The Effectiveness of Educative, Supportive, and Administrative Cycle (ESA-C) Clinical Supervision Model in Improving the Performance of Public Hospital Nurses

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Abstract
Consistent supervision affects nurse performance, but in its implementation in nursing care in Indonesia, supervision tends to be more monitoring in nature and lacking the efforts of educating, motivating, training, and directing. The clinical supervision model of Educative, Supportive, and Administrative Cycle (ESA-C) is made to increase the positive value of supervision. The model is synthesized from Kadushin’s and Proctor’s supervision models integrated with Peplau’s interpersonal relationship theory and Watson’s carative factors. The research aims to test the effectiveness of ESA-C clinical supervision model in improving nurse performance using the quasi-experimental design of two group pre-post-tests. Two hospitals were randomly selected from the five public hospitals as the research location. The sample consisted of 90 nurses and 270 patients, taken randomly and purposively, respectively. The results indicate that the ESA-C clinical supervision model was able to significantly improve the nurses’ performance (p-value < 0.05) in the dimensions of task performance: technical skills improved by 2%, patient education 9%, emotional support to patients 14%; and contextual performance: assistance to patients and families improved by 21%. It is recommended that the model be used in nursing care, especially in hospitals, in an attempt of improving nurse performance in providing nursing care to patients.

Keywords: ESA-C clinical supervision model, task performance, contextual performance

1. Introduction

Nurses are the largest component of healthcare workforce in a hospital (Ministry of Health, 2012). Based on level of nursing education in Indonesia, nurses who hold a diploma III certificate make up the largest amount of healthcare workforce compared to nurses with other levels of education (Ministry of Health, 2014). The almost 24-hour interaction between nurses and patients requires that nurses give their best...
performance. Nurse performance in providing care should reflect the whole dimensions of performance. Greenslade and Jimmieson (2007) revealed that nurse performance includes two dimensions, task performance (technical skills, patient education, emotional support to patient) and contextual performance (provision of assistance to patients and families).

The aspect of technical skills has dominated nurses’ jobs and often overshadowed other aspects. Nurses are frequently regarded to have good performance if they are skilled in performing technical actions. This assumption is certainly incorrect, considering the dimensions of nurse performance consist of other aspects than technical skills. Several research findings show that Indonesian nurses’ performance is not yet optimal (Barber, Paul, & Harimurti, 2007; Hasmoko, 2008; Hadju, Hamzah, & Hadju, 2010; Bachtia, Hafizzurachman, & Trisnantoro, 2011). Many factors affect nurse performance. There are the individual factors of knowledge and attitudes (Hasmoko, 2008; AbuAlrub, Al-Zaru, 2008; Sumiyati, 2006). Supervision as part of organizational factor also affects nurse performance (Lynch, Hancox, Happel, & Parker, 2008; Dewi, Yetti, & Ayubi, 2008; Kaija, Riina, & Hyrkas, 2006; Leana, Minnaar, Simpson, & Reid, 2005; Saljan, 2005; Berg & Halberg, 1999). Barber, Paul, & Harimurti (2007) explicitly mentioned the lack of supervision to be one of the causes of low performance of nurses in Indonesia.

Hasmoko (2008) suggested that the implementation of supervision in Indonesia still tends towards monitoring in practice. The nature of supervision that is to educate, train, guide, motivate, and facilitate seems to have not taken place. Gillies (1994) explained that supervision should be a coaching tool and does not pose a threat to the staff being supervised. Supervision should be seen as an effort to improve and enhance nurses’ performance through the activities of educating, guiding, motivating, training, and directing. Keliat and Akemat (2007) asserted that supervision is not an examination and an activity to find fault; rather it should be a participatory monitoring that prioritizes rewards for achievements/positive things. What happens in the field is the opposite, in which unfavorable effects of supervision such as anxiety, fear, guilt, and avoidance from supervision activities frequently arise.

The Educative, Supportive, and Administrative Cycle (ESA-C) clinical supervision model is a synthesis of Kadushin’s model, Proctor’s model, experiential model, Faugier’s model, and Heron’s model integrated with the four-step phase of interpersonal relationship of nursing adopted from Peplau’s nursing theory and Watson’s carative factors (helping relationship) of nursing. The values upheld during the process of supervision are partnership and facilitative relationship. This model uses two approaches, namely
group approach in educative supervision and individual approach in supportive and administrative supervision.

1.1. Aims

This research aims to find the effectiveness of the ESA-C clinical supervision model in improving the performance of nurses for the dimensions of task performance (technical skills, patient education, and emotional support to patients) and contextual performance (provision of assistance to patients and families), knowledge, attitudes, and nurses’ satisfaction with the supervision process.

1.2. Design

The research adopted a quasi-experimental method with the two group pre-post-test design. Performance assessment was carried out before the implementation of ESA-C clinical supervision model and 6 months after the implementation of the model.

1.3. Sample

Two hospitals were randomly selected from five hospitals that implement the team method in providing nursing care to patients. The intervention and control groups were determined with purposive sampling. 45 nurses were randomly selected from 113 nurses working in the internal medicine and surgical inpatients, and in the control group 45 nurses were randomly selected from 133 nurses working in the internal medicine and surgical inpatients. This study also included patients as sample, in which three patients representing one nurse were selected purposively, totaling to 270 patients as the sample.

1.4. Instruments

The research instruments included instruments of nurse’s demographic characteristics and employment history (age, sex, length of employment, and employment status). The technical skills of the nurses were measured by adherence to the Standard Operating Procedures (SOPs) for the actions of nursing observed. The SOPs referenced were the ones used in each hospital under research. Questionnaires on performance in giving education, giving emotional support, and assisting patients and families containing 18
questions (r 0.884) were distributed. 20-item questionnaires on nurses’ knowledge (r 0.70), 20-item Likert-scale questionnaires on attitudes (r 0.870), and 30-item questionnaires on satisfaction with supervision (r 0.995) were also distributed.

1.5. Ethical Considerations

The research has been declared to pass the review of conduct of the Research Ethics Committee of the Faculty of Nursing at the University of Indonesia. This research provides ethical guarantees to the respondents, including autonomy, respect for dignity, justice, privacy, taking into account the benefits given by the research. The respondents were first given an explanation, and those who agreed signed their consent of participation in the research.

1.6. Data Analysis

Independent t-test was used to assess differences in knowledge, attitudes, performance, and satisfaction between the intervention group and control group in the pre- and post-intervention measurements.

Paired t-test was used to assess differences in knowledge, attitudes, performance, and satisfaction before and after the implementation of the ESA-C clinical supervision model. This test was used for both the intervention and the control groups.

Multiple linear regression was conducted to determine the determinants of good nurse performance for the dimensions of task performance (technical skills, patient education, providing emotional support to patients) and contextual performance (provision of assistance to patients and families).

2. Results

The testing of the variables of performance, knowledge, attitudes, and nurses’ satisfaction before the implementation of ESA-C clinical supervision model showed that the variables were homogeneous (pValue > 0.05).
2.1. Differences in the nurses’ knowledge, attitudes, satisfaction, and performance

Differences in the nurses’ knowledge, attitudes, satisfaction, and performance before and after the implementation of ESA-C clinical supervision model can be seen in Table 1.

Table 1 shows there was significant difference in the knowledge of the nurses in the control group and the intervention group after the implementation of ESA-C clinical supervision model ($p < 0.000$). The knowledge of the nurses in the intervention group improved significantly ($p < 0.000$); on the contrary, the knowledge of the nurses in the control group declined significantly ($p = 0.019$).

For the variable of nurses’ attitudes, Table 1 indicates that there was significant difference between the control and intervention groups after the implementation of ESA-C clinical supervision model ($p < 0.000$). The intervention group had significant improvement in attitudes after the implementation of ESA-C clinical supervision model ($p < 0.000$), while the nurses in the control group did not experience any changes in their attitudes ($p = 0.249$).

The nurses’ satisfaction with the supervision received was significantly different between the control and intervention groups after the implementation of ESA-C clinical supervision model ($p < 0.000$). The satisfaction of the intervention group improved significantly, ($p < 0.000$) whereas that of the control group in fact declined significantly ($p = 0.002$).

The difference in the nurses’ performance after the implementation of ESA-C clinical supervision model between the intervention group and the control group is presented in Table 2.
<table>
<thead>
<tr>
<th>Task Performance</th>
<th>Group</th>
<th>Significance between Groups</th>
<th>Significance within Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre  Post</td>
<td>Pre  Post</td>
<td>Pre</td>
</tr>
<tr>
<td>Technical Skills</td>
<td>92.36 93.99</td>
<td>91.19 93.06</td>
<td>0.142a 0.165a</td>
</tr>
<tr>
<td>Patient Education</td>
<td>85.06 94.43</td>
<td>84.17 84.89</td>
<td>0.744a 0.000a</td>
</tr>
<tr>
<td>Emotional Support</td>
<td>70.57 83.85</td>
<td>68.89 73.48</td>
<td>0.611a 0.000c</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contextual Performance</th>
<th>Group</th>
<th>Significance between Groups</th>
<th>Significance within Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre  Post</td>
<td>Pre  Post</td>
<td>Pre</td>
</tr>
<tr>
<td>Assistance to patients</td>
<td>64.71 84.57</td>
<td>62.22 63.95</td>
<td>0.392a 0.000a</td>
</tr>
<tr>
<td>and families</td>
<td></td>
<td></td>
<td>0.542b 0.000b</td>
</tr>
</tbody>
</table>

Notes:

- a. Statistical significance of independent t-test
- b. Statistical significance of paired t-test
- c. Statistical significance of Mann-Whitney test

Table 2 indicates the difference in the nurses’ performance in two dimensions, namely task performance and contextual performance between the intervention group and the control group. For the dimension of task performance in the aspect of technical skills, there was no difference between the nurses of the two groups after the implementation of ESA-C clinical supervision model (p 0.165). In both groups, the technical aspects similarly improved significantly (control = p 0.009 and intervention = p 0.016, respectively).

For the second aspect of task performance, namely patient education, Table 2 shows that there was difference in the education given by the nurses after the implementation of ESA-C clinical supervision model between the intervention and control groups (p 0.000). In the intervention group, there was improvement for this aspect (p 0.000), while the control group did not show any difference in their education to patients and families between the pre- and post-measurements (p 0.808).

The third aspect of task performance is emotional support. As can be seen in Table 2, there was difference between the intervention and the control groups after the implementation of ESA-C clinical supervision model (p 0.000). The intervention group had significant improvement in the aspect of emotional support to patients (p 0.000), while in the control group there was no difference in this aspect in the pre- and post-measurements (p 0.119).
The aspect of nurses’ contextual performance tested in the implementation of ESA-C clinical supervision model was the assistance given to patients and families. As indicated by Table 2, there was difference for this aspect between the intervention and control groups after the implementation of ESA-C clinical supervision model (p 0.000). The nurses in the intervention group improved significantly in their provision of assistance to patients and families (p 0.000), whereas those in the control group did not experience any improvement for this aspect in both in the pre- and post-measurements (p 0.542).

2.2. The factors affecting nurses’ performance

Multivariate analysis was done by involving the variables of age, sex, length of employment, employment status, knowledge, attitudes, and satisfaction tested to the nurses’ performance. Table 3 presents factors determining the nurses’ performance.

The chosen modeling of the factors affecting the nurses’ performance in terms of technical aspects shows that supervision became the only determining variable. The produced model could explain that 11.7% of the technical skills were determined by supervision, and the rest could be explained by the variables not included in this research. The model further demonstrates that the implementation of supervision could improve the nurses’ compliance to SOPs of technical skills for 3.958 points.

The final modeling of nurses’ performance in providing education to patients consists of supervision, length of employment, and satisfaction. The significance of the model (p Anova 0.009) indicates that the model could explain that 9.4% of education to patients were determined by supervision, length of employment, and satisfaction, and the rest could be explained by other variables not included in the research.

Supervision could improve the nurses’ competence in giving education to patients for 17.27% by controlling the variables of length of employment and satisfaction. The contribution of supervision to patient education compared to the controlled variables (length of employment and satisfaction) was 11.84% (R partial 0.344).

From the modeling of factors determining the nurses’ performance in providing emotional support, three factors were discovered, namely length of employment, knowledge, and supervision. The model was significant (p Anova 0.005), in which it could explain that emotional support was determined for 14.6% by supervision, length of employment, and knowledge, and the rest could be explained by other variables than the ones under research. Supervision could improve the competence aspect of emotional support to patients for 8.19% by controlling the variables of knowledge and length of employment.
### Table 3: Final Modeling of Linear Regression of the Nurses' Performance.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Technical Skills</th>
<th>Patient Education</th>
<th>Emotional Support</th>
<th>Assistance to Patients and Families</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>β</td>
<td>p</td>
<td>b</td>
</tr>
<tr>
<td>Age</td>
<td>2.006</td>
<td>0.47</td>
<td>0.014</td>
<td>2.006</td>
</tr>
<tr>
<td>Length of Employment</td>
<td>1.080</td>
<td>0.217</td>
<td>0.055</td>
<td>-1.080</td>
</tr>
<tr>
<td>Employment Status</td>
<td>-5.915</td>
<td>-0.170</td>
<td>0.210</td>
<td>-5.915</td>
</tr>
<tr>
<td>Knowledge</td>
<td>0.544</td>
<td>0.390</td>
<td>0.001</td>
<td>0.544</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.444</td>
<td>0.240</td>
<td>0.073</td>
<td>0.444</td>
</tr>
<tr>
<td>Supervision Score</td>
<td>3.958</td>
<td>0.356</td>
<td>0.001</td>
<td>17.275</td>
</tr>
<tr>
<td>R2</td>
<td>0.127</td>
<td>0.124</td>
<td>0.175</td>
<td>0.127</td>
</tr>
<tr>
<td>R2 adjusted</td>
<td>0.117</td>
<td>0.094</td>
<td>0.146</td>
<td>0.117</td>
</tr>
<tr>
<td>SE</td>
<td>5.247</td>
<td>17.338</td>
<td>16.2828</td>
<td>16.371</td>
</tr>
</tbody>
</table>
The contribution of supervision to emotional support to patients, compared to the other two variables of length of work and knowledge, was 4.41% (R partial 0.210).

From the modeling of factors affecting the nurses’ performance in the aspect of providing assistance to patients and families, five factors were obtained, namely supervision, age, length of employment, employment status, and knowledge. The model was significant (p Anova 0.007), in which the model could explain the performance of the nurses in providing assistance to patients and families was determined for 12% by supervision, age, length of employment, employment status, and knowledge, and the rest could be explained by variables not analyzed in the research. Supervision could improve the aspect of emotional support to patients for 6.127 by controlling the variables of age, length of employment, employment status, and knowledge. The contribution of supervision to the aspect of providing assistance to patients and families, compared to the variables of age, length of employment, employment status, and knowledge, was 2.43 (R partial 0.156)

3. Discussion

Supervision is the function of management with twofold positions, namely the directing position and monitoring position. ESA-C clinical supervision model plays the function of directing nurses in carrying out their roles and functions in taking care of patients under the control of supervisors. The supervision must contain the activities of directing, guiding, helping, supporting (Gillies, 1994; Arwani & Supriyanto, 2004; Lynch, Hancox, Happel, & Parker, 2008; Finkelman, 2006).

The activities of directing, motivating, guiding, assisting, and supporting are employed in ESA-C clinical supervision model at the stages of educative and supportive supervision. At the stage of educative supervision, supervisors give directions and motivation to nurses in an attempt of improving the supervised nurses’ knowledge. The educative supervision phase in ESA-C clinical supervision model is used by supervisors to explore and reinforce nurses’ knowledge in providing care to patients. The goal of educative supervision in increasing nurses’ knowledge is met using group approach of supervision, consisting of 2-3 nurses and one supervisor.

The phase of supportive supervision in ESA-C clinical supervision model has the functions of directing, training, guiding, and motivating nurses as a follow-up action for the discussion of nursing diagnoses at the phase of educative supervision. The results of educative supervision that are taught and trained by the supervisors to nurses through mentoring are transferred directly by the nurses to patients. The principles of training
and guiding are characteristics of the supportive supervision phase in ESA-C clinical supervision model.

The implementation of ESA-C clinical supervision model at the administrative supervision phase is a task of supervisors in the management function of monitoring. The monitoring function is to ensure the service quality provided by nurses to patients. The function of administrative supervision should be optimized in ensuring good quality performance of nurses to patients as the nursing care service users.

3.1. Technical skills

ESA-C clinical supervision model positions technical skills as one of the aspects of performance to be improved. The process of guiding, giving directions, and training nurses in the aspect of technical skills is done at the second phase of supervision, namely supportive supervision. This phase is identical to the restorative function of Proctor’s model. Lynch, Hancox, Happel, and Parker, (2008) explained that the restorative function of the Proctor’s model is in the form of efforts of providing training, guidance, and directions so that nurses will be able to carry out their tasks and obligations.

The supportive supervision phase employs bedside teaching method, in which interaction takes place among the supervisor, the supervised nurses, and patients. Gaberson and Oerman (2007) explained that bedside teaching is useful in orienting tasks and responsibility of nurses, especially for the technical aspects. Langlois (2004) added that the advantage of teaching and learning with bedside teaching is the possibility to observe directly patients as a whole, including their responses to the comprehensive nursing care they receive. The ability of ESA-C clinical supervision model to improve technical skills is attested to by Brunero and Stein-Parbury (2008) who argued that clinical supervision provides a medium for the supervised nurses to improve their professional accountability, including the development of technical skills.

3.2. Patient education

The Ministry of Health (2011) has stipulated that education to patients has become one of the standards to be met in hospital accreditation. The stipulation of this standard should be made a reference for nurses in carrying out their role as health educators for patients and their families. Park (2005) explained that patient education is an activity conducted both formally and informally by the health service professionals, including
nurses, to support the attainment of patients’ health through the provision of information, directions, and skills needed by patients.

ESA-C clinical supervision model can orient nurses towards comprehensive care, including education to patients. The nursing intervention designed by the head of the team of nurses contains intervention of patient education whose implementation is delegated to the member nurses.

Patient education is one of the independent roles of nurses during providing care to patients. Smeltzer and Bare (2004) clarified that patient education becomes important and part of comprehensive care to patients. Taylor, Lillis, and LeMone (2005) asserted the importance of patient education that aims to assist patients and their families in developing their independence to make efforts to achieve their maximal function and improve the quality of their life.

Patient education ensures sustainability between hospital healthcare and home healthcare once patients return home. Patient education also becomes the standard for nursing practices that can give positive impact on patients’ health and quality of life. Unfortunately, Aghakhani, Nia, Ranjbar, Rahbar dan Beheshti (2012) mentioned that the majority of nurses are not aware that patient education is important.

The main cause of the lack of patient education by nurses is nurses’ lack of knowledge, misperception that patient education is not necessary and ineffective for patient, and lack of interest in giving education to patients. These factors interact to cause the low of education to patients. Research of Kruger (1991) as cited in Park (2005) reported that although many nurses believed and were aware that they had the responsibility in educating patients, still many of them were not satisfied with their education to patients.

4. Emotional Support

ESA-C clinical supervision model can improve emotional support to patients. ESA-C clinical supervision model attempts to re-orient nurses’ job comprehensively. Nursing services in Indonesia are translated into nursing care to patients, which in practice is frequently only focused on patients’ physical problems, so that the care tends to be merely concentrated on the aspect of technical skills. Meanwhile, the standard of nursing care is designed in order to include the whole dimensions of nurse performance, including emotional support to patients.

Each individual facing health problems will not only give physical reactions but also reactions from the whole components of him/her as an individual simultaneously, including his or her emotion. Doochterman and Bulechek (2004) explained that emotional
support is a form of nursing care that can provide security, acceptance, and support to patients while they are experiencing stress because of their health problems.

Emotional support should not only be given to patients, but also their families. Usta (2012) revealed that family members view emotional support as recognition of self-esteem, trust, and desire to be heard. A family member who is sick also evokes emotional problems in other family members. In many terminal cases, emotional support for both patients and families becomes vital. McCloskey and Bulechek (2004) evinced that emotional support given by nurses can help patients and families in coping with the anxiety when facing their difficult situations.

Skilbeck and Payne (2003) emphasized the importance of communication skills as a form of emotional support to patients by nurses. Therapeutic communication from nurses to patients can provide a sense of security to the patients. Wilkes, Bbeale, Cole, and Tracy (1999) revealed that nurses have a great potential in providing emotional support to patients, although they have limited time and skills.

4.1. Assistance to patients and families

Giving assistance to patients and families is an aspect belonging to the dimension of contextual performance. The examples of the assistance referred to here are administrative help, information about how to claim health insurance, or regulations of patient/family meeting with doctors when patients need doctor consultation.

The implementation of ESA-C clinical supervision model could improve the aspect of providing assistance to patients and families. Families indeed play an important role in a patient’s life and they are the primary part of the patient's life during his or her health and sickness. When a family member is sick, the whole family system will get affected (Smeltzer & Bare, 2004). Nurses should see patients as individuals and an integral part of their families (Perry & Potter, 2005). Families need to adapt with the condition of their sick member(s) in terms of changes in the functions and roles of each family member.

4.2. Research limitation

ESA-C clinical supervision model could improve every aspect of nurse performance. Nevertheless, the contribution of this model to each aspect was relatively small. The contribution of this model to each aspect of the performance is 12.7% for technical skills, 11.84% for patient education, 4.41% for emotional support, and 2.43% for assistance to
patients and families. The results show that the ESA-C clinical supervision model still needs improvement and refinement.

The research had some limitations. The measurement of the nurses’ technical skills employed different Standard Operational Procedures (SOPs) for the intervention group and the control group. The SOPs used for measuring nursing actions were ones applied in each hospital being researched. Nevertheless, both SOPs have been established and validated by the respective hospitals as formal regulations to be followed by nurses in their nursing actions in the hospitals.

5. Conclusions and Recommendations

The research demonstrates the importance of supervision in improving nurse performance. ESA-C clinical supervision model that is a synthesis of several supervision models and integrated with the interpersonal reaction and carative theories, could improve the nurses’ performance in the dimensions of task performance and contextual performance. However, the contribution of this model was still relatively small in improving the nurses’ performance; therefore, the model should be further developed and tested.

References


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