ORIGINAL ARTICLE

Nursing Students' Evaluation of their Qualifications in Clinical Skills before Starting Training in Field

Background: Learning clinical skills is one of the major parts of nursing education. The purpose of this study was nursing students' evaluation of themselves of clinical skills before starting the training in field.

Method: This cross-sectional study was done on 107 nursing students of Babol University of Medical Sciences which were getting trained in the 7th term. The students evaluated their skills using likert scale (No skills=1, full skilled=5). Data analysis was done by SPSS 16, descriptive statistics, Mann- Whitney tests, Pearson, and T-test.

Result: The nursing students reported their perfect skills in infection transmission prevention, checking vital signs, and drug therapy with the mean score of 4.81, 4.74, 4.63 respectively and their least skill was in body care, providing needs of waste, oxygen supply which mean score was 1.68, 3.50, and 3.55 respectively. There was not a meaningful relationship between gender and average score of self-evaluation of nursing student except oxygen therapy (p=0.008) and body care (p=0.01).

Conclusion: The results of this study represents the strong and weak points of clinical skills of nursing students .They are more skillful in the prevention of infection transmission, checking vital signs and drug therapy than other clinical skills and are less skilled in body care, providing needs of waste, and oxygen supply.

Keywords: Evaluation, Clinical Skills, Nursing, Student

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تقييم ذاتي لطلاب التمريض في مجال المهارات السريريه قبل الدخول الى المرحله العمليه

التمهيد و الهدف: إن التعليم السريري من اهم اقسام التعليم في مجال التمريض. إن هذه المطالعه تمت بهدف تقييم المهارات السريريه المكتسبه من خلال التعليم قبل وصول الطالب الى المرحله السريريه.

الأسلوب: هذه المطالعه من نوع التوصيفيه المقطعيه. تمت الدراه على ١٠٧ من طلبه كليه التمريض في جامعه بابل للعلوم الطبيه في الفصل السابع من العام الدراسي ٨٨-٨٩ الهجريه الشمسيه. تم استخدام استمارات تشتمل على المهارات السريريه و مشخصات دموغرافيه. تدرس هذه المهارات في قسم الأصول و الفنون التمريضيه العمليه. استخدم الطلاب مقياس (ليكرت) لتقييم مهاراتهم (بدون مهاره =١)، (مهاره كامله = ٥) المعاييرالأحصائيه كانت على مستوى مطلوب قد و زعت الإستمارات في اليوم الاول من دوره «الطبيب في الميدان» و تم تجميعه في نهايه نفس اليوم. تم تحليل المعلومات باستخدام برنامج SPSS,16 t تم استخدام الأحصاء التوصيفي و اختبارات «من و يتني» و «ضريب بيرسون » و اختبار (t).

النتائج: إن طلاب جامعه بابل للعلوم الطبيه كانت اعلى مهاراتهم في الوقايه من انتقال الجراثيم، متابعه المرضى من حيث العلامه الحياتيه و مهاره العلاج بالادويه على الشكل التالي ٤.٦٣ , ٤.٧٤ , ٤.٨١ و أقل مستوى من المهارات كانت في المراقبه من الجسم، تأمين الإحتياجات الدفعه و تأمين الاوكسجين على الشكل التالي ١.٦٨ ، ٣.٥٠، ٣.٥٥ إن معدل كل المهارات كان ٤.٠٢ الحد الأقصى، امتياز ٥) لم يكن هناك ارتباط ذو معنى من حيث الجنس و معدل علامات التقييم الذاتي عند طلاب التمريض سوى في المعالجه بالاوكسجين p=0.008 و المراقبه من الجسم p=0.01

الإستنتاج: إن نتائج هذه الدرا تدل على أن المهاره في مجالات الوقايه في انتقال الجراثيم و متابعه العلائم الحياتيه و مهاره العلاج بالادويه عند طلاب التمريض في جامعه بابل للعلوم الطبيه اعلى من مهارات المراقبه من الجسم و الاحتياجات الدفعيه و تأمين الاوكسجين التي تدل على نقاط الضعف و القوه في مهارات السريريه عند طلاب التمريض. إن القيمين على الأمور التعليم يمكنهم وضع برامج تعليميه على اساس تقويه النقاط الضعيفه عند الطلاب إن كشف نقاط الضعف في المهارات الاساسيه رفعها قبل انهاء دراسه الطلاب.

الكلمات الرئيسيه: تقييم ، المهارات السريريه ، التمريض ، الطا لب

ارزشیابی دانشجویان پرستاری ازتوانایی خود در مهارتهای بالینی پایه قبل از ورود به کارآموزی در عرصه

زمینه و هدف: فراگیری مهارتهای بالینی پایه در دوره های کارآموزی از مهمترین قسمتهای آموزش پرستاری محسوب می گردد. این مطالعه با هدف ارزشیابی دانشجویان پرستاری ازتوانایی خود در مهارتهای بالینی پایه قبل از ورود به کارآموزی در عرصه انجام شده است.

روش: این مطالعه توصیفی –مقطعی بر روی ۱۰۷ دانشجوی پرستاری ترم هفتم دانشگاه علوم پزشکی بابل انجام شد. . مهارت ها با استفاده از پرسشنامه و با استفاده از مقیاس لیکرت توسط خود دانشجویان ارزشیابی شد (بدون مهارت=۱، مهارت کامل =۵). داده ها با استفاده ، آمار توصیفی و آزمون های من ویتنی و ضریب همبستگی پیرسون وآزمون t تجزیه و تحلیل شد.

یافته ها: دانشجویان مورد پژوهش بیشترین مهارت خودرا پیشگیری از انتقال عفونت، بررسی علائم حیاتی و دارو درمانی به ترتیب با میانگین نمره ۴/۸۱، ۴/۷۴، ۴/۶۳ و کمترین مهارت خود را در مراقبت از جسد ، تامین نیازهای دفعی و تامین اکسیژن به ترتیب با میانگین نمره ۱/۶۸ ،۳/۵۰، ۳/۵۵ گزارش کرده اند. بین جنس ومیانگین نمره خودارزشیابی دانشجویان پرستاری از مهارتهای بالینی پایه رابطه معنی داری وجود نداشت. به جز اکسیژن درمانی (p= ۰/۰۰۸) و مراقبت از جسد(p= ۰/۰۱).

نتیجه گیری: نتایج شان می دهد که دانشجویان پرستاری در مهارتهای پیشگیری از انتقال عفونت، بررسی علائم حیاتی و دارو درمانی مهارت بیشتری و در مراقبت از جسد، نیازهای دفعی، تامین اکسیژن مهارت کمتری از سایر مهارتهای بالینی داشتند که نشانگر نقاط ضعف و قوت مهارتهای بالینی دانشجویان پرستاری است.

واژه های کلیدی: ارزشیابی، مهارتهای بالینی، پرستاری، دانشجو

انٹرن شپ شروع کرنے سے پہلے نرسنگ اسٹوڈنٹس کی کلینیکل مہارتوں کا جائزہ

بیک گراونڈ: نرسنگ اسٹوڈنٹس کی تعلیم میں کلینیکل تعلیم ایک نہایت ہی حساس اور اہم مرحلہ ہوتا ہے۔ کلینیکل مہارتوں کا حصول نرسنگ اسٹوڈنٹس کی تعلیم کی ضروری ترین حصّہ ہے۔

روش: اس تحقیق میں بابل طبی یونیورسٹی کے ایک سو سات طلباء نے شرکت کی جو ساتویں ترم میں تھے۔ یہ تحقیق دوہزار دس اور دوہزار گیارہ میں انجام دی گئی۔ نرسنگ طلباء نے ڈیموگرافیک اور کلینیکل تفصیلات پرمشتمل سوالنامے کے جوابات سے اپنی مہارتوں کا جائزہ لیا۔ یہ مہارتیں نرسنگ طلباء کے نصاب میں شامل ہیں اور بنیادی ضرورت سمجھی جاتی ہیں۔ سوالنامی یونیورسٹی کی اکیڈمک کونسل کے ماہرین اور اساتذہ نے تیار کئے تھے۔ ایس پی ایس ایس سافٹ ویر، توصیفی اعداد شمار اور مین ویٹنی ٹسٹ اور ٹی ٹسٹ سے جوابوں کا تجزیہ کیا گیا۔

نتیجے: ایک سو سات طلباء میں سے سات مرد تھے اور اٹھانوے فیصد خواتین طلباء تھیں۔ خواتین کی اوسط عمر بائیس سال اور اس سے زیادہ تھی۔ چونکہ طلباء نرسنگ میں دلچسپی رکھتی تھے تو انسہ اعشاریہ آٹھ فیصد، اور تینتالیس طلباء نے نرسنگ میں دلچسپی کا اظہار نہیں کیا تھا چالیس اعشاریہ دو فیصد۔ پندرہ فیصد طلباء بغیر نرسنگ کی تعلیم کے کلینیکل تجربہ رکھتی تھے اور چوراسی فیصد کو کسی طرح کا کلینیکل تجربہ نہیں تھا۔ گذشتہ ترمن میں ان طلباء کے اوسط نمبر بیس میں سے سولہ اعشاریہ صفر ایک تھے۔ بابل طبی یونیورسٹی کے ان نرسنگ طلباء نے عفونت کی منتقلی کوروکنی، بیمار کی حیاتی علامات کی جانچ، اور دواؤ سے علاج کے میدانوں میں سب سے زیادہ مہارت کا مظاہرہ کیا۔ عفونت کی روک تھام میں ان کے اوسط نمبر اکیاسی اعشاریہ ایک، حیاتی علامتوں کی جانچ میں چہتر اعشاریہ چار اور دوائی دینے میں ترسٹھ اعشاریہ چار نمبر تھے۔

سفارشات: اس تحقیق سے یہ پتہ چلتا ہےکہ بابل طبی یونیورسٹی کے نرسنگ طلباء نے عفونت کی منتقلی کی روک تھام، بیمار کی حیاتی علامتوں کی جانچ اور دوائی دینے میں اپنی مہارتیں ثابت کردی ہیں تابم لاش کی نگہداشت، مریض کی بول وبراز کی ضرورتیں پوری کرنی اور آکسیجن کی فراہمی میں ان کی مہارتیں مطلوب حد تک نہیں ہیں۔ نرسنگ کے تعلیم کے ادارے ان معیاروں پر طلباء کی کمزوریوں کو دور کرنے کی کوشش کرسکتے ہیں۔ طلباء کی توانائیوں کی کمی کا بروقت پتہ لگاکر انہیں مکمل طرح سے مہارتوں سے آراستہ کرنے میں خود ان کا اور معاشرے کا فائدہ ہے۔

کلیدی الفاظ: نرسنگ طلباء ، کلینیکل مہارتیں ، تجزیہ۔

INTRODUCTION

Clinical and theoretical sciences are the important parts of medical science which shares the same importance(1).The importance of clinical education has made it the heart of nursing science(2). Each deficit in these skills can distrust the patients. Clinical Learning during training in field courses would help the students to change the theory to various types of psycho-motor skills to help patients. In this way the students would be able to apply their knowledge perfectly (3).The work competency means the ability to do nursing activities properly. Nursing education needs to focus more on students' competence in caring for patients. In this regard, evaluation is used to know more about students' knowledge and making future decisions(4).Self-evaluation is a way which is applied by a health-care provider to understand his/her efficiency, ability and emphasize more on learning modern skills(5).This is considered as an appropriate way for improving educational techniques(6).

People can be motivated by self-evaluation as an important factor which improves their skills and affects their knowledge(7).In 2008, while Kowen was searching about nurses' competence, he found out that self-evaluation holds the most accuracy and the least mistakes. So the students can gain the best results. The educational goals should be reviewed by students, because the students' information would show the educational problems and its needs (8). In this way, everyone reports his/her strengths and weaknesses and his/her learning needs. This way has been used in many researches. For example Ozvaris had applied self-evaluation many times in order to investigate the seniors in primary healthcare service. Their skill rate which was 2/44 out of 5 proved that the educational program can't satisfy the graduated students(9).

During another survey in 2004, Barnsley found out that 90% of medical students believed that they haven't gotten enough skills to work as an intern (10). The findings in Iran show that the nursing students hadn't been able to get the clinical competence properly. The evidence also proves that the educated nurses aren't ready enough to start their job as a nurse(1). In this regard, Salimi investigated the senior students' clinical skills in ICU. The seniors confessed that they aren't so professional in cardio department and need to get more education(11). A research in Tabriz Medical University also showed that the nursing interns weren't educated enough(12). These facts make the importance of self-evaluation more obvious in education to improve students' professions. To maintain and increase the standards, some professors have emphasized on them widely(6). As a matter of fact a nursing student can be successful clinically, if the courses have been grasped properly. Meanwhile the clinical skills have been influenced in advance, before interning, by the students' functions during his/ her education period and evaluating these skills and knowing their weaknesses and strengths can be helpful in the renovation of new education programs. This research refers to self-evaluation of nursing students in order to recognize their abilities in clinical skills, before training in field. The results will be used in improving the profession and eventually patients' health.

METHODS

This research is cross sectional. The 170 subjects have been chosen from 3 nursing faculties of Babol University of Medical Sciences. The main inclusion criteria was studying at the 7th semester in 1388-1389 solar years and willing to be as a sampl. The main exclusion criterion was having quotes in university admission in nursing. Sampling was based on a census. In this regard a 2-part questionnaire was used: demographic characters and skill evaluation. The clinical skills are those mentioned in nursing books as the basic skills and are taught practically.

The skills involves prevention of infection, checking vital signs, transferring patients, personal hygiene care, nutritional needs of patients, needs of eliminating, oxygen supply, intravenous therapy , drug therapy, heat and cold therapy, wound and dead body care. Each one contains subset of measures, too. The purpose of the research, and disaffecting the rate of self-evaluation in the final evaluation, were explained to each student, while filling the forms out.

However the students' self confidence involved the answers as a Confounding factor that could not be controlled by the researcher. The study was conducted through the Declaration of Helsinki and standards of medical ethics were considered.

RESULTS

Out of 107 samples, 9 were men (8.4%) and 98 women (91.6%); average age 22.07 +/- 0.97, 92 Singles (86%) and 15 married (14%); 71 day period students (64.4%) and 36 night period students (33.6%); 64 interested in their major (59.8%) and 43 uninterested in their major (40.2%); 17 having clinical experience outside the university (15.9%), 90 inexperienced(84.1%). The average of all students was 16.01.

The results show that the students of nursing in Babol University of Medical Sciences have been skillful in the prevention of infection 4.81, checking vital signs 4.74, and drug therapy 4.63. They were less skillful in dead body care by rating of 1.68, needs of eliminating by rating of 3.50 and oxygen supply by rating of 3.55. The average rating of all skills was 4.02.

The table 1 shows the frequency distribution, its average rating, Mean and SD rating of nursing students' self-evaluation in basic clinical skills.

The results show that there is no significant relation between gender and the average rating of nursing students' self-evaluation, except for the oxygen therapy (p=0/008), and dead body care (p=0.01). The T test shows a significant difference in final skill average rating between males (4/24 +/- 0.20) and females (4.00 +/- 42).

The Mann-Whitney test showed only a difference between clinical experience and the drug therapy skill (p=0.02). Pearson's Correlation Coefficient showed a significant difference between the students' average rating and the skill of changing position (p=0.04 r= 0.19).

Kolmogorov-Smirnov Test showed the normal distribution of students' skills (p=0.05). The T-test showed a significant difference in transfer skills (p=0.046), personal hygiene care (p=0.022), heat and cold therapy (p= 0.007) and

Table1. Frequency distribution, Mean and SD average rating of nursing students' self-evaluation in basic clinical skills (n=107)						
Basic clinical skills	Mean (SD)	Full skills N (%)	Relatively skilled N (%)	Insufficient skills N (%)	Very low skills N (%)	No skills N (%)
Prevention of infection	4.81(0.31)	91(85.1)	13(12.2)	1(0.9)	1(0.9)	1(0.9)
Check vital signs	4.74(0.40)	93(87)	6(5.6)	1(0.9)	4(3.7)	3(2.8)
Drug therapy	4.63(0.36)	81(75.8)	20(18.7)	3(2.8)	2(1.8)	1(0.9)
transfer	4.56(0.70)	82(76.7)	13(12.2)	6(5.6)	4(3.7)	2(1.8)
Intravenous therapy	4.53(0.42)	74(69.2)	23(21.6)	4(3.7)	4(3.7)	2(1.8)
Wound care	4.39(0.50)	67(63.0)	27(25.3)	5(4.7)	4(3.7)	4(3.7)
Nutritional needs of patients	4.12(0.64)	54(50.5)	28(26.1)	13(12.2)	9(8.0)	3(2.8)
Personal hygiene supplies	4.01(0.80)	57(53.3)	20(18.7)	13(12.2)	9(8.4)	8(7.4)
Heat and cold therapy	3.78(1.03)	50(46.8)	24(22.4)	9(8.4)	9(8.4)	15(14.0)
Oxygen supply	3.55(0.91)	33(30.9)	31(29.0)	16(14.9)	15(14.0)	12(11.2)
Eliminating	3.50(0.83)	38(35.5)	26(24.4)	12(11.2)	14(13.0)	17(15.9)
Body care	1.68(1.21)	5(4.7)	9(8.4)	9(8.4)	8(7.4)	76(71.1)

oxygen supply(p=0.04) among day and night period students.

DISCUSSION

Based on the results, the basic clinical skills are obtained by students at a level that they can do them independently. In a similar research, Nasriani announced that 58% of students evaluated their skills perfectly. Hoat also declared that his students had learnt the key skills. In Vahidi and his colleagues' idea, the nursing students' efforts in caring patients were about average. Based on these facts, it seems that students had believed that during their training in field, they will be able to do their duties independently, and during this time, they should benefit the opportunity to be independent. The nursing students need to do their duties alone, just to be monitored by an educator. As it is shown in this research, Hoat also believes that the students who study in small faculties, have more self confidence and are able to gain more skills, because they have had more opportunities to work in hospitals and meet their trainers.

However there are some opposite ideas too. Walter studies on medical senior students' skills shows that 60% of students could learn only 4 skills out of 17 clinical skills with no educator help and 20% of them announced that they didn't learn anything in 7 skills out of 17.

Many factors could cause such a result. Comparing students on different majors is one of them. Even differences among variety of educational programs, internship areas, educational environments, and professors should be considered. The skills and evaluation ways are not the same, too.

The main evaluation on basic clinical skills was related to the prevention of infection87%, checking vital signs 85.1%, and drug therapy75.8%, which were done without any educator's aid perfectly. Nasiriani get the same results after studying on nursing graduates in Yazd. He said that about 52% of samples need a trainer for drug therapy and 36% can do this independently. Sabeti in his research got the same result for senior students who could do their duties independently. Walter mentioned in his article that there is an obvious relationship between students' skills and clinical experiences. The practical -clinical experience and its quality are the main factors of getting skills.

He also understood that students' skills have a direct relationship with their repeated clinical skills' encounter.

The students believed that they had less skills in dead body

care, oxygen supply, needs of eliminating and heat and cold therapy which is the same in many researches. In Nasiriani's research, he said that only 20% of graduated students were able to prescribe oxygen and suction and 60% of them needed an educator for monitoring. This shows that they need to learn more about oxygen therapy. Not Passing internship in important wards like ICU, in which Oxygen therapy is a fundamental need, and lack of specialized respiratory diseases department, are important reasons.

However, Sabeti showed the opposite result: 70% of students were able to prescribe oxygen fluently and correctly. The main reason is related to the terms that the samples were studying. In his research the senior students had been chosen. Obviously after passing their training in field, they had improved their skills.

On the other hand, the research shows that only 35.5% of the students have gained the needs of the patient's bowel independently. The other researches show the same results. Sabeti in his latest research found out that 41.7% seniors weren't skillful enough in colostomy. Hosseini and his colleagues showed that Enema has been done less than the others among 17 clinical skills of nursing. Since these carings are mainly done by service dept. and aren't enjoyable for students, they won't be eager to learn them. But learning the correct techniques of bowel in cases like fractures, tractions, or spine injuries are essential for nursing students and the educators should emphasize on them more than before. Among nursing students, 46.8% could do heat and cold therapy independently and the others were dependent, because less attention had been paid to this skill in hospitals. So it seems paying special attention to such a complementary remedies are important and its importance should be explained more to students.

The nursing student reported their less skill in dead body care and only 4.7% students were able to do this independently. 71% declared that they have no skills or even no monitoring experience. In many cases, when a patient deceased in public wards, the nurses or mainly servicemen tend to move him/her from the section fast, not to hurt other patients' or relatives' feelings. In some cases the relatives don't let the students to do this process. The educators should support the students, to remove their phobias and anxieties. During a research, the students announced that the educators hardly ever support them in dead body care skill. The findings in this research prove that the students start their internship, while they have a few skills in dead body care. If the educators try to teach them in special wards and not public ones, that will be more helpful.

The findings prove that internship skills could be different in many measures. It appears that the repeated skills like prevention of infection and checking vital signs are done more professionally. And incontrast the measures with less frequency, those needed more self confidence or disturbing skills like dead body care are done with less skill. It is obvious that the educators should be more careful about students' perfect knowledge. So using more clinical nursing practice environments are recommended. The other ways to improve their clinical-educational skills are as follow: Even the minimum learning during internship should be considered and expert nurses should be asked to assist beside a teacher. The clinical-educational teacher is needed in this case. Finding about students level of skills before internship, explaining the expectations of skills to students and having an appropriate plan to gain the goals are other important actions. One of the most effective ways to educate skillful nurses is to know the students' efficiency. Comparing the student's and educator's evaluation together, applying new methods of evaluation, finding effective factors in clinical skills are recommended, too. Using a logbook, which contains clinical skills in each ward, is a useful way to be sure about the students' learning level. After learning each skill, the teacher should sign the related column. At the end of each course, the learning defects must be checked or recovered.

Generally this research is applicable in nursing- clinical skills in surgery ward, pediatric ward, internal medicine ward and ICU. The students' self-evaluation can be compared with their functions. The limited number of samples and using special group are some limitations in this research. Meanwhile students' wrong answers should be considered too.

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