Factors Influencing Decision Making and Its Effect on Intern Students Clinical Performance

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Abstract: An internship year is a clinical training year for baccalaureate nursing graduates to gain practice in a real world setting under the guidance of knowledgeable, experienced, and successful supervisor. The internship year helps the graduate nurse to develop her management competencies and skills like clinical decision making, collaboration, teaching, planning, communication, critical thinking, and caring to improve their clinical practice. Purpose of the study is to study factors that influencing decision making and its effect on intern students’ clinical performance Setting and design descriptive co-relational design was used in two selected hospitals, Shebin El Kom University Hospital and Teaching Hospital in all units where the intern students trained. Material and method: Two different tools are, Tool I: structured questionnaire sheet to assess possible factors which influence intern students’ clinical decision making and determine difference degrees of influence of these factors. Tool II: Observational checklist to assesses clinical performance of internship students. A total number of intern nursing students 86 are recruited from two hospitals mentioned above. Statistical analysis: Data entry and analysis were done by using statistical package for the social sciences (SPSS Version 11.0). Data was presented using mean & standard deviation, number and percentage, Chi-Squared and Pearson correlation. Finding: the findings of the study indicate that Intern students implied that clinical experience, competent, education, situation, relationship with instructors, values, believes, locus of control, stress, cognitive abilities, modeling and self-confident are considered factors which influencing clinical decision making. Additionally, the most factor influence intern clinical decision making was education followed by clinical experience. Furthermore, there is positive correlation between total performance and all factors influencing intern’ clinical decision. Conclusion: improvement in intern students’ education, clinical experience and other factors affect on clinical decision making will improve their clinical performance.

Keywords: Factors Influencing Clinical Decision Making, Intern Student, Clinical Performance

I. INTRODUCTION

Nursing interns are baccalaureate nursing graduates enrolled in the undergraduate clinical internship year. An internship year is an opportunity for graduate nurse, it is a clinical training year for baccalaureate nursing graduates to gain practice in a real world setting under the guidance of knowledgeable, experienced, and successful supervisor. The internship year helps the graduate nurses to develop her management competencies and skills like clinical decision making, collaboration, teaching, planning, communication, critical thinking, and caring (Cherry & Jacob, 2007).

Clinical performance of intern nurse students include the accurate assessment and treatment of patients and use of appropriate nursing process and communication tools to be an effective caregiver. The internship student is able to practice and improve her skills and competencies such as clinical decision making and prioritization which improve her clinical performance and increase potential benefit for the patient outcome (Adah, 2008). Clinical decision-making is an essential component of professional nursing care and nurses' clinical performance. It consists of gathering, processing and prioritizing critical patient information to choose and implement nursing actions and evaluate the results. Developing and using effective clinical decision-making is very important to improve clinical performance. As improved understanding of decision making may result in improved decisions in the areas of assessment, planning, and
intervention. There are a variety of factors may influence the decisions which intern nurse students make (Rose Whittle, 2007).

Thus, an important area for research is to obtain nurses' views on the factors affect nurse decision-making like education, situation, relationship with instructor, stress, locus of control, concepts and value systems, experience, cognitive processes. These are particularly essential for administrators and educators to note when designing strategies to improve the work environment, educational and clinical practices. Education, which had a critical role in the development of decision-making skills of the nurses. "Theoretical knowledge guides the acquisition of practical knowledge" believed that the mode, type and levels of participation of nurses in the clinical decisions "depend on their education. Also, the educators have an important role in their modes of decision making" (Hagbaghery et al., 2004).

Moreover, Relationship with instructor affects clinical decision making and it can range from helpful to detrimental. Depending on the preceptor, the student may come away from the clinical teaching experience either confident or uncertain about herself as a nurse and her skills and may view nursing as either a positive or negative experience. Characteristics of clinical instructors in nursing are an important determinant of the climate in which the student is learning to make decisions. (Kramer, 2012). The clinical instructor plays a primary role in students' learning and experience of clinical decision-making (Jahanpour et al., 2010).

Regard to the situation, clinical decisions were affected by the environment, social and organizational system in which nurses were made. The effects of the social context on decision making can be both positive and negative. Positive influences include using other individuals to check for errors, utilizing positive synergies arising from the combination of team members' knowledge, and recognizing that there is an increased likelihood of generating novel solutions and diverse perspectives when more people are consulted in decision making (Larrick, 2004). Also, organizational systems such as workloads, interruptions, and organizational policies and procedures also influenced decision making. Organizational system factors such as amount and distribution of workload influenced decision making by affecting the time available to make decisions and provide intervention (Smith, 2006).

Stress affects clinical decision making which, experienced by intern nursing students is a significant deterrent to their success of clinical decision making. Stress adversely affects the development of clinical decision-making. At times, stress because of fear was overwhelming, resulting in a loss of motivation, a negative work attitude and poor professional self-concept which impaired judgment and decision-making ability. One participant explained: I feel decision-making is too dangerous. It arises when an individual perceives the environment as demanding because it exceeds his/her resources and threatens personal well being (Barney, 2009).

In addition, locus of control is defined as the general belief that individual’s successes, failures and outcomes are control by individual’s actions and behaviors (internal) or by other forces like chance, luck and fate (external) (Karimi & Alipour, 2011). Students with an internal locus of control believe in their ability to influence results, whereas, students possessing an external locus of control believe that events are contingent upon the actions of others. Locus of control has significant ramifications when investigating the effects of stress on decision making, since locus of control is fundamental to the individual's perception of stress (Barney, 2009). Moreover, an important component of self-efficacy, self-concept, and value systems is the individual's locus of control. The students’ perception of self may affect their decision-making activities (Marquis & Huston, 2000).

Moreover, clinical experience prepares intern student nurses to be able of "doing" as well as "knowing" the clinical principles of clinical decision making. Development of decision-making skill can be impeded by limited practical experience and lack of opportunity to actually make decisions (Marquis & Huston, 2000). An important attribute that influences decision making is the decision maker’s level of expertise, with experts considered superior decision makers making decisions that are faster and more accurate (Smith, 2006).

Lastly, cognitive abilities are seen to have an effect on decision making. Cognitive processes refer to ways of knowing critical thinking and problem solving. It is the ability to identify and collect relevant information (task and contextual)
and process these data used in order to make decisions in the focal areas of problem, intervention, interaction and evaluation (Higgs & Ellis, 2006). So, clinical decision making is considered to be a vital component of professional nursing practice. As well as particular clinical circumstances or factors may result in serious decision errors thus, the present study was conducted to determine the factors influencing decision making and its effect on intern student clinical performance.

Aim of the Study:

This study aimed to study factors that influencing decision making and its effect on intern students’ clinical performance through:

Objectives:

1. Determine factors that affect internship students' decision making in the clinical practice.
2. Assess the influence of these factors on internship students' decision making.
3. Determine the relation between internship students' decision making and their clinical performance.

Research Hypotheses:

1. There will be a variety of factors influence internship students' decision making in the clinical practice.
2. There will be a difference influencing degrees of these factors on internship students' decision making.
3. There will be a relation between internship students' decision making and their clinical performance.

II. MATERIAL AND METHODS

Design: Descriptive co-relational research design was used in this study.

The study setting: The study was conducted in all units where the intern students trained (Intensive care unit - operating rooms- premature unit - heamodialysis unit - emergency unit) in two selected hospitals, Shebin El Kom University Hospital and Shebin El Kom Teaching Hospital.

Subjects: The subjects in the study consisted of all internship students working in above mentioned settings at the study time. A total number of intern nursing students were 86 from two hospitals. University Hospital included 33 student and teaching hospital included 53 student where they are distributed as (Intensive care unit 23 ; operating room 20; premature unit 14; hemodialysis unit 19; emergency unit 10).

Tools for data collection: Two different tools were used to collect the data:

Tool I: Structured questionnaire tool, aimed to assess possible factors which influence intern students' clinical decision making and determine difference degrees of influence of these factors. The questionnaire sheet was adopted from Viwien, (1991) and consisted of two parts: part one: included demographic characteristics of studied sample such as (age, work unit, whether student work during academic year, duration of work during academic year and whether student work during intern year). Part two: included factors which influenced internship students clinical decision making. This part consists of 10 items each of them has its related questions the total number of the questions was 37 questions. Education regarding decision making with four question; clinical nursing experience with five question; situation with four question; locus of control with six question ; relationship with instructor with five question ; perception of decision making with five question . three choices each item related to each factor. Each answer was given 3 for (agree), 2 for (undecided) and 1 for (disagree). Then the value was calculated .Each factor has total score of 100%, the factor who had a percentage of more than 60% this indicated that the factor was influencing intern student clinical decision making, and the factor who had the score of less than 60%, this indicated that the factor was not influencing intern student clinical decision making as designed by statistical analyst.

Tool II: Observational checklist: Observational checklist aimed to assesses clinical performance of internship students. This observational checklist was adopted from Eid, (2003) and modified by the researcher. This tool consists of 6 items each of them has its related questions the total number of the questions was 38 questions. Assessment included 9 question ; nursing diagnosis included four question ; plan included four question ; implementation included four question ; health education included four question ; evaluation included four question. Each question was assigned a
score of (one) if the action was done and (zero) if the action is not done, the maximum possible score was 38, the researcher made three observations of the intern student performance at different shifts (day and afternoon) and scored each item as a yes if two of the three incidences met the criteria and as a no if no or only once incident occurred. The time of observation was done the end week of the month duration period in trained units, the time of observation was done at the first week of second month. Moreover two month duration period in trained units. The researcher observed intern student assessment of patient, nursing diagnosis, planning, implementation, health education, evaluation and relationship with health team. score of each intern student was converted into a percentage score a maximum percentage was 100% as designed by statistical analyst. Excellence is Equal or more than 85%; Very good from 75 to 84%; Good from 60 to 74% and Poor less than 60%.

Methods

• A written consent was taken from the study subjects and the approval of the ethical committee has been taken.
• An interview schedule was developed by the researcher after extensive review of related and recent literature. The tools were revised for content validity by 5 juries, who were experts in the related field.
• The tools were tested for reliability by test-retest technique by 10 students who were interviewed twice at an interval of one week period and data was analyzed and compared. The researcher explained to nurses the objectives of the study, informed confidentiality and anonymity being assured.
• The collection of data was started at 2 December 2011 and ended on 31 march 2012, covered 3 month.

Statistical analysis

Data collected were analyzed and tabulated by using SPSS (statistical package for the social science software) statistical package version 11 on IBM Compatible computer. Data were expressed as mean & standard deviation, number and percentage. Chi-Squared ($\chi^2$) is used to compare between two groups or more regarding one qualitative variable in 2x2 contingency table. Pearson correlation (r) was used to detect association between quantitative variables (relation between factors influencing decision making and clinical performance).

III. RESULTS

Table 1. presents sociodemographic characteristics of intern nurse student at different clinical units. As shown in the table intern students were equal in age and less than 22 years old. As revealed from the table, the majority of intern students in most training areas do not agree to work during internship year or during academic year except intern students in ICUs (43.5%, 34.8%) respectively were agree to work during academic year and internship year. The high mean score(2.4±0.52) of intern students who agreed the duration of work by year were in intensive care units.

Figure 1 describes ranking factors that influence clinical decision making according to intern students' agreement. As noticed in this figure the ranking was education regarding decision making (56.0%), my previous nursing experience (53.0), situation (40.7), stress (33.7), relationship with Instructor (31.4), perception of decision making (23.5), locus of control (20.7), cognitive processes (20.2), and modeling (19.8%).

Figure 2. shows comparison between intern Students' agreement regarding effect of factors which influences their clinical decision making in University and Teaching Hospitals. As revealed from this figure the factors (education for decision making, situation, locus of control, and relationship with instructor) were more affect in University hospital than Teaching hospital. Additionally, other factors (perception of decision making, cognitive processes, stress, modeling, clinical nursing experience) were more affect in Teaching hospital than University hospital.

Figure 3. illustrates distribution of intern students' related to total performance score in clinical units. As revealed from this figure, the highest percentage of intern students who had excellent score (35.7%) were in premature unit. Concerning very good score, the high percentage intern students (60.0%) were in emergency unit. While intern students who have good score (50.0%) were in operating rooms. Also the great mean score was (31.5±2.31) in premature unit.
Table 3: Shows correlation between total clinical performance score of intern nurse students and factors influencing intern students’ clinical decision making. Result indicated a positive correlation between total performance score and all factors influencing intern students’ clinical decision which include education regarding decision making, previous nursing experience, situation, stress, relationship with instructor, perception of decision making, locus of control, cognitive Processes, and modeling. For example this means that intern nurse student who have increased education regarding decision making had the highest total score of clinical performance.

IV. DISCUSSION

The nursing internship is an excellent opportunity to address the ‘reality shock’ and enhance the critical thinking necessary for transition safely from the classroom to the bedside. In the Internship program a new graduate ‘rotates’ through the various units and services of Teaching Hospital (Scrubs, 2012). In nursing practice clinical decision-making is an important element of quality care in all domains of nursing to optimize outcomes for patients and improve clinical practice (Trammer et al., 2001).

The study was conducted in all internship training units (Intensive care unites which include intensive care units and critical care unites - operating rooms- premature unit - haemodialysis unit and emergency unit) at two hospitals Shebin El Kom University Hospital, and Shebin El Kom Teaching Hospital. This means that intern student trains in hot clinical areas. Consistent with this result Amy pulcin (2011) who, concluded that intern student should train in hot and closed units.

Megan et al., (2006) study consensus with our study result. They found that there are factors facilitating and inhibiting clinical decision making of nurse student. Five main themes emerged from this study result: feeling competent, being self-confident, organizational structure, nursing education, and being supported were considered as facilitating factors in effective clinical decision-making.

According to the present study findings, there was a variation of the effect of factors which influences internship students’ clinical decision making in University and Teaching Hospitals. The factors (education for decision making, situation, locus of control, and relationship with instructor) were more effect in University hospital than Teaching hospital. Additionally, other factors (perception of decision making, cognitive processes, stress, modeling, clinical nursing experience) were more effect in Teaching hospital than University hospital.

This study finding go hand with hand with Lee et al., (2001) study. Their study showed that nurses’ use of clinical decision making differed according to field of practice and country. Additionally, the study result is in agreement with Bucknall (2003). This study revealed that nurses’ decision-making differed according to clinical settings. The researcher hypnotized that, there will be a different degrees influence of these factors on internship students’ decision making. This hypothesis was true according to the present study results. The ranking of factors which influence intern student clinical decision making was, the first factor is education, the second factor is clinical nursing experience, the third factor is situation, the fourth factor is stress, the fifth factor is relationship with instructor, the sixth factor is perception of decision making, the seventh factor is locus of control , the eight factor is cognitive processes, and the last factor is modeling.

This study finding goes hand with hand with Jahanpour et al., (2010), who revealed that, the most factors influence decision making during patient care were education and clinical nursing experience. On the other hand, this finding is different from what was found by Hagbhagy et al.,(2004) study they revealed that being competent and self-confident are the most important factors influencing nurses clinical decision-making.

Regarding clinical performance of intern nurse student, the present study finding revealed that the majority of intern nurse student in all training units did the phases of clinical performance (assessment, nursing diagnosis, planning, implementation, health education and evaluation phases) completely. The foregoing present study result was opposed to
what was found by Mosa (2002) who reported that, intern nurse student in intensive care units not makes planning activity.

According to present study findings of observations of intern student total clinical performance. The researcher distributed intern students’ total performance into grades in clinical units. The highest percentage of intern students’ excellent performance was in premature unit. Very good performance was done in emergency unit. Good performance was in operating rooms. This finding of the present study is in agreement with Abou Ramadan (2004) who revealed that, intern nurse students in premature units have high score of clinical performance rather than other units.

Concerning the relation between factors influence internship students' clinical decision making and their clinical performance. The present study results indicated that there is a positive correlation between total performance and factors influencing intern students' clinical decision which are education regarding decision making, clinical nursing experience, situation, Stress, relationship with instructor, perception of decision making, locus of control, cognitive processes, and modeling. This means that intern nurse students who have increased education regarding decision making, clinical nursing experience, and other factors had the highest total score of clinical performance. These study findings go hand with hand with Larrick (2004) study. He reported that, clinical decision-making factors which influence it are an essential component of professional nursing care for patients, and nurses' clinical performance. Nurses' ability to make effective clinical decisions is the most important factor affecting the quality of patients' care.

Also, Snyder (2000) consistent with present study findings, he concluded that there is a relationship between clinical decision making and intern performance. As rapidly changing health care delivery system and nature of client care dictate the need for professionally prepared nurses who are competent and capable of thinking critically and make the decision. So clinical decision making is an integral part of clinical nursing performance.

Meanwhile, theses results are congruent with Jahanpour et al., (2010) who asserted that, clinical decision-making is the basis for professional clinical performance of intern nurse student. This can be taught and learned through appropriate teaching and clinical experiences. Unfortunately, it has been observed that many graduates are unable to demonstrate suitable clinical decision-making skills. So research and study on the process of decision-making and factors influencing it assists educators to find the appropriate educational and clinical strategies to teach nursing students.

V. CONCLUSION AND RECOMMENDATIONS

In the light of the present study findings, it can be concluded that, this findings helped us to reach a better understanding of the factors which influencing clinical decision-making of intern nurse students. It confirmed some previous studies and added to our body of knowledge the relevant factors affecting clinical decision-making. Intern students in this study implied that clinical nursing experience, competent, education regarding clinical decision making, situation, relationship with instructors, values, believes, locus of control, stress, cognitive abilities, modeling and self-confident are considered factors which influencing clinical decision making.

There are deference degrees of effects of theses factors on clinical decision making of intern nurse students. As, the most factor influence intern clinical decision making was education regarding clinical decision making followed by clinical nursing experience. Additionally, the differences between University and Teaching Hospitals were statistically highly significant as regard to effect of factors situation and relationship with instructor items. The study has also indicated that there is positive correlation between total performance and all factors influencing intern students' clinical decision. Hence, it is expected that improvement in intern students' education, clinical experience and other factors affect clinical decision making will improve their performance at Shebin El-Kom Teaching and University hospitals.

Recommendations:
It was recommend that, factors influence clinical decision making must be emphasized in undergraduate courses as well as post graduate curricula by using different educational strategies. redesign the internship training program by authoritarian people to include factors affecting clinical decision making should be needed. Also collaboration between health care institutions and academic expertise should be assured in order to help in developing intern nurse students’
knowledge and experience and also could help bridge many gaps through opportunities to share perceptions and solve common problems.

REFERENCES


Table 1. Sociodemographic Characteristics of Intern nurse Student at Different Clinical Units.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Hemodialysis unit (HD)</th>
<th>Operating room (OR)</th>
<th>Intensive care unit (ICU)</th>
<th>Premature unit</th>
<th>Emergency unit (ER)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Mean ± SD</td>
<td>21.37±0.49</td>
<td>20.9±0.45</td>
<td>21.43±0.59</td>
<td>20.71±0.47</td>
<td>21.3±0.48</td>
</tr>
<tr>
<td>Working during academic year -Yes</td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
<td>No</td>
</tr>
<tr>
<td>- No</td>
<td>3</td>
<td>15.8</td>
<td>16</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>84.2</td>
<td>80</td>
<td>80</td>
<td>13</td>
</tr>
<tr>
<td>Duration of work(by year) Mean ± SD</td>
<td>2.33±0.58</td>
<td>2.25±0.5</td>
<td>2.4±0.52</td>
<td></td>
<td>2.39±0.5</td>
</tr>
<tr>
<td>Working during internship year -Yes</td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
<td>No</td>
</tr>
<tr>
<td>- Yes</td>
<td>3</td>
<td>15.8</td>
<td>1</td>
<td>5</td>
<td>8</td>
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<tr>
<td></td>
<td>16</td>
<td>84.2</td>
<td>19</td>
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<td>15</td>
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<td></td>
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</tr>
</tbody>
</table>

Figure 1. Ranking Factors that Influence Clinical Decision Making According to Intern Students' agreement.
Table 2. Comparison between Intern Students’ Agreement regarding Factors which influences their Clinical Decision Making in University and Teaching Hospitals. (n=86)

<table>
<thead>
<tr>
<th>Factors which influences clinical decision making</th>
<th>Hospital University (n=33)</th>
<th>Hospital Teaching (n=53)</th>
<th>$\chi^2$</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education for decision Making</td>
<td>Affect: 32 96.9 47 88.7</td>
<td>No affect: 1 3.1 6 11.3</td>
<td>1.87</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td></td>
<td>Affect: 32 96.9 37 69.8</td>
<td>No affect: 1 3.1 16 30.2</td>
<td>9.46</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Situation</td>
<td>Affect: 31 93.9 47 88.7</td>
<td>No affect: 2 6.1 6 11.3</td>
<td>0.67</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Locus of control</td>
<td>Affect: 32 96.9 40 75.5</td>
<td>No affect: 1 3.1 13 24.5</td>
<td>6.90</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Relationship with instructor</td>
<td>Affect: 30 90.9 49 92.5</td>
<td>No affect: 3 9.1 4 7.5</td>
<td>0.06</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Perception of decision making</td>
<td>Affect: 28 84.8 50 94.3</td>
<td>No affect: 5 15.2 3 5.7</td>
<td>2.17</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Stress</td>
<td>Affect: 29 88.9 48 90.6</td>
<td>No affect: 4 12.1 5 9.4</td>
<td>0.16</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Modeling</td>
<td>Affect: 28 84.8 47 88.7</td>
<td>No affect: 5 15.2 6 11.3</td>
<td>0.27</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Clinical Nursing Experience</td>
<td>Affect: 29 88.9 49 92.5</td>
<td>No affect: 4 12.1 4 7.5</td>
<td>0.50</td>
<td>&gt;0.05</td>
</tr>
</tbody>
</table>

Figure 2. Comparison Between Intern Students’ Agreement Regarding Effect of Factors which Influences Their Clinical Decision Making in University and Teaching Hospitals. (n=86)
Table 3. Pearson Correlation Coefficient between Intern Students' Clinical Performance and Factors Influencing Their Clinical Decision Making

<table>
<thead>
<tr>
<th>Factors Influencing Clinical Decision Making</th>
<th>Total performance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
</tr>
<tr>
<td>Education Regarding Decision Making</td>
<td>0.17</td>
</tr>
<tr>
<td>my previous nursing experience</td>
<td>0.02</td>
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<tr>
<td>Situation</td>
<td>0.03</td>
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<tr>
<td>Stress</td>
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<td>Relationship with Instructor</td>
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<tr>
<td>Perception of Decision Making</td>
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</tr>
<tr>
<td>Locus of Control</td>
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</tr>
<tr>
<td>Cognitive Processes</td>
<td>0.04</td>
</tr>
<tr>
<td>Modeling</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Figure 3. Distribution of intern students' related to total performance scores in clinical units.