Assessment Effective Factors on Clinical Application of Nursing Continuing Education from the Viewpoints of Nurses

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Abstract

Introduction Ongoing continuing education program with the present methods and conditions is inadequately helpful and applicable. There are various factors, which influence the efficiency and efficacy of such programs for nurses. The present study aimed to investigate the effective factors in application of continuing education from the viewpoints of nurses.

Methods This is a cross- sectional descriptive study. Sampling was census, conducted on nurses in Jahrom, Iran in autumn 2015. Data were collected by Dehghan Nayeri and Khosravi checklist with reliability of α=0.949. Data were analyzed by descriptive statistical tests (frequency distribution and mean), independent t- tests and Spearman correlation coefficient. Results In the present study, 176 subjects were recruited of whom 72.7% were female. Subjects' mean age was 21.64 (14.18) years. From the viewpoints of the nurses, the most effective factors for application of continuing clinical education were "the scientific characteristic of the training nurse" and " enough accountability in applications of the learned materials" while the lowest effective factors were" financial reward of the organization for newly learned materials" and "application of distant learning in the ward". Mean overall score of factors effectiveness was 3.07(0.53). Conclusion The level of various factors effectiveness in use and application of continuing education programs should be considered. The most important goal of administration of continuing education programs is improvement of nurses' knowledge and awareness to promote the quality of the given services.

Keywords: Continuing education, Nurse, Clinical application.

Introduction

Increasing progression of science and technology has made vast changes in provision of health services, which leads to the need for continuing education to preserve occupational capabilities and competence (1, 2).

Fulfillment of educational needs of health and treatment team results in provision of care with appropriate quantity and quality (3), which leads to speeding up the trend of patients’ treatment and recovery and increasing the feel of assurance and reliance during care provision, and consequently, diminishing occupational tension(4). Proper educational planning occurs through correct needs assessment that prevents tasks repetition and leads to qualitative and quantitative administration of the selected programs (5). One of the methods of human resources improvement is continuing education that leads to promotion of the staffs' knowledge and skills (6).

Continuing education was approved and administrated as a progressive rule for medicine – related professions in Iran in April 2007 (7). It refers to the activities,
designed and conducted after graduation, to increase knowledge, skill and professional competency of the health care providers (8). These programs are held to preserve and develop medical professional information, in accordance with progression and development of technology (9). The ultimate goal of continuing education is making functional and behavioral changes to improve professional activity (3).

Process of continuing education results in positive effects on efficiency, self-confidence, knowledge and skill, and consequently, the quality of care if they are purposive and well organized in administration (10). Holding continuing education in appropriate conditions and with regard to learners' educational needs seems more likely to affect clients' health outcomes and behavior (7, 11). Since nursing profession has basically an applicable and functional nature (12), nurses are expected to convert their newly learned knowledge into their functional context (13). Continuing education helps nurses update their function, promote it and coordinate with rapid changes (14).

Research shows that the ongoing continuing education, with the present method and conditions, is not so helpful and usable (8, 15). Unfortunately, despite several years of activity on continuing medical education, most of the efforts have been inadequate and few goals have been achieved (16, 17, 18). Based on research, conducted in other countries, nursing continuing education has not gained the needed efficiency and quality due to causes such as limitation in needed resources to conduct long term educational programs (19, 20), not involving the nurse in education as an active component (21), and ignoring the educational needs (22).

In Iran, the research shows lack of paying attention to nurses' educational needs and poor quality of the programs (23), lack of basic and correct administration of the educational programs due to several defects in educational facilities and shortage of professional human resources (24). Therefore, despite long history of holding and application of nurses continuing education, no positive effects are observed in improvement of nurses' professional function and promotion of nursing care quality (10, 25).

Continuing education programs play a pivotal role in education, learning, remembering the already learnt materials and updating nurses' scientific information and care methods. On the other hand, the level of other factors effect in use and application of such materials should be considered and investigated to reinforce positive elements and modify the negative factors. Inconsideration of such factors reduces the quality of care and wastes the educational investment even if the process of continuing education is purposive and strong.

In Iran, with regard to long history of nurses' continuing education in hospitals, the quality of nursing services is expected to have improved. Meanwhile, based on several studies in this context, we witnessed no positive effect of such educations on nurses' professional function, and consequently, nursing services improvement (26). Therefore, the present study aimed to define the factors effective on clinical application of nursing continuing education from the viewpoints of nurses.

Methods

This is a cross – sectional descriptive study, in which through census sampling, all nurses of Jahrom University of Medical Sciences meeting the inclusion criteria were selected (n=176) in autumn 2015. Inclusion criteria were at least two years of work experience and taking part in at least two continuing education programs in the recent year.

Data were collected by checklist titled as checklist of assessing factors affecting the clinical application of nursing continuing education programs whose validity and reliability were confirmed by 14 experts, and distribution of the tool among 20 nurses through internal consistency method (α=0.949) respectively (27). The method to complete the checklist was explained to the subjects if needed. Checklist comprised two sections. The first section was on demographic characteristics (age, sex, marital status, education level) and occupational information (position, ward, shifts, clinical and managerial work experience, and employment status). The second section included a table containing 43 items in which the nurses determined their viewpoints regarding the level of effect for the factors in application of continuing education.
clinical education programs based on a five-point Likert's scale (very little, little, moderate, much, very much). To score subjects' efficacy, aforementioned options were scored from 5 to 1 respectively, and then, the total score was divided into the number of the items (n=43). Scores equal or less than three and those over three were considered as low and high efficacy of the items respectively. To calculate the score of each item, multiplication result of the selected items (in each level) by the score of each level was divided to total number of subjects (n=176).

Scores equal to 3 or less and over 3 were considered as low and high efficacy of the item respectively. Spearman correlation coefficient test investigated the correlation between variables of education level, position, ward and employment status, and the portion of various factors in application of nursing continuing education. To analyze the data, descriptive (frequency distribution and mean) and analytical (independent t-test and Pearson correlation coefficient test) were adopted through SPSS 16.

Ethical Considerations

The research proposal was approved by Jahrom University of Medical Sciences Research Committee. All the participants were firstly informed about the purpose of the study and assured of anonymity prior to their participation in the study.

Results

One hundred seventy six qualified nurses attended the present study of whom 128 (72.7%) were female. Nurses' mean age and their mean clinical work experience were 21.64(14.18) and 6.03(3.78) years respectively. Most of the subjects (n=94, 53.4%) were married and had a bachelor's degree (84.7%). About 73 nurses (41.5%) were casual staff, 59 nurses (33.5%) were on contract, 42 (23.9%) were permanent staff and 2(1.1%) nurses were working for their free education compensation. With regard to their position, 163 (92.6%) were staff nurses, 6(3.4%) were head nurses and 7(4%) were clinical supervisors. Most of the subjects worked in internal ward (36.9%), surgical (18.8%), operating room (13.1%), dialysis (8%), ICU and pediatrics (each 11%), CCU (10%), emergency (4%), gynecology (3%) and NICU (2%) wards. Working shift of most nurses was circulating (92.6%).

Nurses' mean number of attending continuing education programs was 2.9±(4.25) times. Table 1 represents the mean (SD) score of effective factors in application of nurses' clinical continuing education from their viewpoint.

<table>
<thead>
<tr>
<th>Items</th>
<th>Mean(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Educational programs are consistent with the ward I am working in.</td>
<td>3.25(0.80)</td>
</tr>
<tr>
<td>2. Educational programs are consistent with my educational needs as a nurse.</td>
<td>3.26(0.77)</td>
</tr>
<tr>
<td>3. CME programs are efficient in application of education.</td>
<td>2.47(0.97)</td>
</tr>
<tr>
<td>4. Educational content has appropriate quality.</td>
<td>3.19(0.77)</td>
</tr>
<tr>
<td>5. Educational content is new and up to date.</td>
<td>3.29(0.81)</td>
</tr>
<tr>
<td>6. To apply education and make changes, most of the colleagues had attended in the educational programs.</td>
<td>3.20(0.92)</td>
</tr>
<tr>
<td>7. Educational content is applicable.</td>
<td>3.25(0.78)</td>
</tr>
<tr>
<td>8. In my ward, there is a positive atmosphere to accept changes.</td>
<td>2.99(0.92)</td>
</tr>
<tr>
<td>9. In my hospital and ward, there is a positive atmosphere to accept new knowledge.</td>
<td>3.03(0.90)</td>
</tr>
<tr>
<td>10. Authorities' attitude and attention to position of education facilitated the application of the learned material for me.</td>
<td>2.95(0.87)</td>
</tr>
<tr>
<td>11. In application of newly learned education, we have complete support from the side of physicians of the ward.</td>
<td>3.35(1.04)</td>
</tr>
<tr>
<td>12. Authorities support us in administration and application of the learned educations.</td>
<td>2.84(0.93)</td>
</tr>
<tr>
<td>13. Nurse coworkers support in application of the learned educations.</td>
<td>2.96(0.84)</td>
</tr>
<tr>
<td>14. In our ward, the quality care attitude prevails.</td>
<td>3.09(0.79)</td>
</tr>
<tr>
<td>15. Nurse coworkers believe in administration of care based on standards.</td>
<td>3.21(0.83)</td>
</tr>
<tr>
<td>16. Authorities always like to improve the quality of care.</td>
<td>3.21(0.86)</td>
</tr>
<tr>
<td>17. In our annual grading, application of the learned material in the ward has been considered with a good credit.</td>
<td>2.94(0.91)</td>
</tr>
<tr>
<td>18. Scientific and communicational ability of trained nurses is effective in transition of knowledge to me and my colleagues.</td>
<td>3.66(1.01)</td>
</tr>
<tr>
<td>19. In application of the learned material, scientific personality of the training nurse is important to me.</td>
<td>3.93(0.90)</td>
</tr>
<tr>
<td>20. I have adequate accountability in application of the learned material.</td>
<td>3.82(0.77)</td>
</tr>
<tr>
<td>21. To apply the learned material, there are proper relationship colleagues and an appropriate team work.</td>
<td>3.21(0.75)</td>
</tr>
</tbody>
</table>
There are adequate facilities for application of the learned material in the ward. 2.85(0.76)

Hospital has considered adequate budget for application of the learned material for nurses. 2.80(0.77)

Our Job description has changed to be consistent with science and technology progression. 2.98(0.73)

Our hospital issues necessary instructions and protocols for administration of the learned material. 2.60(0.94)

I, as a nurse, have occupational independence for administration of the learned material. 2.87(0.77)

I am legally supported during and after administration of the learned material. 2.51(0.88)

Our organization pays financial rewards for application of the learned material. 2.28(0.99)

Our workload is balanced with application of the learned material. 2.65(0.88)

Job description of different nursing ranks is clear. 2.80(0.77)

I have motivation for learning the educations. 3.36(0.83)

I have motivation for a change and application of knowledge. 3.36(0.83)

My interest in nursing profession made me apply the learned material in the ward. 3.37(0.79)

My commitment and conscience as a nurse is effective on my application of the learned material. 3.61(0.79)

My job satisfaction, as a nurse, made me apply the learned material. 3.30(0.88)

My interest, as a nurse, in progression and occupational promotion makes me apply the learned material. 3.29(0.87)

Our organization pays financial rewards for application of the learned material. 2.97(0.81)

Our workload is balanced with application of the learned material. 2.94(0.79)

Time-consuming process of change does not prevent administration of the learned material. 2.90(0.74)

Experienced nurses do not resist against application of the learned material. 3.13(0.97)

The interest in routine centered nursing care does not prevent administration of the learned material. 3.02(1.04)

Our motivation to attend the educational programs has usually been application of the learned material not to get the related credit. 3.47(1.03)

As observed in the table above, the most efficient factors were "scientific personality of the training nurses" and "adequate accountability in application of learned materials" and the least efficient factors were "financial reward of organization to administrate the learned materials "and "application of distant learning in the ward". Overall Mean (SD) of the checklist was 3.07(0.53). Table 2 represents frequency distribution of efficiency score.

Table 2: Mean frequency distribution of efficiency of various factors in application of continuing education program from nurses’ viewpoint

<table>
<thead>
<tr>
<th>Efficiency level</th>
<th>Poor (Scores &lt;2)</th>
<th>Moderate (Scores 2-4)</th>
<th>Appropriate (Scores &gt;4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>3(1.07)</td>
<td>170(96.6)</td>
<td>3(1.7)</td>
</tr>
<tr>
<td>No (% )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Independent t-test showed no significant difference in mean efficiency scores of factors affecting application of continuing education programs between men and women (p=0.290)

Table 3: Association between mean score of factors efficiency in application of continuing education program, and factors of education level, ward and type of employment based on ANOVA

<table>
<thead>
<tr>
<th>Factors</th>
<th>Education Level</th>
<th>Ward</th>
<th>Employment Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0.811</td>
<td>0.639</td>
<td>1.676</td>
</tr>
<tr>
<td>P Value</td>
<td>0.489</td>
<td>0.763</td>
<td>0.174</td>
</tr>
</tbody>
</table>

Spearman correlation coefficient test showed a significant association between the score of efficiency and the number of times attending continuing education (p=0.014), but no significant association was found between this score and clinical work experience (p=0.160).

Discussion

Findings showed that scientific personality of the training nurses and nurses' adequate accountability in application of learned materials had the highest efficacy in application of nurses continuing clinical education from their viewpoints. With regard to training nurses' scientific personality, the results showed that one of the reasons for not correct and basic application of continuing education was shortage of professional human resources to manage such programs (26, 28). With regard to importance of nurses'
accountability in application of continuing clinical education, reported that the highest motivation of nurses for such education was improvement of patients' care quality from their viewpoint (29).

Based on the findings, distant education had the lowest efficacy in application of continuing education in clinical setting from nurses' viewpoint. reported that most of the subjects believed face to face continuing education was the most useful method to apply in clinical setting and its deletion was against continuing education goals(30). In most of domestic and international studies, distant education effect has been reported controversial, compared to face – to – face education. While, the point is their basic and correct administration so that most of scholars believe if distant education is based on appropriate content with proper administration of its stages (especially needs assessment, combined evaluation and not just end of course evolutionary evaluation), it can be an efficient method in transition of needed knowledge and experience and individuals' and learners' attitude change in a specific context.

Meanwhile, it should be always considered that the most important educational need of treatment staff is the need for skills and not for knowledge and attitude. Therefore, the share of distant education should be something needed for changes in level of knowledge and attitude as their exaggerative application can worsen the condition instead of improving it. reported that short term face-to – face education was more efficient, compared to distant education in physicians' viewpoint (31).

Although notable progression of information technology and e-learning communications had an undeniable position , which has significant advantages such as time independency, ability of review, self- assessment and learner centered property(32, 33), it seems essential that these programs be presented for professional groups parallel to face- to – face education to increase their acceptance and efficiency. On the other hand, one of the challenges in face- to – face continuing education is disrespecting the principles of adults’ education for which time limitation is a challenge. In the other words, adults prefer short term and brief face- to – face education in which a brief revision and the main content, related to the subject, are practically presented in a shorter time. It is so that in most of the studies, length of educational programs and application of a unique educational method for both students and the personnel (experienced staffs) have been mentioned as the weak points of such programs.

In managerial domain, mean score of two items related to authorities: "authorities' approach and attention toward the position of education" and “authorities’ support in application and administration of education" were in low level of efficiency and "authorities' request of quality improvement" was at appropriate level of efficiency. showed that the managers have inadequate motivation to maintain scientific capability and competency of nurses due to the lack of nurses’ scientific capability and competency, high costs and lack of revenue from education in short term, and unawareness concerning education importance(26). In similar studies, managers' inappropriate perception of continuing education has been indicated (21, 34, 35).

In other studies, the key role of managers in process of learning and facilitation of nurses' promotion toward professional competency were indicated as one of the main factors of care quality (36, 37, 38). Most of content analysis studies have emphasized this issue and reported the disinterest of authorities as the reason for low efficiency of clinical continuing education. They claimed that this disinterest is in hierarchy so that head nurses do not require the staff to attend such education and no one requires that from the head nurses or hospitals educational supervisor to force the staff to go for continuing education.

This disinterest itself leads to low personnel's attention to continuing education and the presented contents. On the other head, low commitment of managerial team in hospital or university to hold quality programs leads to lack of goals setting and accountability of most educational programs. Managers have always faced problems in holding education due to their look at that as a costly process and not as an investment. Therefore, they pay less attention to budgeting education
programs and decrease such programs day after day.

This issue is differently observed in national or international organizations and as a big barrier in organizational promotion. Scholars of educational management have frequently proved that 1% investment in efficient education can cause 9% of efficiency while 1% of investment makes just 3% of economic growth. Therefore, educational managers have been always facing such a challenge against their high-level executives’ actions. Based on medical education texts, the most important factor in changing educational conditions is changing managers’ attitude toward education. With regard to consistency of the programs with the needs, score of the items of such consistency between educational programs and nurses' and the ward educational needs was at an appropriate level.

Continuing education and its development should be based on learners' needs assessment, which are relevant to professional activities (39). Therefore, detection of needs in different levels can lead to more rapid efficiency and efficacy of health system (40). Based on research, the latter issue is also a big challenge for application of continuing education in national, regional, and international levels in countries such China, Saudi Arabia, Thailand, Hong Kong, England, Canada and many other countries. In the other words, the primary step for needs assessment and its prioritizing has not been poorly covered and has negatively influenced the efficiency of such programs as well. In the present study, "participation of nearly all of the colleagues in continuing education" was mentioned as the effective factor in clinical use of the learned materials.

Meanwhile, most of other studies in Iran and other countries reported low participation and motivation of the participants in such educations (41, 42). This issue causes several problems in administration of the learned materials. Based on results of the present study in educational content from nurses' viewpoint," proper quality of educational content", " being up-to-date" and "applicability of educational materials" had notable effect on application of education in clinical setting, reported that treatment staffs need to know the latest changes to preserve and improve their clinical function (43). The main goal of profession-related continuing education is to update the professional skill and preserve and promote clinical function (44). Therefore, it is essential that educational outlines be selected correctly (45). With regard to ward and hospital conditions, items of " existence of desire to accept changes in the ward", "acceptance of hospital and the ward concerning new knowledge", and "existence of quality care attitude in the ward" were at moderate levels of efficiency.

With regard to supporting presentation of education in the clinical setting, the efficiency level was appropriate for "physicians' support", average for "co-working nurses' support", and low for "legal support during and after application of the learned materials". In domain of motivation, nurses' motivation in context of "learning educations", "change and application of knowledge", "increasing quality of given care", "desire to have professional promotion and progression", " being interested in nursing", " job satisfaction", and " a higher motivation for application of the learned materials rather than, getting credit" were at appropriate level of efficiency. With regard to motivational factors in application of nurses' education in clinical setting from their viewpoints, items of "consideration of appropriate credit to apply the learned materials in yearly grading", "proper evaluation of educational programs by authorities" and "control and supervision of authorities on administration of the learned material" were at moderate level.

Item of "financial reward of organization to administrate the learned materials" was at low level of efficiency. Research shows that 75% of the participants believed that the number of participants would decrease after deletion of continuing education credit, and 30-40% believed in the need for more supervision on continuing education process (46). With regard to job description from nurses' viewpoints, efficiency of items " the consistency between job description and science and technology progression" and "clear job description at difference nursing levels" was low, and for " issuance of instructions and protocols to administrate the learned materials by hospitals", it was at moderate level. In this field, the duties,
considered for education, should be capable of being planned with respect to individuals' domain and job description in different clinical situations and their administration should lead to proper learning, attaining skill and professional competency promotion. It should also improve application of various disciplines and interdisciplinary coordination (47-49).

Conclusions

Education prepares the employees to play their role and accept new responsibilities through increasing their information, knowledge, skills and their potentials. Overall, in an organization, which cares its staffs' quantitative and qualitative knowledge and skills and in which educational activities are constantly conducted, the employees tend to enhance their abilities and learn how to learn and how to apply the learn materials. In such as organization, innovation, invention, knowledge promotion and distribution are changed to a sort of routine behavior and guarantee the access to organizational goals. Such an organization is never involved in solidity.

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