distributed to the post-course sessions' conduction to measure the nursing students' self-learning readiness.

Ethical considerations:

Official permission was obtained to perform the study after reviewing ethical aspects of the study by " Ethics Committee at Faculty of Nursing, Modern University for Technology and Information (MTI)". The ethical approval number was (FAN/147/2025) dated on 23 January,2025. Approval of "Technical Nursing Institute" dean was taken first to gain her support and cooperation. Informed written consent was obtained from each participant after explaining the purpose of the study and informing them about the right to refuse or withdraw from the study at any time. Confidentiality of the data was ascertained.

Statistical Analysis

The collected data was revised, coded, tabulated and introduced to a PC using statistical package for social sciences (IBM SPSS 24.0).

Data was presented and suitable analysis was done according to the type of data obtained for each parameter. Mean, Standard deviation (\pm SD) and range for parametric numerical data, **Chi square test** was used to examine the relationship between two qualitative variables but when the expected count is less than 5 in more than 20% of the cells; Fisher's Exact Test was used. **Pearson Correlation Coefficient (r):** Correlation was used as a measure of the strength of a linear association between two quantitative variables. **P-value: Level of significance:** $P > 0.05$: Non significant (NS) - $P < 0.05$: Significant (S) - $P < 0.01$: Highly significant (HS).

Results:

Table (1) illustrates the personal characteristics of studied nursing students. The age of nursing students ranged from ≤ 15 - ≥ 17 years; with mean age 15.25 ± 1.71 . The majority (48.5%) of nursing students aged ≤ 15 -16 years. All of them were single female and graduated from Al Azhar schools.

Table (2) and figure (1) Clarifies that pre teaching nursing administration course, the majority (88%) of studied nursing students had

unsatisfactory knowledge level about "Nursing Administration", while post teaching the majority (93.4%) of the study sample had satisfactory knowledge level. Additionally, there was highly statistically significant difference between undergraduate nursing students' knowledge level about Nursing Administration pre and post teaching of Nursing Administration educational course.

Table (3) and figure (2) illustrates that more than half of nursing students (61.4%) had low level of self-learning readiness pre teaching. While, about three thirds of them (74.4%) had high level of self-learning readiness post-teaching. Moreover, it illustrates that there was highly statistically significant difference between nursing students' self-learning readiness pre- and post-teaching "Nursing Administration" course.

Table (4) and figure (3) demonstrate that there was a highly statistically positive correlation between all components of nursing administration course knowledge and all internal self-learning readiness dimensions among the study sample.

Table (1) Personal data of studied nursing students' (N=167).

Demographic characteristics	Nursing students (n= 167)	
	No	%
1.Age		
≤15-16	86	51.49
>16-17	73	43.72
>17	8	4.79
Mean ± SD	15.25 ±1.71	
Gender		
Male	0	0
Female	167	100
Social status		
Single	167	100
Married	0	0
Divorced	0	0
Widowed	0	0
Previous graduation school		
AL Azhar schools	167	100
others	0	0

Table (2): Level of nursing students' knowledge about "Nursing Administration" pre and post teaching (N= 167)

Knowledge of Nursing Administration Course	Pre-teaching				Post-teaching				X ²	P Value
	Satisfactory		Unsatisfactory		Satisfactory		Unsatisfactory			
	No	%	No	%	No	%	No	%		
1.Management process and managerial role.	20	12	147	88	156	93.4	11	6.6	38.42	.000**
2.Management theories overview.	17	10.2	150	89.8	159	90.3	8	9.7	9.749	.000**
3.Management functions and their applications.	25	15	142	85	151	85.8	16	14.2	9.810	.000**
4.Organizational structure.	10	6	157	94	166	94.3	1	5.7	22.49	.000**
5.Time management.	35	21	132	79	141	80.1	26	19.1	8.532	.014*
6.Scheduling.	15	9	152	91	161	91.5	6	8.5	13.25	.010*
Total Satisfactory knowledge (≥60%)	20	12	147	88	156	93.4	11	6.6	30.94	**0.0001

** Highly statistically significant at p<0.01

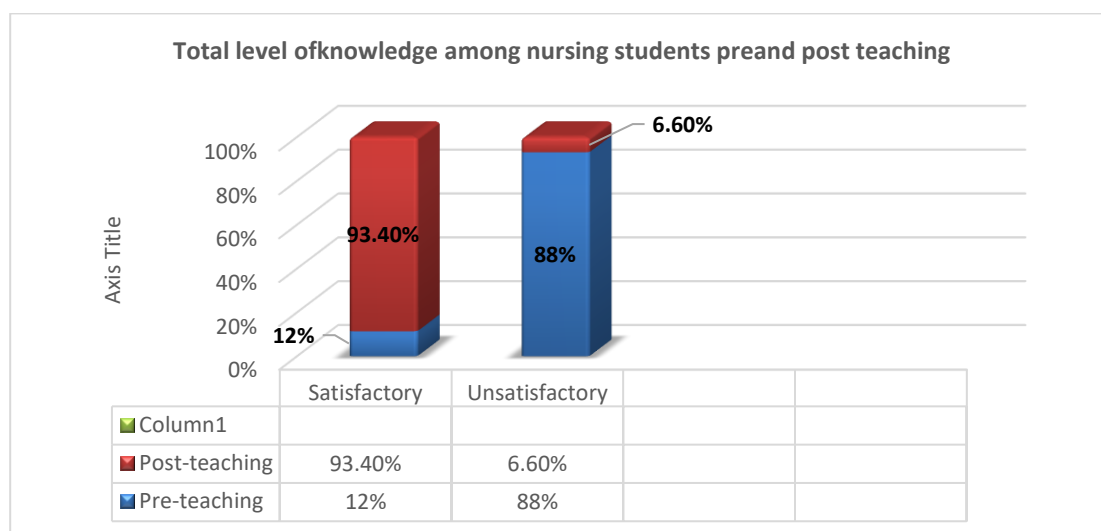


Figure (1): Total Nursing students' level of knowledge about "Nursing Administration" pre and post teaching (N= 167)

Table (3) Nursing students' level of self-learning readiness pre and post teaching of nursing administration course (n=167).

self-learning readiness	Pre-teaching						Post-teaching						X ²	P Value
	High		Moderate		Low		High		Moderate		Low			
	N	%	N	%	N	%	N	%	N	%	N	%		
1. Self-managemen t.	20	11.4	5	32.9	10	55.1	12	71.5	3	17.0	2	12.1	60.17	0.001*
2. Desire for learning.	23	13.1	4	27.8	10	59.4	13	58.0	2	14.5	2	27.3	59.80	0.001*
3. Self-control.	36	20.5	2	11.0	12	68.1	14	80.1	2	16.9	6	34.6	45.80	0.001*
Total	26	14.8	4	23.1	10	61.4	13	74.4	2	15.8	1	9.7	32.73	0.001*

ns (not significant or $P > 0.05$)

Significance: * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$

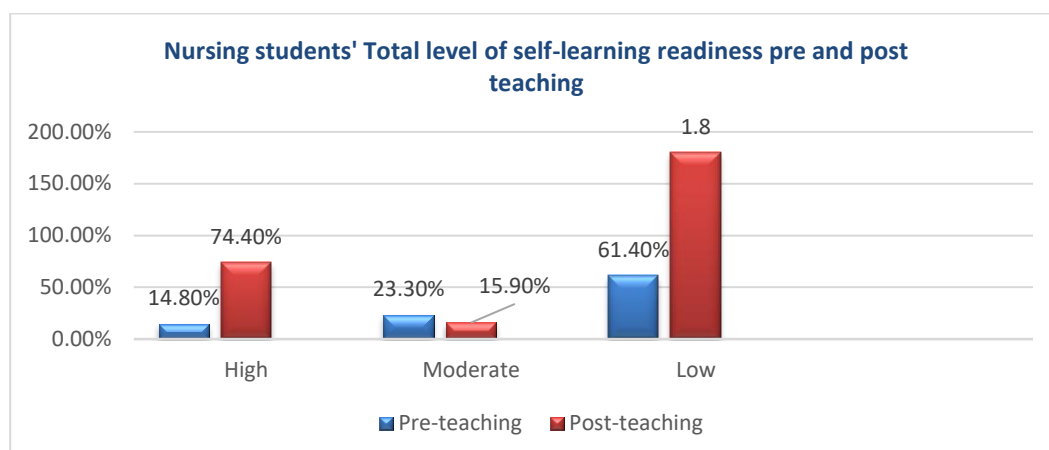


Figure (2) Total level of self-learning readiness among nursing students' pre and post teaching of nursing administration course (n=167).

Table (4): Correlation Matrix between Nursing Administration Course Teaching and Academic Self-learning Readiness among Nursing Students post course application(N=167).

Nursing Administration course knowledge	Self-Learning Readiness of nursing students					
	Self-management		Desire for learning		Self-control	
	R	p -value	R	p -value	R	p -value
1- management process and managerial role.	0.54	0.000	0.34	0.002	0.39	0.000
2- Management theories overview.	0.37	0.000	0.35	0.001	0.66	0.000**
3- management functions and their applications.	0.35	0.001	0.98	0.002	0.96	0.000**
4- organizational structure.	0.44	0.000	0.31	0.000**	0.91	0.000**
5- Time management.	0.25	0.020	0.33	0.000**	0.89	0.005*
6- scheduling.	0.46	0.000	0.44	0.000**	0.65	0.000**
Total	0.40	< 0.001	0.43	< 0.001	0.69	< 0.001

N.B *Significant, p -value ≤ 0.05 **Highly significant, p -value ≤ 0.01

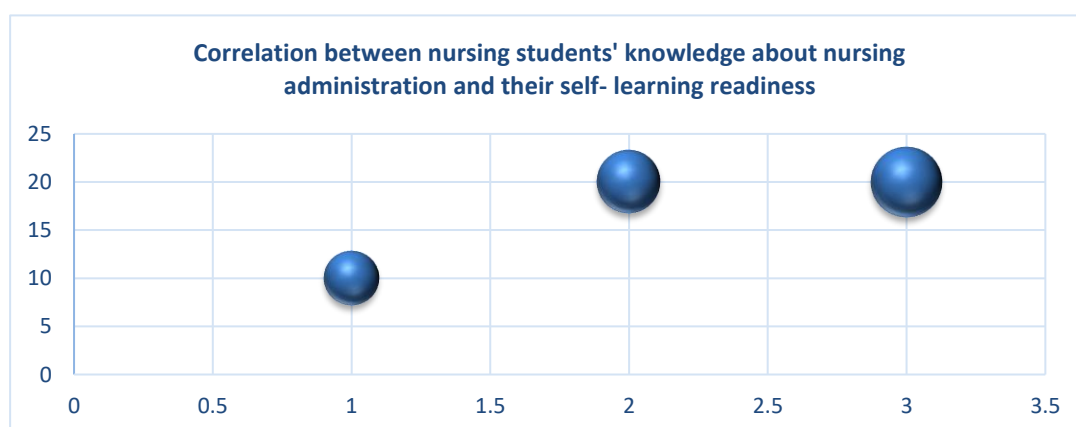


Figure (3) Correlation between nursing students' total knowledge about "Nursing Administration " and their Self-learning Readiness post teaching (N=167).

Discussion:

The complexity of the healthcare environment means that nursing students must participate in educational courses that ensure they have the requisite knowledge, skills, and abilities to provide quality nursing care. Research evidence revealed that different nursing administration education courses were effective in improving the knowledge, skills, attitudes, competences, and future use in leadership and management (*Chomeya et al., 2022*). Well-designed curricula require imagination, creativity, and effort from both theoreticians and clinical faculty. "Nursing Administration" can have a direct impact on positive outcomes for patients and reduced costs for the healthcare organizations (*Colomer, et al., 2020*).

The present study was carried out to assess the effectiveness of Nursing Administration course teaching on nursing students' self-learning readiness to Nursing Administration at Technical Nursing Institute related to Faculty of Medicine for Females, Al Azhar University, which is located at Alzahraa University Hospital. The study findings indicated that Nursing Administration course teaching to nursing students was successful in improving their self-learning readiness to Nursing Administration leading to acceptance of the study research hypothesis.

According to the current study findings, most nursing students had unsatisfactory knowledge of Nursing Administration and its principles before teaching process. Such knowledge deficit might be due to insufficient information about Nursing Administration in other courses of undergraduate curricula. The findings of the present study revealed significant improvement in nursing students' knowledge regarding Nursing Administration after teaching Nursing Administration course. The effect of teaching "Nursing Administration Course" was confirmed through multivariate analysis, which identified teaching process as the main independent positive predictor of the nursing students' score of knowledge. Such improvement in nursing students' knowledge is critical to academic achievement and performance. Similar

successes of Nursing Administration course in improving nursing students' knowledge of Nursing Administration in nursing were reported in studies of (*Paulina et al, 2024& Singh, & Paudel, 2020*) who highlights the importance of incorporating nursing administration throughout the curriculum to prepare students for future success in their professional nursing practice. Also, (*Zaman, et al., 2021*) found the same result and recommend that academic courses should ensure nursing students' competency in leadership and management before graduation and integrate it with patient needs, values and best research evidence.

The current study has also addressed nursing students' self-learning readiness. The results demonstrated that about three third of them (74.4%) had high level of self-learning readiness post-teaching. Moreover, it illustrates that there was highly statistically significant difference between nursing students' self-learning readiness pre- and post-teaching "Nursing Administration Course". In agreement with this, (*Astuti et.al.,2023*) in a study mentioned that there was statistically significant improvement in nursing students self-directed learning after studying "Nursing Administration". On the same line, (*Álvarez-Nieto, et al.,2022*) reported that Students in the sixth academic level scored higher in the total self-learning readiness scores compared to third-level students related to Nursing Administration course teaching.

Overall, there was a highly statistically positive correlation between all components of nursing administration course knowledge and all self-learning readiness dimensions among nursing students. These results were supported by (*Anwar et.al.,2021*) who added that "Nursing Administration" course knowledge was adequate to ensure that nursing students had adequate knowledge about management process, that will permit quality in their practice in the future. Also, (*Aronsson, et. al.,2020*) supported present results and concluded that (76% and 80% respectively) of nursing students having good and excellent self-learning readiness level post teaching administration course, making statistically significant difference that ensured the importance of nursing administration course

teaching which permits healthcare systems set it as an expectation and standard for all future nurses.

CONCLUSION

The study findings lead to the conclusion that there was a positive correlation between "Nursing Administration" course teaching and nursing students' self-learning readiness. Post-teaching the majority of the study sample had satisfactory knowledge level regarding "Nursing Administration". Additionally, around three thirds of them had high level of self-learning readiness post-teaching.

Recommendations

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

- 1- Educational Nursing Insinuations must encourage teaching "Nursing Administration" course to develop management skills among future leaders.
- 2- Modify teaching strategies and create effective learning environment for nursing students to be self-directed learners, pay more attention to curriculum activities, tend to choose proper learning and studying styles or ask for help if needed.
- 3- Ensure the presence of self-learning skills in curriculum because, they are necessary for developing professionalism and completing higher education courses.
- 4- Design projects applicable to the clinical site that provide an avenue for students to engage in management process while demonstrating the achievement of course learning outcomes.
- 5- Healthcare organizations have to provide Job resources to apply Nursing Administration to professional nursing practice which play a functional role in achieving work goals and facilitating healthcare growth and development.
- 6- Nursing faculties and healthcare organizations should Conduct educational courses and workshops on the principles of leadership and management to promote nursing professionalism.

References

- Al Balushi, S. M. (2021): Self- directed learning readiness and learning styles among Omani nursing students: Implications for online learning during the COVID- 19 pandemic.
- AlRadini, F., Ahmad, N., Ejaz Kahloon, L., Javaid, A., & Al Zamil, N. (2022): Measuring Readiness for Self-Directed Learning in Medical Undergraduates. *Advances in Medical Education and Practice*, 449-455.
- Ahmad, B. E., Saad, Z. A., Aminuddin, A. S., & Abdullah, M. A (2023). Self-directed learning of Malay undergraduate students. *Studies in Self-Access Learning Journal*, 14(3), 244-266.
<https://doi.org/10.37237/140302>
- Aithal, P. S., & Aithal, S. (2020). Analysis of the Indian national education policy 2020 towards achieving its objectives. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, 5(2), 19-41. Retrieved from: <https://dx.doi.org/10.2139/ssrn.3676074>
- Algabar, A. A., Ghadery, S. H., Mohamed, L. K., & Abou Shaheen, R. (2023). Role of nursing students' sustainable management behaviors in building sustainability consciousness among nurses. *Tanta Scientific Nursing Journal*, 30(3), 246-261.
<https://doi.org/10.21608/tsnj.2023.307832>
- Allam, S. S., Hassan, M. S., Mohideen, R. S., Ramlan, A. F., & Kamal, R. M. (2020). Online distance learning readiness during Covid-19 outbreak among undergraduate students. *International Journal of Academic Research in Business and Social Sciences*, 10(5), 642-657.
<http://dx.doi.org/10.6007/IJARBS/v10-i5/7236>
- Álvarez-Nieto, C., Álvarez-García, C., Parra-Anguaita, L., Sanz-Martos, S., & López-Medina, I. M. (2022). Effectiveness of scenario-based learning and augmented reality for nursing students' attitudes and awareness toward climate change and sustainability. *BMC Nursing*, 21(1), 245.
<https://doi.org/10.1186/s12912-022- 010239>
- Anwar, S., Hussain, M., Afzal, M., & Gilani, S. A. (2021). Assessment of enhancement in self-management, self- control and learning desire as a result of self-directed learning

- readiness in nursing students. *Journal of Advanced Psychology*, 3(1), 33-44. <https://doi.org/10.47941/japsy.565>
- Aronsson, J., Clarke, D., Grose, J., & Richardson, J. (2020). Student nurses exposed to sustainability education can challenge practice: A cohort study. *Nurse Health Science Journal*, 22(3), 803-811. <https://doi.org/10.1111/nhs.12734>
- Astuti, A., Wijaya, D., Abidin, Z., & Fibriansari, R. D. (2023). How to build self-directed learning readiness (SDLR) as the foundation for nursing students to be lifelong learners? A scoping review. University of Jember, Indonesia. Proceeding International Agronursing Conference (5th IANC) UNEJ eProceeding, 5(1), 126-138. Retrieved from: <https://jurnal.unej.ac.id/index.php/prosiding/article/view/40216>
- Ayish, N., & Deveci, T. (2019). Student perceptions of responsibility for their own learning and for supporting peers' learning in a project-based learning environment. *International Journal of Teaching and Learning in Higher Education*, 31(2), 224-37.
- Avelino, F. (2021). Theories of power and social change. Power contestations and their implications for research on social change and innovation. *Journal of Political Power*, 14(3), 425-48. <https://doi.org/10.1080/2158379X.2021.1875307>
- Baixinho, C.L., Ferreira, O., Medeiros, M., de Oliveira, E.S.F. (2022). Evidence-based practice and undergraduate nursing curriculum: Trends and perspectives. *International health trends and perspectives*, 2(2):134-138. doi: 10.32920/ihtp.v2i2.1626
- Ballad, C. A., Labrague, L. J., Cayaban, A.
- Bhandari, B., Chopra, D., & Singh, K. (2020). Self-directed learning: Assessment of students' abilities and their perspective. *Advances in Physiology Education*, 44(3), 383-386. <https://doi.org/10.1152/advan.00010.2020>
- Chomeya, R., Phansri, G., & Piyakun, A. (2022). Students' self-directed learning behavior: Cross cultural research (Thailand and Australia). *Kasetsart Journal of Social Sciences*, 43(2), 279-284. <https://so04.tcithaijo.org/index.php/kjss/article/view/258484>
- Colomer, J., Serra, T., Cañabate, D., & Bubnys, R. (2020). Reflective learning in higher education: Active methodologies for transformative practices. *Sustainability*, 12(9), 3827. <https://doi.org/10.3390/su12093827>
- Fisher M, King J, Tague G. Development of a self-directed learning readiness scale for nursing education. *Nurse Educ. Today*.2001 ; 21 : 516–25.
- Paulina Chigwara Chikeme, Ngozi Phoebe Ogbonnaya, Chikaodili Ihudiebube-Splendor, Everistus Obinna Abonyi, Obiageli Madu, Ijeoma Okoronkwo, Self-directed learning readiness and learning achievements of a flipped classroom model approach in research methods class: A quasi-experimental study, *Nurse Education in Practice*, Volume 77, 2024, 103968, ISSN 1471-5953, <https://doi.org/10.1016/j.nepr.2024.103968>
- Singh, I., & Paudel, B. (2020): Readiness for self-directed learning among nursing students in a medical college, Chitwan. *Journal of Chitwan Medical College*, 10(1), 27-30.
- Zaman, N., Goldberg, D. M., Kelly, S., Russell, R. S., & Drye, S. L. (2021): The Relationship between Nurses' Educational and Perceptions of Electronic Documentation Systems. *Nursing Reports*, 11(1), 12-27.