

Correlation between Clinical Competence, Clinical Decision Making, and Perceived Autonomy Support among Nursing Internship Students

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Abstract

Clinical competence is a crucial distinction for affirming professional, ethical, high quality and safe nursing care as well foster internship skills as decision making. The **aim** of the study was to assess correlation between clinical competence, clinical decision making, and perceived autonomy support among nursing internship students. **Research design:** cross sectional correlational design. **Setting:** 'Minia University Hospital' and 'Gynecology, Obstetric and Pediatric Minia University Hospital'. **Subjects:** stratified random sample from internship nursing students at general and critical units of two hospitals (size=133). **Results:** nursing internship student had a fair level regarding their clinical competence, clinical decision making, and perceived autonomy support. Also, the internship of critical area had level score better than the internship of general area. **Conclusion:** there were positive correlations between clinical competence, clinical decision making, and perceived autonomy support among nursing internship students. **Recommendation:** internship students need more training program to enhance their level of clinical competence, clinical decision making, and perception of autonomy.

Key word: Clinical competence, Clinical decision making, Internship students, Perceived autonomy support

Introduction

Internship is a paramount step for students of nursing career which stand in need of abundant skills, knowledge, ethical behaviors, and competencies. All these should combined with each other to have good professional nurses that provide effectively and professionally nursing care and practice for patients (Mohamed et al., 2017).

Moreover, in modern world, educational scientists have an emphasis on individuals because they have curial role in the developing of nations and community. Moreover, they confirm that the extreme significant capital of organization is its human resource and to have good human resource they should be developed for their competencies (Karami, et al., 2017).

Thus, clinical competence is a crucial distinction for affirming professional, ethical, high quality and safe nursing care (Kendall-Gallagher & Blegen, 2009; Flinkman, et al., 2017). Nursing students especially internship has to acquire more clinical experience during their training to enhance their future

competence. They are asked to practice more than on task related clinical skills during their training, in order to provide high nursing care (Khatiban & Sangestani, 2014; Nehrir, et al., 2016).

Clinical competence is defined as the nurse's capability and ability to master all knowledge available, technical and professional skills, behaviors and values in their daily performing of their duties that promote them to provide competent and superior care for patient in various contexts of health care setting for benefiting people and community being served (Amini, et al., 2017)

Therefore, nursing internship clinical competence is deemed to be a dynamic operator to pledge the quality of patient care and to have acquisition of their gratification as well as a pivotal element for hospitals existence in highly competitive world today (Tabriz, et al., 2017). So, nursing faculty and hospitals that have the responsibility to solidification clinical competence among nursing internship students; as well as they should determine and assess level of internship students competencies and

developing a training programs for them to foster their knowledge, behaviors, problem solving, clinical judgment, competencies and decision skills (**Hakimzadeh, et al., 2013**).

Clinical decision making (CDM), problem solving, autonomy, and critical thinking are preferable skills of these needed skills; and internship training program should smooth the path of developing these skills (**Mohamed, et al., 2017**). CDM is specify as practice as the most active, functional, influential, practical and suitable choice among the solutions. It also signifies as appraising the patient and family for their cognitive, social, cultural, and economic deficiency; and then employing the needed skills that required practicing with those deficiencies. So, CDM in nursing defined as mastering the technical experience and skills in nursing (**Edeer & Sarıkaya, 2015**).

Also, CDM is one of the maximum vital and major issues of nursing practice. As internship student of nursing field should suitable abilities in order to make professional clinical decisions. As the good CDM skill of internship or nurses can result in dispense of drug mistakes and patient death, and can upgrade the ability of them to recognize any impairment of patient status to foster patient safety (**Johansen & O'Brien, 2016**).

Moreover, perceived feeling of autonomy help nurses as well internship to provide high quality of care. Autonomy in nursing profession point out to nursing internship students' independence to take action on what they realize is the best needs of the patient; as well help them to do independent decisions in the nursing arena of practice and interdependent decisions in those arena in which nursing interferes with other fields. It overwhelmingly overrides standard practice and comprises of being more accountable one in a constructive and affirmative manner (**MacDonald, 2002**).

Autonomy support means a group of behaviors that revitalize internal motivation by contributing meaningful alternatives, seeking to understand the point of views, putting forward employee with personally meaningful reasons for task engagement, fostering their input process of effective decision making, and

proffering them chances for self-initiated behavior (**Cheon, et al., 2019**).

Although autonomy supportive state that has important view in nursing education could hold promise for fostering attainment and development of psychological state for students; there are few studies that done to examine autonomy support among nursing internship and students in different nursing specialties (**Greaney, & O'Mathúna, 2017**).

Moreover, autonomy can improve internship ability to make effective decisions and the capacity to perform. And CDM considered being curial component of nursing autonomy (**Skår, 2010**). Nursing decisions affect in a direct way patients; in this sense, a patient should receive care with respect to caregivers. As well feeling with autonomy support help internship to have more clinical competence and can providing good nursing care that meet patient needs without the patient feeling inferior (**Cole et al., 2014**).

Significant of the study

When there is acceptable degree of clinical competence among nurses as well as internship students; it can help them to lower rates of mortality among patients within hospital settings. In addition the high care quality for patient can be only seen if nurses have received high-quality teaching during their course of study and their internship (**Aiken, et al., 2014**). Therefore, clinical competence of nurses considered being a base on their education, training, knowledge, and skills that mastered during study years and work year provided to them (**Zakaria & Gheith, 2015**).

Moreover, clinical competence recognized as managing of knowledge to make professional decisions, acquire essential psychomotor skills, and interpersonal relationships; as well as nursing practice is expected to help ultimately achieve patient safety, and improve public health (**Tabriz, et al., 2017**). Also the making clinical decisions by nursing interns consider being the backbones of total patient care delivery (**Kader & Mohamed, 2012**).

Therefore, if the nursing interns have adequately mastering skills and competencies,

they can make good judgment and decisions. Also, when intern student perceived support autonomy they can master their clinical competencies (**Hakimzadeh, et al., 2013**). **Faraji et al., (2019)** measured level of competence among nurses and discovered that the mean score of total clinical competency was 69.56 10.74, with two thirds of the nurses having a good level and only thirty percent having an exceptional level of clinical competency.

In another study conducted in Iran by **Namadi-Vosoughi et al., (2014)**, 76.6 percent of nurses had outstanding or exceptional clinical competency scores. In addition, **Ciftci et al., (2020)** discovered that intern students' CDM mean scores in the pre-test and post-test measurements were 138.98 16.13 and 137.97 16.24, respectively, with no significant change.

Clinical competence considered to be one's ability to do their duty in effective manner in order to attain desirable objectives regarding clinical context (**Benner, 2001**). And mostly of recent researches for intern nurse clinical competence was emphasized on internship self-evaluation or self-assessment rather than observe their competencies by supervisor or instructors (**Theisen & Sandau, 2013; Lima, et al., 2014**). Thus it is curial to assess internship clinical competence from another view rather their self-view, also, there is little or no studies dealing to correlate the current study variables together (clinical competence, clinical decision making and perceived autonomy support) in Egypt. So this present study could be one of first studies to be carried out.

Aim of the Study

The aim of the study was to assess correlation between clinical competence, clinical decision making, and perceived autonomy support among nursing internship students

Sub-Objectives:

- Determine level of internship nursing students' clinical competence.
- Determine level of internship nursing students' clinical decision making.

- Determine level of internship nursing students' perceived autonomy support.
- Specify the correlation between internship nursing students' clinical competence; clinical decision making skill, and perceived autonomy support.

Research questions

- 1- What are the level of clinical competence, clinical decision making and perceived autonomy support among nursing internship students?
- 2- Is there a relation between level of clinical competence, clinical decision making and perceived autonomy support among nursing internship students?

Subjects and Methods

The present study was carried out through: A) Technical design; B) Operational design; C) Administration design; and D) Statistical design.

A) Technical design

The technical design includes; the research settings, research design, subjects, and tools for data collection used in the study.

A-1) Research Setting:

The study was conducted at the "Minia University Hospital" and "Gynecology, Obstetric and Pediatric Minia University Hospital". According to internship clinical training program groups and their number in the units; there were four clinical units were selected from two hospitals (Intensive Care Unit; and Medical and Surgical Unit from "Minia University Hospital; and Neonatal Intensive Care unit and Pediatric Unit from Gynecology, Obstetric and Pediatric Minia University Hospital.

Minia University Hospital: for Intensive Care Unit, it includes ten beds and located on the ground floor; and for Medical and Surgical Unit; it includes 30 beds and located in third and fourth floor of teaching building. Gynecology, Obstetric and Pediatric Minia University Hospital: for Neonatal Intensive Care unit: it includes 3 sectors each sector contained 6 incubators, and located in the third

floor; and Pediatric Unit it includes 80 beds, and located in the fourth floor

A-2) Research Design

The study design was employed a cross sectional - correlational research design.

A-3) Subjects

The total number of internship was (380); the minimum sample size was calculated using the G*Power 3.1.9.2 software. Based on a priori analysis for correlation bivariate analysis with a medium effect size of 0.3, significance level of 0.05, and power of 0.90, the projected

required sample size was calculated to be 112. However, to increase the power of the study and avoid the attrition, we invited additionally about 20% of the minimum sample size. Total number (133) of internship students were participated in the study.

The subjects were selected using stratified randomly sample from general and critical units of two hospitals from which the internship attend their training year, during academic year 2019-2020 that started at October 2019. The number was dividing as follows:

Minia University Hospital			Total
Unit	No	Group no.	
Intensive care unit (ICU)	16	Group 2	33
	17	Group 5	
Medical and surgical genera unit (MSU)	17	Group 5	34
	17	Group 6	
Gynecology, Obstetric and Pediatric Minia University Hospital			
Neonatal intensive care unit (NICU)	16	Group 7	32
	16	Group 8	
Pediatric unit (PED)	17	Group 9	34
	17	Group 10	
Total number		133	

A-4) Tools of data collection:

There tools were used to collect the data for this study as follows

Tool one: Clinical Competence of Nursing Internship Observation Scale:

This tool was developed by the researchers based on extensive review of literature as: Meretoja et al., (2004); Goz and Geckil (2010); Fentianah (2012); Liou and Cheng (2014); Lavoie, et al., (2018) to assess nursing student clinical competence. It included (78 items) with seven dimensions as follows:

(1) Communication and interpersonal competence (6 items ex: Introduce self to patient before caring); (2) Ethical behaviors competence (11 items; ex: Adhere to the uniform policy), (3) General basic competence (18 items; ex: Taking history of new admission, Perform Bed making occupied), (4) Core nursing skills competence (11 items; ex: Performing cannula care, Taking blood

sample), (5) Advanced skill competence (13 items; ex: Performing tracheotomy care, Performing chest tube care), (6) Safety and infection control skills (10 items; ex: Hand washing pre and after any procedures, Dispose of wastes appropriately), and (7) Drug administration competence (9 items; ex: Administering subcutaneous injection, Administering intramuscular injection).

For first and second dimensions, each item was observed and measured by 3 point as (0=Unsatisfactory, 1= Need Improvement, 2= Satisfactory). While for the other five dimensions; each item was observed by 3 point as (0= Not Done, 1= Done Incompletely, 2= Done Completely, and Not Applicable =--).

N.B: This tool was coded by internship students' code number and collected by researchers using three times of covert observation for internship clinical competence at different times of day; and with the internship instructors cooperation to observe and collect data.

Scoring system of this tool was ranged from 0 to 156 and divided as follows:

Poor clinical competence	Less than 50%	Up to 77
Fair clinical competence	From 50% to 75%	From 78 to 117
Good clinical competence	More than 75%	From 118 to 156

Tool two: Clinical Decision Making Skill Scale (CDM): it contained two parts

Part one: included socio-demographic data of the internship as: code number, age, gender, graduation grade, marital status and residence. **N.B:** This part was attached to tools two to maintain the covert of observation for tool one (clinical competence observation) that done to students by researchers or their instructors.

Part two: This scale was developed by **Jenkins (2001)**; and adopted by researcher to assess internship self-perceptions of their clinical decision making behaviors currently

used. It consisted of (40-items) with four dimensions as follow: Search for Alternatives or Options (10-items), Canvassing of Objectives and Values (10-items), Evaluation and Reevaluation of Consequences (10-items), and Search for Information and Unbiased Assimilation (10-items). Each item was measured by 5 likert scale ranged from (1= Never, 2= Seldom, 3= Occasionally, 4= Frequently and 5= Always) for positive statement; the score were be reversed in the negative statements. The negative statements are (2, 4, 6, 12, 13, 15, 19, 21, 22, 23, 24, 25, 30, 31, 32, 34, 39, and 40).

The **scoring system** was ranged from 40 to 200, and it divided into three levels as follow:

Poor Clinical decision making	Less than 50%	Up to 99
Fair Clinical decision making	From 50% to 75%	From 100 to 150
Good Clinical decision making	More than 75%	From 151 to 200

Tool three: Perceived Autonomy Support (Work Climate Questionnaire); this scale was developed by **Baard, et al., (2000)**; and adopted by researcher to assess internship self-perceptions of their perceived autonomy support. It consisted of (15-items) and items were modified according to the study aim and participants. Each item was measured by 7

likert scale ranged from (1= strongly disagree to 7= strongly agree) for positive statement; the score was reversed in the negative statement (item no 13). The scoring system was ranged from 15 to 105, and it divided into three levels as follow:

Low perceived autonomy support	Less than 50%	Up to 52
Moderate perceived autonomy support	From 50% to 75%	From 53 to 78
High perceived autonomy support	More than 75%	From 79 to 105

B) Operational design:

The operational design includes elementary phase, content validity, reliability, ethical consideration, pilot study and field work.

B-1) Elementary phase:

In this phase the researchers have an extensive reviewing of related literature and theoretical knowledge about the study variable in order to develop tool (one) and having good insight for study variables by using articles, books, and internet's periodicals and conferences.

B-2) Content Validity:

Five expert panels were asked to examine the study tools for content and face validity. Tool two and three were not modified

according to jury comments. While tool one "clinical competence observational scale" had some modification; in which the expert panel from the nursing administration department and supervisors of internship added some items as (Performing upper airway suction, Performing tracheotomy care, Performing chest tube care, Measure chest circumference, and Measure abdominal circumference). Thus the necessary modifications were done to reach the final valid tools version. The tools were considered valid from the experts' perspective.

B-3) Reliability:

By using Cronbach's Alpha coefficient method; the tools were tested to its reliability by measuring their internal consistency. As for

tool one "clinical competence of nursing internship observational scale was ($\alpha = 0.79$); and for tool two "Clinical Decision Making skill Questionnaire" was ($\alpha = 0.88$); and for tool three "Perceived autonomy support Scale" was ($\alpha=0.87$); and this shows that tools had acceptable level of reliability.

B-4) Ethical Considerations:

Written endorsement to carry out the study was obtained from the Faculty Dean of Nursing at Minia University as well as the Vice Dean for Environmental Affairs and Community Service. Also, permissions to conduct the study were obtained from managers of as well from nursing directors of two hospitals. Oral consent was obtained from internship participants after explanation the study purpose, and provide them assurance on the anonymity of them; as well as their information will be secured and only used for the research purpose. Also, they had the right to withdraw from the study. This was followed by their agreement on participation in the study.

B-5) Pilot Study:

A pilot study has been conducted to assess tools clarity and applicability. In addition it used to estimate the required time for filling the tools. It was done on 10% of the total subjects, (14) nursing internship students (7 from Minia University Hospital and 7 from Gynecology, Obstetric and Pediatric Minia University Hospital). The time needed for filling each tool one of observational clinical competence was about 30 to 40 minutes and for tools two and three from internship students was about 15-25 minutes.

According to pilot study results for tools (two and three) they have no necessary modification done; according to pilot study results, of the tool (one) clinical competence; there were some of items omitted from some internship students' total score, and this was done if they didn't practice the skill item during time of observation (for example items like measure infant chest circumference, measure infant head circumference were omitted from ICU and MSU; and for NICU the item Performing chest tube care with underwater seal management was omitted). So,

the pilot study was not included in the study results.

B-6) Field work:

- Written official approval to conduct this study was gained from the Faculty Dean of Nursing at Minia University as well as the Vice Dean for Environmental Affairs and Community Service. Also, permissions to conduct the study were obtained from managers of as well from nursing directors of two hospitals; in order to obtain their agreement to conduct the study after explaining its purpose. Informed consents were obtained from selected nursing internship students after explaining aim of the study to them.
- Tool one of internship clinical competence was developed after reviewing literature and confirmed its validity; this phase took about three months from June (2019) to August 2019.
- The data collection took about four months from beginning of November (2019) to the end of February (2020). Two visits per a week to observe internship students with the help from their instructors.
- According to the formal schedule of the internship, nursing students were divided into 10 groups distributed into four hospitals each group of internship included from 30 to 35; and each group was divided into two sub group (first group attended their training with long and night shift on Saturday, Sunday, Monday, and the second group attended their training with long and night shift on Tuesday, Wednesday, Thursday).
- For tool one: the researchers observe students for their clinical competence at Saturday, Monday, Wednesday and Thursday, of every week during long shift and with their instructors' assistance.
- The researchers observe internship students at their clinical training places (ICU, MSU, NICU, and PED unit) in the two hospitals (setting of observing students were their clinical area and students was observed according to each unit policy, and available equipment and practice).

The researchers observe internship students (covert observation) from the selected two clinical units of the each hospital for four months (from the beginning of November 2019 to end of February 2020) as follows:

Minia University Hospital				
Setting of observation	No of students observed	Time of observation	No of students observed	Time of observation
Intensive care unit (ICU)	16 internship	November 2019 Saturday, Monday	17 internship	December 2019 Wednesday, Thursday
Medical and surgical general unit (MSU)	17 internship	November 2019 Wednesday, Thursday	17 internship	December 2019 Saturday, Monday
Gynecology, Obstetric and Pediatric Minia University Hospital				
Neonatal intensive care unit (NICU)	16 internship	January 2020 Saturday, Monday	16 internship	February 2020 Wednesday, Thursday
Pediatric unit (PED)	17 internship	January 2020 Wednesday, Thursday	17 internship	February 2020 Saturday, Monday

- The researcher develops a rubric scale to safeguard observation criteria for internship student clinical competence. This rubric was developed based on the scale of observation for items of each dimension, and the clinical procedures checklist for the items
- For example: the dimension drug administration competence which contained (9 items) such as Administering IV medication, Administering intramuscular injection, Administering subcutaneous injection,etc. The rubric for the items were developed on a three points scale as (done completely, done incompletely, and not done); for each point scale there was clear description for the rater (the researchers or internship instructors) about the items of the procedure checklist that the student must practice to have this specific score.
- Also, for developing rubric for example (IM injection procedure checklist contained three parts named preparation, procedure, and after procedure; and the student to master IM injection and have score of done completely, he or she must practice more than 75% of checklist procedure sub-items specially the procedure part which described on rubric in the point 2=done completely. And for done incompletely= if students have less 75% and more than 50% of procedure checklist; and not done if the students practice of procedure checklist was less than 50%. And this was applied for the rest items of the tool.
- **N.B:** the internship total score for clinical competence was calculated according to each student's items observed). As when students have not done some items due to patients' conditions or the unit procedures availability, these items were omitted from his/ her total score of clinical competence.
- In a group interview which contained about five internship students in their clinical area; the researcher distributed the tools two and three to internship students at the end of each month for filling it; the researchers were present to provide any clarification. The average time needed to sheets was 15-25 minutes.

Limitation of study:

The internship nursing students were assessed for their clinical competence by observation in one month (this according to their internship program schedule in which every month in one area) for each group of students in which the student cannot be more competent and improving their nursing clinical competence within this short time. Also, the time of study data collection was at the beginning of their training; which limit the chance to internship student to gain more knowledge and experience from their training program year.

Also, the short time period between first, second and third observation of internship clinical competence that hinder their improvement as from our view the observation time should be three months between each of the three observations. In addition the NICU have more constraints for researchers than other

unit because of its policies; restriction of visitors, and infection control precautions for saving neonatal care; thus the internship instructors have done most of the internship observation in this unit.

C) Administrative Design:

A written official approval to conduct this study was gained from the Faculty Dean of Nursing at Minia University as well as the Vice Dean for Environmental Affairs and Community Service in order to obtain their agreement to conduct the study after explaining its purpose.

Results:

Table (1) Distribution of the nursing students Internship according to socio-demographic data (n=133)

Socio-demographic data	Internship students	
	(n=133)	
	no	%
Age		
21	101	75.9
22	9	6.8
≥23	23	17.3
Mean±SD	21.105±0.48	
Gender		
Male	41	30.8
Female	92	69.2
Marital status		
Single	107	80.5
Married	26	19.5
Graduation grade		
Fair	30	22.6
Good	26	19.5
Very good	41	30.8
Excellent	36	27.1
Residence		
Rural	101	75.9
Urban	32	24.1
Area		
Critical	65	48.9
General	68	51.1

Table (1) shows that (75.9%) of internship student aged 21 years old with mean age (21.105±0.48); (69.2%) of them were female. For the marital status, (80.5%) of them were single; (30.8%) had very good graduation grade. Speaking about residence (75.9%) of internship lived in rural area; and (51.1%) of them were in general units.

D) Statistical Analysis

There was utilization of personal computer to get in and anatomize data. The Statistical Package for Social Studies (SPSS), version 25 was used. There were descriptive statistics as: frequency, percentage distribution; mean and standard deviation were implemented. Comparison was performed using Fisher-exact test and ANOVA test. Correlation between variables was evaluated using Pearson's correlation coefficient (r). Significance was adopted at $p < 0.05$ for interpretation of results of tests of significance.

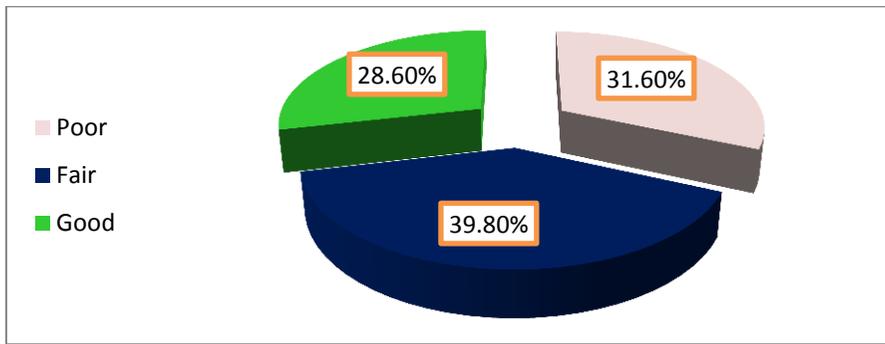


Figure (1): Distribution of the nursing students internship clinical competence (n=133)

Figure (1) displays that (39.8%) of internship student had fair level of total clinical competencies; (31.6%) had poor level; and (28.6%) of them had good level of clinical competencies.

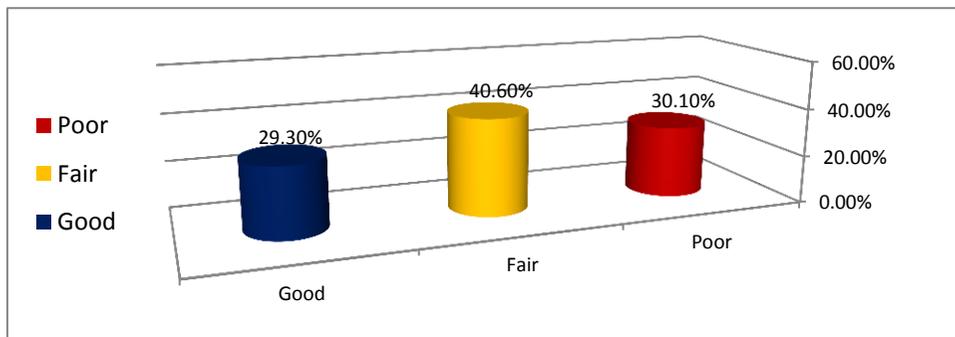


Figure (2) Distribution of the nursing students internship clinical decision making (n=133)

Figure (2) implies that (40.6%) of internship student had fair level of total clinical decision making; (30.10%) had poor level; and (29.3%) of them had good level of clinical decision making.

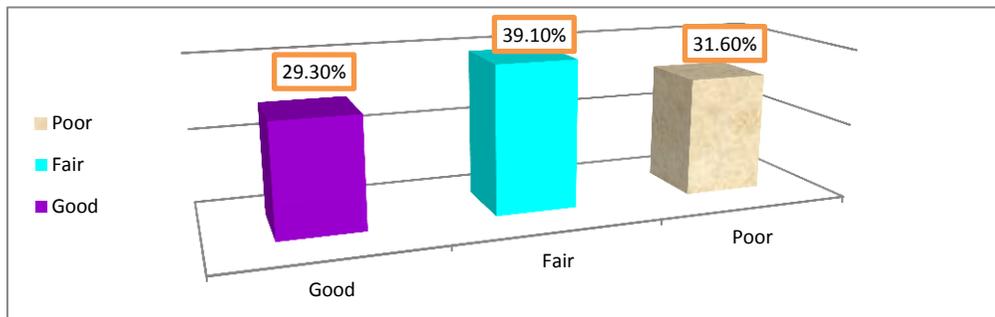


Figure (3): Distribution of the nursing students internship perceived autonomy support (n=133)

Figure (3) implies that (39.1%) of internship student had fair level of total perceived autonomy support; (31.6%) had poor level; and (29.3%) of them had good level of perceived autonomy support.

Table (2): Comparison between nursing students internship mean score through three time observation of clinical competence (n=133)

Total clinical competence	Mean+ SD	Min	Max
1 st observation	87.42+23.43	59	130
2 nd observation	87.57+23.40	60	131
3 rd observation	88.52+23.38	61	140
ANOVA (p-value)	0.076 (0.927)		

Table (2) shows that internship student mean score in third observation was (88.52+23.38) in second observation was (87.57+23.40) and first observation was (87.42+23.43) with no statistical significant difference between three observations (p=0.927).

Table (3): Comparison between critical and general unit among nursing students internship for studied variables (n=133)

Studied variables	Critical			General			Fisher-exact (p-value)
	Poor	Fair	Good	Poor	Fair	Good	
Clinical Competence							
No	8	30	27	34	22	12	23.790 (0.001)
%	12.3%	46.2%	41.5%	50%	32.4%	17.6%	
Clinical Decision Making							
No	6	33	26	34	21	13	27.883 (0.001)
%	9.2%	50.8%	40%	50%	30.9	19.1%	
Perceived Autonomy Support							
No	8	31	26	33	22	13	23.039 (0.001)
%	12.3%	47.7%	40%	48.5%	32.4%	19.1%	

Table (3) shows that (46.2%) of internship student in critical units had fair level; while (50%) in general unit had poor level of clinical competence; also in critical units (50.8%) had fair level; while in general unit (50%) had poor level of clinical decision making; as well as the internship student in critical units had (47.7%) fair level; while (48.5%) in general unit had poor level of perceived autonomy support; with statistical significant differences between them for three variables (p=0.001).

Table (4): Correlation between clinical competence, clinical decision making and perceived autonomy support among nursing students internship (n=133)

Variables		Clinical competence	Clinical decision making	Work autonomy support
Clinical competence	r	1	0.913**	0.925**
	P		0.001	0.001
Clinical decision making	r	0.913**	1	0.911**
	P	0.001		0.001
Work autonomy support	r	0.925**	0.911**	1
	P	0.001	0.001	

Table (4) illustrates that there is positive correlation between studied variables (clinical competence, clinical decision making, and perceived autonomy support) among internship nursing students p value= (0.001**).

Discussion:

Clinical competency judgment is an authentic portion of health professionals' clinical training and education (López-Pereira & Arango-Bayer, 2017). Also, there is requirement nationally and internationally to consolidate the nursing care services quality and correspondingly lessening the rates of morbidity and mortality among patients. Therefore, nurses should distinguish their

major role in achieving this purpose. While, nursing internship students still have restricted experiences in CDM, problem-solving, and perceived autonomy in different patient situations. However, there have been many studies that consolidate that it is important to internship students to capture these skills to be professional and competent nurse (Luctkar-Flude et al., 2013).

Regarding clinical competence; the study results implied that highest percent as more

than one third of internship student had fair level of total clinical competencies; about one third had poor level; and lowest percent of them had good level of clinical competencies. From researcher view these results means that internship students have a moderate level of competence "not bad not good" they have good clinical competence because of their clinical training and practicing as well as studying in faculty during academic four years; and they have not suitable clinical competence due to their lack of the experiences in working and dealing with patients as a nurse; they still deal as a students and have some difficulties that can't easily passed.

Also, this result may be due to the time of study observation for internship students in which they were observed for their clinical competencies at the second month of their training year and they need more time to practice skills of nursing to be competent in performing these. In addition internship nursing students may have low confidence and trust in their performance during the training time at hospitals. Also, this result may be due to the nursing internship is in transition stage from a student to be a nurse; and this required more time for training, more experience, and more practicing of nursing skills to be professional and competent.

In addition, this result could be from our view due to the setting constrains such as; huge and different workload because the Minia university hospitals provide services to all of Minia Government cities (rural and urban) and this workload put a hinder on hospital health care providers in which they have no time to support internship students work and provide them guidance and chances to master clinical nursing competencies

This was supported by **Aboshaiqah and Qasim, (2018)** who mentioned that intern students are in a transition time in which this transition considered to be a period of training, learning, alteration and socialization; and when the nurse put in an application, amalgamates, and improves their current knowledge, can dominate competence (knowledge, skills and attitude) which is essential for practicing nursing profession in health care setting for

patient population in which they are predictable to be competent and perform.

This result was in line with, **Benner's (1984)** in which Benner's theory agreed that there is positive, systematic, and theoretically relation between the extent of experience and individual competence. **Lawal et al., (2016)** who displayed in their study that nursing students' clinical experience was low and they need to learn more about how to apply the studying courses principles and theories they have in class in the health care setting. Also, was consistent with **Hajbaghery and Arani, (2018)** who come to the conclusion from their study that two-third of nurses had kindly acceptable and perfect level of clinical competence.

Similar to current study findings, the results contrary to the **Biftu et al., (2016)** study who evaluated nursing students' clinical competence and presented in their study that more than half of nursing students realized that they are moderately competent. Moreover, in Iran **Sorouh et al., (2016)** study nurses' competence using self-assessment tool and compare their results with other countries; and their results proved that nurses competency level were moderate.

In contrast to current study findings of clinical competence **Notarnicola et al., (2018)** statement that nursing students had an acceptable good level of their clinical competencies. Also, this result not in line with **Faraji et al., (2019)** result that summarized that near two third of the nurses had a good level of clinical competency. Also, **Albagawi et al., (2019)** pointed out that the studying nursing students had a perfect and excellent overall level of clinical competence. In disagreement; to the study results **Ubas-Sumagasyay and Oducado, (2020)** mentioned that new graduate nurses had a high level of clinical competence that assessed it by graduate nurses.

Moreover, current results put on view that internship nursing student had highest mean score in third observation with no statistical significant difference between three observations. From our view, this result could be due to the short time between first, second and third observations as the three times of

observations were done for internship students during one month only; as well as observations done at the second of their training program beginning. Thus, internship experiences were not enough to permit them to acquire all nursing skills competencies.

This was supported by **Takase (2012)** in which he assessed "relationship between the levels of nurses' competence and the length of their clinical experience" and agreed that nurses level of competence affected positively by their length of experiences and clinical competence in their work; as there is a rapid increase and improvement in the level of nurses competence by passing more time and increasing their experiences in early stage of their career and then their level of competence in late stages become stable.

Also, from the researchers view internship students need more training programs during their intern year; as well they need more support form hospital health care providers and administrators; apply mentorship program; and improve their feeling of autonomy. This was in line with **Althaqafi, et al., (2019)** who mentioned in their study that there is a need for more educational training program, hospital guidance schedule, and mentorship program which considered as very serious effectiveness factors for nursing interns clinical competence and practice. In addition, **Althaqafi, et al., (2019)** added that poor and biased treatment, the unawareness of healthcare provides as physicians, and engaged intern student in non-nursing work could be high spot challenging elements that may in a negative manner attack the internship clinical practice and competencies.

Regarding CDM, the current study implied that highest percent of nursing internship student had fair level of total clinical decision making; less than one third had poor level; and lowest percent of them had good level of clinical decision making. This result from our view could be due to the moderate level of internship clinical competence; they still in need for future training and more practicing of nursing care and plan decisions to foster their CDM. More training program about process of decision making as well more

practicing of nursing care could improve the internship CDM skill

This was in similarity with **Eid, et al., (2016)** who had a study to investigate novice graduate nurse autonomous decision making after implementing a program and found that the results of pre-programs, revealed that all participants hold a low level of DM autonomy and poor knowledge about DM autonomy; while after the program implementation majority had good level of knowledge as well as fair level of CDM autonomy.

Dorgham and Al Mahmoud (2013) supported that however nurses could have effective information and knowledge about decision making skills; they still could feel bad autonomy to make effective CDM for patient care; also they have a need to perceived more feeling of autonomy support in order to make effective decisions as well as the organizational structure and support from physician.

Also, internship could have fair level of CDM skills due to unqualified cognitive skills, they still in a need for improving their skills of mind as critical thinking, creativity, problem solving, judgment, and risk taking. This was supported by **Thompson et al., (2004)** who agreed that the intellectual and cognitive skills considered to be the most important needful for nurses to foster composite information and to make judgment and decision effectively and efficiently.

This result can be explained that nursing internship student who working at Minia University Hospitals have intensive and vigorous workload, more nursing and non-nursing responsibilities, as well as low functional and practical equipment that hinder their nursing practice and their performance of nursing competence tasks; all of these factors can show the way for augmentation of work stress for hospital staff nurses which reflect on internship chances to practice nursing care with their support.

This current result is parallel to **Soliman (2010)** who mentioned that work organization environment and variables have a strong impact with their worker abilities to make effective decisions; especially nurse CDM. Also, this same standpoint with **Courtney, et**

al., (2015) who declared that the organizational ethical system and polices as well as effective leadership and efficient and effective resources; have consideration for supporting or hindering health care providers as nurses to make effective decisions.

Furthermore, **Gillespie and Paterson (2009)** proclaimed that for productive and influential CDM there is a need for high patient care quality, and to have quality of patient care there is a need to have effective and functional equipment to help staff do their duties; as well provide them the suitable and sufficient period of time to extend their skills and competencies and made to point the decisions. So, the internship students need further training program and time as well sufficient equipment with guidance and support from their supervisors to make to improve their CDM and this was come up with **Scott et al., (2008)** who agreed that the new graduate nurses need more development of their CDM skill.

Also, this in line with **Abd El-Aziz and Sorour (2013)** who proved in their study results that both nursing students and nurse internship possessed moderate scores of decision making. Also, this is in agreement with **Singh et al., (2011)** who agreed that nurse interns often do their duties and practice their nursing skills under pressure and overwork which can hinder them to have the opportunity to be successful in CDM skills.

Regarding perceived autonomy support; the result of present study implied that highest percent of internship student had fair level of total perceived autonomy support; less than one third had poor level; and lowest percent of them had good level of perceived autonomy support. This resulted can be attributed that internship student have moderate level of perceived autonomy and this may be due to their level of competence in which they still have the need for improving their competence.

As well perceived work autonomy of internship students may affected by their instructors relationship; in which the instructors experiences to have good relation with internship and hospital staff is not enough because they still newly graduate instructors; and they have little authority on hospital that hinder them do their guidance and support to

their student internship effectively. On the other side; the internship student feel that their instructors not in a suitable position to supervise them and accept their support and guidance or orders; in which instructors were their college friends during their academic years and aged more one, or two or three years than internship age.

Moreover, from our view of points there are many causes for low perception about work autonomy support as; the internship low experiences can hinder them perceived good work autonomy support, work load, poor relations with health care providers as nurse and physicians, feeling with no power or having authority in their place and the perception as they still students; hospital boundaries as policies and regulations; and poor teamwork in the hospitals due to workload. Also, the internship student may have low motivation because they treated as students and have low salary compared to actual nurse; and this permit them feel that they do work and have no payment for it as others; and this can hinder their motivation and feeling with autonomy.

This reasonable view was in line with **Rafferty, et al. (2001)** who had a study in UK and determined that there is a strong favorable alliance between teamwork and autonomy; they study and displayed from their results that nurses who have feeling of involvement and engagement in team manifested with higher levels of autonomy as well as more decision maker. On the other side **Traynor et al., (2010)** with British study finding pinpoint that teamwork could hindering nurses to have feeling of professional autonomy.

It was also single out that autonomy makes manifest during every day work and cannot be showed easily but it overtly expressed. Although **Gagnon et al., (2010)** gave away that autonomy as an issue not much exchange views on/about openly among nurses. Partakers in **Stewart, et al., (2004)** study agreed that their potentiality to put in order their work day, arrange their priorities among the tasks, and personal care, could be examples of inherent autonomy in their work.

By another view token, **Skar (2009)** affirmed that nurses practicing their duties and

tasks are a main part of autonomous nursing practice. However, partakers in an American study by **Kramer and Schmalenberg (2003)** argued that nursing practicing of their tasks could not be a sign for their autonomy.

Moreover regarding comparison, the current results showed that the highest percent of internship student in the critical units had a fair level for the all study variables (clinical competence, CDM and perceived autonomy support); while the highest percent of internship in the general unit had a poor level for all study variables (clinical competence, CDM and perceived autonomy support) with statistical significant difference between them in three variables.

These results can be explained from our standpoint that the internship students of the critical units have more organized environment, more professional on duty nurses, more equipment and resources that also more functional and effective, close supervision from instructors and unit staff members because working together in a small area, no patient relatives in critical units opposite to general units and this can help internship students to practice more skills and be more competent; also the patients in the critical units need more care to be provided than patients in the general units which permit students to master and practice more skills of nursing practice.

This can be as working in private and governmental hospital in which working in private hospital don't permit with mistakes and required high qualified nurses as in the critical units required the staff to be competent and reduced errors or mistakes because of patient survival conditions; while the governmental hospital can be as the general units in which patient condition more stable and mistakes cannot be detected.

In agreement with this opinion the study done by **Buchanan, et al., (2015)**, who performed a study called "Student Clinical Education in Australia: A University of Sydney Scoping Study" and implied that nurses in private hospitals hold major role in tutoring and practicing and see this exploitation as strategically vital and the special health centers can provide more chances for providing more competent nurses.

Also, these results was in line with **Lakanmaa et al., (2015)** who agreed in their study that the clinical competence is connected directly with patient care; and nurses who working in ICU rated themselves as good level of competency in relation to profession and having highest competence.

Salonen et al. (2007) done a study to measure "Competence Profiles of Recently Registered Nurses Working in Intensive and Emergency Settings" by using self- assessment method from nurses and found that the level ICU nurses competency ranged from moderate to good. Moreover, a study done by **O'Leary (2012)** in USA to compare clinical competence by self-assessment among nurses of critical care units using survey questionnaire and displayed that level of competence ranged from good to excellent along. Also, when nurses of ICU increase their work experiences, their clinical competence will be excellent.

Also, the findings of **Meretoja et al. (2004)** study revealed that the nurses of ICU had good level of competence as in affirming quality, diagnostic function, and assistance role; as well as the more nurses' experiences the more level of competence. **Safaan and Ebrahim (2018)** set up that level of problems that put nursing internship in challenge during their clinical training internship year was at middle level at Benha University Hospital while, at Private Hospitals had low level of troubles appearance. Also, nursing internship students' performance was agreeable (84.0%) at private hospital; while not agreeable (36.6%) at Benha Hospital.

El-Shrief and Ageiz (2018) had a comparative study between Special and Governmental hospital and confirmed that there were statistically significant differences between both hospitals (governmental and private) for competence level, as the internship students of the private hospitals had a competent level more than those who were in governmental hospitals.

Finally, the present study confirmed that there is a positive correlation between studied variables (clinical competence, clinical decision making, and perceived autonomy support) among internship nursing students with significance. This result means that when

the internship has clinical competence they can do effective decision making as well as their perception of autonomy enhanced. Also, when the internship perceived a high level of autonomy they can be more competent person and this will lead to effective CDM.

So it is important to foster internship feeling of autonomy support to help them improve their nursing practice and be competent. As well the continuous training programs to internship will enhance their clinical competencies; which will foster their CDM effectively. Also, good communication and relations with their instructors and hospital staff will foster their perception of autonomy and the guidance they received from supervisor will help them to developing competency level and CDM skills.

This was in agreement with **Lawal et al., (2016)** who proved in their study that the interpersonal good relationship will help nursing student to improve their experiences and performance in clinical setting, and when they have more experience and good relations their level of competence will be enhanced. Also, **Kramer and Schmalenberg (1993)** explained that the organizational hierarchy can foster or hinder nurses to function autonomously even if they are competent so the nurse level of autonomy needs good relations with supervisors, as well their abilities to make decisions effectively will be affected by their perception about autonomy.

By the same token, **Traynor, et al., (2010)** explored that the organizational structure and hierarchical decision-making may be hindering factors for nurses to improve their perception of professional work autonomy. Also, **Weston (2010)** agreed that putting up trust relationship with health care provider in the clinical area will contribute to innovative practice and raise perception of autonomy. Also, **Laknmaa, et al., (2015)** proved that the value of high competence level was excellent and strongly correlated to nursing experiences of autonomy.

This opinion can be supported with **Orsini et al., (2018)** who believed that the autonomy feeling can present positive results on staff of nurses on their work as their performance and competency will be higher and they will be more stratified. Also, motivation especially

when it comes from self will enhance skill of decision making and stimulate one to be competent; and to improve motivation within individual internally their level of autonomy need to grow up (**Depasque & Tricomi, 2015; Tahrekhani & Sadeghian, 2015**).

Althaqafi et al., (2019) added from their study about internship clinical practice that they need more training program to be designed to help internship students to gain nursing clinical competence. And **Willman, et al., (2020)** mentioned that internship students need an introductory training program which should be designed with the hospital administrators will improve newly graduated nurses' clinical competence.

Conclusion and recommendation:

Conclusion: The current study provides conclusion as the internship students have a fair level of their clinical competence, clinical decision making skill and perceived autonomy support. As well there is a positive correlation between studied variables (clinical competence, clinical decision making, and perceived autonomy support) among internship nursing students with significance. Also, the current results showed that the highest percent of internship student in the critical units had a fair level for the all study variables; while the highest percent of internship in the general unit had a poor level for all study variables.

Recommendations: based on current findings; there is a need for more training program for internship student to enhance their level of clinical competence, clinical decision making, and perception of autonomy. From faculty perspective there should be more emphasis on developing students' contrived skills as (problem-solving, critical thinking, innovation, and creativity) to enhance clinical decision making skills. Hospitals should consider that training nursing interns' is part of its policies training program for development of nursing interns' competency level. Further studies are needed about internship level of competency from their view in comparison to their instructors' view of point; a study to determine the relation of clinical competence with their critical thinking skills.

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