Self-Evaluation of Nurses Clinical Competency based on Benner Theory

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Abstract

Introduction and Purposes: Nurses play important roles in terms of health care. Clinical competency is one of the significant merits of nursing and its evaluation can lead to recognition of fields requiring improvement. Hence, the present study was conducted with the purpose of self-evaluation of nurses' clinical competency based on Benner theory.

Implementation Method: This study is sectional-descriptive. By census method, the clinical competency of 83 nurses was reviewed as self-evaluation in 9 different wards of a selective hospital in Abadan City. The entrance criteria was to have at least 6-month's experience and satisfaction with participating in the study. The means to gather data was a questionnaire which investigated 73 skills in 7 various fieldss. For each skill, the nurse at first gave themself a score from 0 to 100, and then, he/she determined the use rate of that skill using a four rating Likert scale. The data, descriptive and inferential statistics were analyzed by SPSS software.

Results: The average of total score of nurses' clinical competency was about 82/98 ± 11/72 percent. Overall, the maximum total average was 86/71 ± 11/26 related to field of management conditions and the least total average belonged to 78/33 ± 15/29 related to field of quality assurance. Moreover, the results showed that nurses use 94/5 percent of practical skills related to management conditions occasionally and frequently and this rate is much more in comparison to other fields and indicates more use of skills about which nurses have more qualification.

Discussion and Conclusions: The results demonstrated that totally the level of clinical competency and use of nursing skills are desirable in the studied population. By the results of such research, the skills needing more training can be recognized and holding re-education courses can help to not only improve these skills, but also to develop the nursing clinical competency and patients' satisfaction as a whole.

Key words: Clinical Competency, Nurse, Benner's Theory

Introduction

Without sufficient and high-qualified staff, the necessary health care cannot be performed adequately and meanwhile nurses exhibit an important role in sanitary teams. During the 21st century, the role of nurses has evolved considerably. Today, they act in vast numbers of clinical places including hospitals, schools, sanitary units in society, house health care, laboratories and even business units (1). Consequently, many countries have raised nurse training in order to supply the demands of health care in society (2).

The profession of nursing is operational and contains constant care measures. This care begins with simple affairs and gradually, moves towards complex care and ultimately, terminates with comprehensive decision-making in presenting care (3). In nursing, nurses show the clinical skill and additionally , their theoretical knowledge regularly according to an identified framework (4). In a nursing career, most research and study plans are concentrated on clinical affairs (5). Competency can be observed as a necessary requisite for nursing services with high quality in clinical environments (6). The nurses' competency is an effective factor on the guarantee of care measures' quality presented for patients and their satisfaction, and it has an important role in survival of hospitals (7).

Clinical competency is used as in index to evaluate and validate the hospitals (8), and this is a thoughtful use of technical and communicational skills, knowledge clinical deduction, feelings and values (9). The Word Health Organization defines qualifications as the level of utilization of knowledge, skills, ability and judgment in performing functions (10).

Evaluation of nurses' clinical competency plays a considerable role in management of the process in presenting care measures and achieving its goals. In this way, the training needs of nurses and the field requiring improvement can be recognized and we can assure provision of desirable care of patients (11). The results obtained from different research conducted in this field show that constant evaluation of nurses' clinical competency is one of the most principal responsibilities of nursing managers (12). Moreover, preserving and improving the quality level of caring for the patient and increasing the capabilities and nurses' competency are among the significant programs of nursing managers (13). In the last decade, interest in evaluating nurses' merits have evidently risen (14).

Thus, using the criteria of competency review not only helps nurses and managers become more aware and informed regarding the quality of general competency of nurses, but it also leads to specify the shortages and skill and cognitive weaknesses in them. Different research conducted in various parts of the world until now indicates that numerous methods and tools have been used to review the level of competency and clinical skills of nurses (5).

Among these, self-evaluation method, i.e. evaluating the clinical competency by nurses themselves helps them to pay attention to their own clinical functions through raising their self-awareness and commitment to change, and to make efforts to improve it. By this method and using rethinking processes, nurses will gain a deeper recognition about their own functions, and they can identify their weakness and strong points, obstacles and fields requiring improvement in their function, and in their own constant training process, undertake more activities (9). Self- evaluation can be learnt during nursing studying and career (4).

Despite so many efforts, the results of researchers in America and the Netherlands represent that between 30 and 45 percent of patients receive some cares which is not based on scientific evidence and about 20 to 25 percent of presented care is unnecessary and potentially harmful (13).

"Salonen conducted a study concerning 235 newly graduated nurses who are employed in emergency and special care wards of a hospital in Finland; in this study, he has assessed their clinical competency level from average to good level. As well, he has referred to lack of some research which evaluated the nurses' clinical competency in various wards and clinical environments (9)."

Among the surveys carried out in this field in Iran, the results of a study by Bahreini et al in 5 hospitals in Bushehr province have reported the clinical competency of nurses as undesirable in some fields including the field of training and guidance, and field of quality assurance (5). The study done by Parsa Yekta et al has reported the clinical competency as poor and average (15) and the study by Komeili Sani et al has reported it as good (13).

Nevertheless, in Iran very few studies have been conducted regarding the review of clinical competency condition of nurses and not much information is available. Hence, regarding the importance of this issue and the results of this unawareness, the surveyor carried out this study with the purpose of self-evaluation of nurses' clinical competency in Abadan City in 2017 in order to find the weakness points of nurses' clinical competency and by presenting the results to relevant practitioners, to be able to improve the nursing skills and as well, raise the quality of services given to patients through necessary planning.

Method

The present study is sectional-descriptive research that was performed with the purpose of self-evaluation of nurses' clinical Competency in Abadan City in 2017. The research population was 83 nurses employed in 9 wards of one of the hospitals selected by the faculty of medical science in Abadan; this population was chosen by census method, and their clinical competency was investigated via self-evaluation method. The criteria to enter the study was to have an associate degree of nursing or higher degree, at least 6 month's work experience in hospital sections as a nurse, and satisfaction to participate in this plan. The means

used in this research was an assessment questionnaire of nurses' clinical competency that evaluated 73 general nursing skills in 7 different fields. The competency level was determined on the basis of a rating scale of 0-100 and rate of practical use of nursing skills in a clinical environment through a Likert four-rating scale. This means was provided on the basis of a theoretical framework from beginning to professional competency by Meretoja et al and that easy applicability and high stability and justifiability are among its merits. The investigating areas include "roles and duties of contribution" (7 skills), field of "training and guidance" (16 skills), field of "recognition activities' (7 skills), field of "managerial conditions" (8 skills), field of "therapeutic interventions" (10 skills), field of "quality assurance" (6 skills), and field of "occupational and organizational tasks" (19 skills).

Nurses completed the questionnaires by self-evaluating method, as such that each nurse at first gave points to themself for each of the 73 skills (a point from 0-100), and then determined the use rate of that skill in the relevant section according to Likert scale. Accordingly, rank zero means lack of using skill, rank one means very low use (hardly), rank 2 means occasional use, and rank 3 means frequent use of that skill. Justifiability of the mentioned questionnaire has been confirmed in research by Bahreini et al. and its stability has been computed according to Cronbach alpha between 0/70 to 0/85 percent, while the accuracy of means translation on the basis of translation in Persian and then inverse translation and supervision of two English language specialists have been confirmed in the stated research (9). As well, internal homology of seven skills has been reported studies by Meretoja et al between 0/79 and 0/91 (16).

After coordination with the medical faculty of Abadan and taking a license from the ethical committee, the researcher returned to the hospital, and after receiving the cooperation license from the Chairman of the hospital, presented it to head-nurses of different sections. To observe the ethical principles having received the named licenses, the researcher announced the necessary explanations for studying samples, and in addition to receiving oral satisfaction from them, assured all that gathered information would be kept confidential.

Ultimately, the gathered information was analyzed by SPSS software and using different descriptive statistical indexes including percentage of frequency, average and median, standard deviation and multiple-response and as well, analytical statistical test including ANOVA test and t test was carried out.

Results

Among 83 nurses participating in the survey, 79 people (95/2%) were women and 4 people (4/8%) were men. 46 people (55/4%) were married and the rest were single, 5 people (6%) were head-nurse and 78 people (94%) were nurses. The highest type of employment included 43 employees (51/8%) and the least type included 1 contract person (1/2%). The education of 2 people (2/4%) was Master's degree in nursing and the rest 81 people (97/6%) were bachelor's degree in nursing (Table 1).

Table 1: Demographic variables

Variable	average	Standard deviation	domain
Age (year)	32/71	6/56	(23-52)
Nursing experience (year)	8/3	7/1	(1-28)
Nursing experience in present ward (year)	4/9	5/6	(0/6-28)

The results of this study showed that overall the general average of nurses' clinical competency was 82/98 ± 11/72. The highest general average of clinical competency was 86/71 ± 11/26 related to field of "managerial conditions" and the least of general average of clinical competency was 78/33 ± 15/29 related to field of "quality assurance". Also, the highest rate of clinical competency announced by nurses was in the field of "occupational and organizational tasks" which was reported with 98/07 ± 1/87 average and standard deviation by nurses of "department of pediatrics". The lowest rate of clinical competency was related to field of "therapeutic interventions" which was announced by nurses of "CCU department" with 71/80 ± 5/92 average and standard deviation. Clinical competency of nurses in the department of pediatrics in most of the seven fields was higher with a significant difference in comparison to other sections. As well, the general clinical competency of nurses in this section with significant difference P= 0/04 was reported more than the other sections.

In comparison to the skills of seven fields, the results showed that the highest rate of qualification was related to skills of "preserving facilities and equipment of nursing care in conditions ready to work" with 91/33 ± 10/85 average and standard deviation from field of "managerial conditions" and then "making decision based on ethical values" with 89/15 ± 11/49 average and standard deviation from field of "contribution tasks". The least rate of qualification was related to skills of "presenting suggestions about doing clinical research" with 71/73 ± 21/50 average and standard deviation from

field of "quality assurance" and the skill of "using research findings to communicate with patients" with 74/61 ± 19/06 average and standard deviation from field of "contribution tasks" (Tables 2,3).

Regarding rate of applying the skills of seven fields, the results indicated that about 0/6 percent of skills have never been used and 8/3 percent of skills have been hardly used and totally, the highest rate of not using skills is related to field of quality assurance with 16/7 percent. Moreover, 91/1 percent of skills are applied by nurses occasionally or frequently and the most use has been reported about field of managerial conditions with 94/5 percent. (Table 4)

In comparing the use rate of different skills in various fields in nine sections, the nurses of the pediatrics department apply 89/7 percent of skills for adults frequently and this rate has been reported more than other sections (Table 5). There was no significant relation between demographic properties of nurses and rate of clinical Competency.

Table 2: Comparison of self-evaluation average of nurses' clinical competency in general wards of a hospital covered by Medical Science Faculty in Abadan

Scope of clinical competence	Surgical	Medical	Operation Room	Obstetrics and Gynecology	Pediatrics
Roles and duties of contribution	79/84±13/06	77/51±13/77	84/06±10/94	85/42±13/86	93/57±5/83
Training and guidance	80/29±13/05	75/87±16/91	73/48±18/36	86/50±9/30	95/00±6/74
Recognition activities	80/15±15/41	79/15±14/01	80/81±11/80	90/28±10/41	95/00±7/59
Managerial conditions	84/43±12/72	82/55±7/79	88/92±12/50	89/75±12/51	95/62±5/28
Therapeutic interventions	79/27±17/62	77/30±14/63	84/28±9/37	88/80±12/07	96/33±2/58
Quality assurance	75/27±21/54	75/00±17/38	75/71±8/81	86/33±8/11	93/61±5/41
Occupational and organizational tasks	84/43±12/63	79/80±12/28	87/29±11/21	89/78±14/45	98/07±1/87
Total clinical competence	80/53±14/54	78/17±12/38	82/08±10/58	88/12±11/07	95/31±4/18

Table 3: Comparison of self-evaluation average of nurses' clinical competency in intensive and critical care wards of a hospital covered by Medical Science Faculty in Abadan

Scope of clinical competence	ICU	CCU	Emergency	Dialysis	Average	P Value
Roles and duties of contribution	90/17±7/53	75/14±6/39	82/46±6/23	78/54±17/17	81/74±12/51	p=0.050
Training and guidance	92/79±6/38	74/81±4/95	85/35±4/42	82/17±14/71	82/14±13/28	p=0.004
Recognition activities	91/96±7/20	74/71±7/67	90/93±6/65	80/17±16/24	83/67±13/17	p=0.005
Managerial conditions	94/06±4/46	76/62±4/75	93/94±5/01	83/26±14/57	86/71±11/26	p=0.001
Therapeutic interventions	91/87±6/77	71/80±5/92	87/06±7/77	81/81±14/94	83/08±13/14	p=0.002
Quality assurance	88/33±6/48	73/16±4/47	75/81±13/37	75/22±20/07	87/33±15/29	p=0.073
Occupational and organizational tasks	92/30±7/86	73/84±2/27	78/09±3/27	84/31±14/93	85/18±11/85	p=0.002
Total clinical competence	91/64±5/82	74/30±3/69	86/09±4/69	80/78±14/89	82/98±11/72	p=0.004

• The P Value and Average is generally considered for all scopes and all wards.

Table 4: Comparison of frequency percentage for practical use of nursing competency skills in different seven fields

Scope of clinical competence	never	rarely	sometimes	frequently
Roles and duties of contribution	0/7	8/8	43/5	47
Training and guidance	0/8	7/7	46/3	45/2
Recognition activities	0/2	7/4	42/7	49/7
Managerial conditions	0/9	4/5	33/4	61/1
Therapeutic interventions	0/8	8	44/8	46/4
Quality assurance	0/6	16/1	46/4	36/9
Occupational and organizational tasks	0/5	5/6	44/4	49/5
Average	0/6	8/3	43/1	48

Table 5: Comparing the frequency percentage for practical use of nursing competency skills in different wards

Ward	never	rarely	sometimes	frequently
Surgical	0/6	10/8	53/6	35
Medical	0/2	9/6	36/6	53/5
ICU	1/7	1/4	38/2	56
CCU	0/1	8/2	66/7	24/9
Operation Room	1/4	6/8	46	45/8
Emergency	1	6/8	43/2	48/9
Dialysis	0/5	11/3	46/8	41/4
Obstetrics and Gynecology	0/5	0/8	31/2	67/4
Pediatrics	0	0/7	9/6	89/7
Average	0/7	6/6	41/3	51/4

Discussion

This study was done with the purpose of self-evaluation of Nurses' clinical competency in Abadan City, and in addition to evaluating the clinical competency, use rate of different skills was reviewed by studied nurses. To evaluate the results of research better, regarding similar conducted plans, 4 levels were announced for clinical competency of nurses on the basis of the average obtained from self-evaluation scores declared by nurses. The poor level of clinical competency was determined by self-evaluating score of 0 to 24, the average level by score from 25 to 49, the good level by score of 50 to 74 and the excellent level was specified by score from 75 to 100. (11,17).

According to this ranking, the clinical competency of nurses under study is in excellent level. Frequent holding of retraining classes related to nursing field, frequent visits from wards and authorities' attention to function of nurses and available facilities and equipment required in the clinic and as well, sense of responsibility by nurses, can all be the reasons concerning this result. In a study done by Bahreini et al (5,9), study by Habib Zadeh et al (8) and research by Komeili Sani et al (13), the clinical competency of nurses has been reported at good level. In a study by Numminen et al the nursing trainers have assessed the competency of nurses as generally good and nursing managers have evaluated them rather good (17). All these are favorable with the results of the present research, whereas in a survey by Soroush et al (7), the level of nurses' clinical competency has been reported average and can be related to means and facilities existing in the section, knowledge and work experience of nurses.

In the present study, the highest total average of competency announced by nurses was related to field of "managerial conditions". However, the highest rate of competency had been reported for skills of "preserving the facilities and means of nursing care in conditions ready to work" from this field and also, the skill of "making decision based on ethical values" from field of "contribution task". In a study by Bahreini et al (5,9), the highest nurses' clinical competency has been reported in the field of managerial conditions that is in the direction of the results of the present study. As well, high competency of sample under research in mentioned skills can indicate the sense of responsibility and adherence to their ethical and belief values. In a study by Bahreini et al the skill of decision making based on ethical values was the highest skill announced by nurses (9). And in a study conducted by Numminen et al this skill has been reported among the excellent skills in evaluating the trainers and nursing managers from novice nurses (17); these results are favorable to results of this research. In research by Komeili Sani et al the highest rate of clinical competency has been reported in the field of "training and guidance" (13), and this is opposite to the results of the present research, and this can show the capability of more nurses in that study is about training the nurse and it can be due to holding more effective and many more retraining classes in this field.

The least average of total competency announced by nurses in the present study was related to field of "quality assurance" regarding the existing skills in this field, the weakness of nurses studied in decision making, guidance and coordination about therapeutic care and nursing activities are shown, and it needs more training in this regard. Moreover, regarding seven different fields, the least rate of competency was related to skills of "presenting suggestions about doing clinical research" from the same field and "use of research findings to communicate with patients" from the field of "contribution tasks". In a study by Bahreini et al the nurses declared the least rate of their clinical competency as regarding the field of "quality assurance". Moreover, the skill of "research findings' use in nursing care" related to this field had been named as the least used skill (9). In research by Meretoja et al (16), the minimum rate of competency was reported regarding the field of quality assurance. In a study by Rodgers, the nurses' competency in using research findings has been reported low (18). All three studies are favorable with the present study. The low level of competency related to skills named in the present study shows the low rate of nurses' studying regarding the new research conducted in the field of medical and nursing and their weakness is in using the results of research conducted in the clinic; this can be due to unavailability of research findings in clinic in form of training booklets, pamphlet etc andalso , lack of holding retraining classes in this field. Besides doing different clinical tasks, each nurse should upgrade their own knowledge about their field in order to improve services and take care of patients, and its requisite is studying different scientific resources and becoming familiar with new findings of research. But most nurses have less time for such things thanks to compressive shifts and high work hours.

In a study by Habib Zadeh et al (8), the least rate of nurses' clinical competency is related to the field of "managerial conditions" that is in contradiction to the results of the present study. These differences can be made for various reasons and we can name internal or individual factors like knowledge and skills, job conscience and responsibility and external or environmental factors like managerial and training factors (9).

From other results obtained from the present study, we can refer to high clinical competency of nurses in the pediatric ward and ICU in comparison to nurses of other wards, and regarding the sensitivity of these wards and the need to be conversant and experienced nurses and conducting specific affairs, this issue is justifiable.

In terms of using skills by nurses of pediatric ward and obstetrics and gynecology had better conditions in comparison to other wards and the nurses of dialysis ward used the skills less.

In reviewing the relation between the level of nursing clinical competency and practical use of skills in the clinical environment, the highest rate of not using skills with 16/7 percent was related to skills in field of "quality assurance" that nurses in this field had the least level of clinical

competency. In the study of Bahreini et al (5), the results in which the least competency with the least use of the skill has been related to the field of quality assurance, and the study by Bahreini et al (9), has observed this relation in the field of training and guidance, and the results of study are along with the results of Martooja et al (16) and Jinks et al (19), and this shows that when the competency of nurses increases in different clinical skills, the possibility of its use will increase, too (9).

Conclusion

The results of the present study showed the desirability of clinical competency and rate of practical use of skills in different fields in studied nurses. However reviewing the competency via self-evaluation method can be rather effective on the results of study, but regarding the accurate and complete explanation by researcher about researchable samples and this point that the results are kept confidential and are reviewed totally, it seems that this impact is very trivial. By the results of such research, the strength and weakness points of nursing clinical skills can be recognized. Managers can use the results of research to improve the competency of nurses in fields and skills with low competency scores, and then, do proper planning regarding theoretical and practical retraining classes and in addition to improve these skills, totally increase the quality of nursing cares and privilege of hospital. While besides these trainings, it is necessary to provide instruments and equipment required to improve the function and raise the interest and job motivation of nurses.

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