A TARGET-BASED CLINICAL LEARNING MODEL TO IMPROVE THE COMPETENCE OF NURSING CLINICAL PRECEPTORS

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ABSTRACT

Clinical learning is a process of interaction between clinical preceptors and students as learners on the practice field. The clinical guidance process is often limited to supervising nursing students during clinical practice without any targets that need to be achieved, even students repeat the same activities every day. This study aims to determine the application of a target-based clinical learning model in improving the quality of preceptors. The study used a quasi-experimental design with a one group time series design on 40 nurses from several hospitals and educational institutions who had not received clinical preceptor training. The sampling technique used quota sampling technique according to the proportion of the number of students who were practicing in their respective institutions, the sample was given an intervention in the form of training using a target-based clinical learning model consisting of theory and practice. The practice was conducted in the laboratory and in the hospital from September to December. Evaluation using a checklist instrument for assessing preceptor competence and data analyzed using the Wilcoxon test using SPSS 25.0. The result of the study, there was a significant increase in the ability of nurses to provide nursing clinic preceptors between before and after training with a significance value of 0.020, while in the first supervisory assessment significant=0.030, second supervision significant=0.040 and third supervision significant=0.050. The data shows how closely the target-based learning model affects the quality of clinical supervisors’ abilities. This is important to be applied to all prospective clinical supervisors before conducting clinical guidance.

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1. INTRODUCTION

Nursing clinical practice learning is a very essential learning process in nursing education. Through learning nursing clinical practice, there is a process of introducing the work environment of nurses and the transformation of nursing students into professional nurses, who are able to apply professional knowledge, skills and attitudes in providing nursing care (Putri et al., 2021; Widyantoro et al., 2021). For example, clinical practice learning needs to be seriously managed through the use of various learning methods, as the right learning method can improve student achievement. (Rahmi et al., 2019).

Clinical learning is a process of transformation from a nursing student to a professional nurse. This is not an easy endeavour, both for supervisors and students. Students are directed to become capable nursing practitioners so they need guidance, experience and a supportive learning environment. Kereh & Rochmawati, (2022) identified four aspects experienced by students in the learning dynamics of nursing clinical practice, namely psychological aspects, environmental aspects, social aspects and physical aspects. Negative psychological responses experienced by students when participating in clinical learning are stress, frustration, anxiety, helplessness, and lack of attention. Negative experiences experienced by students from the hospital environment in the form of incomplete equipment, high workload, few opportunities to perform actions, less than optimal interpersonal and communication relationships, attitudes of officers who do not meet expectations and lack of guidance and supervision. The social aspect of the clinical learning experience identified is the need to clarify the role of clinical supervisors, patients and students so that there is a harmonious relationship. The negative experience identified from the physical aspect is the experience of violent behaviour which can be interpreted as an action that must be carried out by students. This aspect greatly impacts the clinical learning process of nursing students, as patients play a central role in the preceptorship nursing relationship, a professional educational relationship between staff nurses and student nurses that is based on the delivery of patient care. However, the experiences and viewpoints of patients are largely not reflected in the literature or represented in current preceptorship training programs (Farrelly-Waters & Mehta, 2022; Hardie et al., 2022; Lethale et al., 2019; Quek & Shorey, 2018). With the identification of unpleasant experiences from students, the quality of clinical learning needs to be improved because it is proven that there is an influence of the environment, motivation and anxiety factors on students’ readiness to do clinical learning (Salasa et al., 2021; Sianturi & Natalia, 2021).

Clinical learning is a process of interaction between clinical supervisors as educators and students as learners on the practice field. Clinical supervisors provide guidance with various learning methods and use patients and the hospital environment as learning resources so that behavioural changes occur in students. Factors associated with the quality of clinical learning include clinical supervisor competence, guidance arrangements, learning methods, learning environment and practice site. The results of research from Ahmad et al. (2020) in Banjarmasin 84 respondents regarding the five factors found that the competence of clinical supervisors 15.5% was still lacking, 34.5% guidance arrangements were still lacking, 51.2% learning methods were still lacking, 48.8 learning environment was still lacking, 23.8% practice land was still lacking and 44% clinical learning quality was considered still lacking, while the most dominant factor related to...
to the quality of clinical learning was the competence of clinical supervisors, so it needed to be improved.

One of the clinical learning models that can be applied in clinical learning is the target-based clinical learning model, developed by (Sasmita, 2014), which consists of six learning steps, namely: target setting, initial activities (briefing/preconference), clinical practice using various methods and media, closing activities (debriefing/post conference), reporting and setting the next target and evaluation and follow-up. The thing that underlies the development of this clinical learning model is the theory put forward by Parkay et.al. in Sasmita, (2014) namely learning as an implementation of a curriculum that contains what is taught and how to teach it so that learning is described as a continuum. The use of Target-Based Clinical Learning Model is proven to improve the performance of clinical supervisors and can increase the number of nursing action achievements by students.

One of the advantages of Target-Based Clinical Learning Model is the establishment of learning targets that are determined based on the learning outcomes that must be achieved. There are differences in the formulation of learning objectives and targets. Objectives are formulated based on the curriculum and learning targets are formulated based on learning objectives and supported by learning resources that have been identified by students in the hospital. Learning targets become guidelines for clinical supervisors in supporting student success, in the aspects of: selecting content, determining skills, structuring the learning process, delivering lessons, determining learning strategies, designing performance measurement, using effective questions, providing feedback, and assessing learning. The influence of all aspects on the success of student achievement depends on the clarity of the target and the opportunities available; for more details, see the figure below.

Figure 1. Target-Based Clinical Learning Model Cycle Resulting from the Final Stage of Development (Sasmita, 2014)
Figure 2. The Role of Learning Targets in Improving the Achievement of Learning Objectives

The target-based clinical learning pattern can add to the quality of clinical guidance that has been applied so far. As we know, the preceptorship pattern has a very significant impact, especially for nurses who have just graduated or who are experiencing a transition when entering the workforce. Preceptors function to teach and also provide psychosocial support to students (Quek & Shorey, 2018). In addition, in running the preceptorship program, supporting factors need to be an integral part of its implementation, especially related to commitment to the role of preceptors, support, recognition and appreciation, because these factors have a very close relationship (Gholizadeh et al., 2022). The Target-Based Clinical Learning Model process makes it easier for preceptors to understand their role and can be committed to what they do so that students or learners can have the expected competencies, even this target setting can be integrated with technology to streamline the monitoring and evaluation process. As stated by Puspitaningrum et al., (2022) that the use of E-Logbook is able to be implemented and help evaluate the achievements of new nurses, in addition to the results of an exploratory study of the perceptions, experiences, and needs of nursing preceptors and their precepts about preceptorship found a theme that is very relevant to the development of the digital era now, namely the theme of communication and the use of technology to improve the quality of preceptors.

Based on the description above, it can be identified how important the role of clinical supervisors is in the implementation of clinical learning in hospitals, which is currently still lacking (Putri et al., 2021). For this reason, the researchers conducted a study aimed at improving the ability of clinical supervisors to conduct clinical supervision by using a target-based clinical learning model.

2. METHODS

Research Design

This study is a quasi-experimental study with a one group time series design approach. This study used an intervention in the form of training for prospective preceptors using the Target-Based Clinical Learning Model. The training was conducted for three days with a blended
approach (online and offline), in accordance with the training requirements during the Covid-19 pandemic. The delivery of theory was carried out for two days online, followed by practice and offline practice exams at the Bandung Nursing Department, after which supervision was carried out on the practice field three times to see improvements in clinical mentoring skills in October, November and December.

The first procedure of this study begins with the process of verifying data on prospective preceptors who are assigned by hospitals or educational institutions to take part in training according to the specified quota. Then participants are given an explanation and approval to take part in the training. The next procedure before getting the material, participants are assessed in the clinical guidance process to determine the initial competence of prospective preceptors. Then the participants were given training for 3 days in theory and practice of conducting clinical guidance in the laboratory after completion of the training, participants were reassessed clinical guidance as an evaluation of the training results. Then the participants return to their respective hospitals and apply the target-based clinical guidance process for nursing students or new nurses for 3 months and evaluate the clinical guidance competencies that have been applied by preceptors in the practice area.

### Table 1. Time Series Data Collection

<table>
<thead>
<tr>
<th>Step 1</th>
<th>September</th>
<th>Step 2</th>
<th>October</th>
<th>Step 3</th>
<th>November</th>
<th>Step 4</th>
<th>December</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Training preceptor competency test (Training)</td>
<td>Pre-Training preceptor competency test (Training)</td>
<td>Preceptor competency test after one month post-training and application in the practice field (supervise ke 1)</td>
<td>Preceptor competency test after two months post-training and application in the practice field (supervise ke 2)</td>
<td>Preceptor competency test after three months post-training and application in the practice field (supervise ke 3)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Population and Sample

The number of samples in this study was among 40 nurse preceptor candidates. This number was taken based on the results of statistical tests regarding the minimum sample size for quantitative research of 30 people (Lakens, 2022). Consideration of the effectiveness of training implementation and limited resources is the reason for using the sample size determination. In addition, according to the training rules put forward by the Ministry of Health, the maximum number of trainees per class is 20-25 people, so in its implementation we divided into 2 classes with 3 instructors each. The sampling technique was carried out with a quota sampling technique given to nursing education institutions and several hospitals in Bandung according to the proportion of practical students in their respective practice areas. Educational institutions and hospitals selected prospective preceptors who would be registered according to established criteria such as: having the ability to conduct clinical guidance in accordance with the nurse's career level of at least level 3 and having never attended a similar preceptorship training.

### Instrument & data Analysis

The research instrument is a preceptor competency checklist sheet in accordance with the Target-Based Clinical Learning Model developed by (Sasmita, 2014). The instrument consists of 6 parts and 33 items, the first part is target setting, the second part is preconference, the third part
is the clinical practice stage, the fourth part is a post conference stage, the fifth part is reporting, the sixth part is about evaluation. The instrument has been tested for validity using the content validity method and the reliability test using Cronbach alpha with a value of $= 0.892$.

Data that has been collected according to the time of data collection is processed using SPSS 25.0 using the Wilcoxon test to determine the level of significance of the data. As for the univariate test using central tendency by calculating the mean and percentage.

**Ethical Clearance**

This article has been ethically tested by the research and community service management institution of the Health Polytechnic of the Ministry of Health Bandung with register number 31/KEPK/VI/2023.

3. RESULT

Respondents of this study were nurses who will be used as preceptors of nursing clinics in hospitals and have not received training, a total of 40 people with the following details.

**Table 2. Nursing Clinic Preceptor Training Participants Using Target-based Clinical Learning (n=40)**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Number of Respondents</th>
<th>Percentages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Male</td>
<td>13</td>
<td>32.50</td>
</tr>
<tr>
<td>- Female</td>
<td>27</td>
<td>67.50</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Diploma</td>
<td>7</td>
<td>17.50</td>
</tr>
<tr>
<td>- Bachelor Of Nursing</td>
<td>22</td>
<td>55.00</td>
</tr>
<tr>
<td>- Magister</td>
<td>11</td>
<td>27.50</td>
</tr>
</tbody>
</table>

The table above shows that the number of samples in this study were 40 people from various service and educational institutions with different educational backgrounds.

From the presentation of the table below, it can be concluded that the results of the highest score and mean value at each stage of the activity can be described as follows: pre test score: 54.01, post test: 55.90, supervision 1: 72.00, supervision 2: 75.00, supervision 3: 77, while for the mean value: pre test: 14.98, post test: 31.50, supervision 1: 47.92, supervision 2: 50.15 and supervision 3: 51.92.

**Table 3. Value Groups based on Activity Stages**

<table>
<thead>
<tr>
<th>No.</th>
<th>Activity</th>
<th>Score</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Min</td>
<td>Max</td>
</tr>
<tr>
<td>1</td>
<td>Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Training preceptor competency</td>
<td>10.15</td>
<td>54.01</td>
</tr>
<tr>
<td></td>
<td>Pre-Training preceptor competency</td>
<td>11.19</td>
<td>55.90</td>
</tr>
<tr>
<td>2</td>
<td>Preceptor competency test after one month post-training and application in the practice field (Supervision 1)</td>
<td>22.33</td>
<td>72.00</td>
</tr>
<tr>
<td>3</td>
<td>Preceptor competency test after two months post-training and application in the practice field (Supervision 2)</td>
<td>12.50</td>
<td>75.00</td>
</tr>
<tr>
<td>4</td>
<td>Preceptor competency test after three months post-training and application in the practice field (Supervision 3)</td>
<td>25.00</td>
<td>77.00</td>
</tr>
</tbody>
</table>

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e-ISSN 2477-3743 | p-ISSN 2541-0024
Table 4. Statistical Test Results based on Wilcoxon Test

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Std. Deviation</th>
<th>Z</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>10.715</td>
<td>5.539</td>
<td>0.020</td>
</tr>
<tr>
<td>Supervision 1</td>
<td>19.885</td>
<td>5.443</td>
<td>0.040</td>
</tr>
<tr>
<td>Supervision 2</td>
<td>22.119</td>
<td>5.197</td>
<td>0.030</td>
</tr>
<tr>
<td>Supervision 3</td>
<td>21.491</td>
<td>4.549</td>
<td>0.050</td>
</tr>
</tbody>
</table>

In the table above, the following research information is obtained: at the training stage, the standard deviation value is 10.715, Z : 5.539 and the results of statistical tests with the Wilcoxon test there is a significant difference with a p-value: 0.020, so for the supervision stage 1, 2 and 3 the statistical test results show that there is a significant difference with a p-value ≤ 0.05.

Figure 3. Diagram of the Improvement of the Ability of Clinical Preceptor to Implement Target-Based Clinical Learning Model

In the line diagram above, it can be concluded that at each stage of the activity there is a change in the increase in score from the beginning of training 38.19 and the final score at the supervision activity stage 3 to 65.94.

4. DISCUSSION

Based on the data above, it can be interpreted that there is an increase in the average ability of clinical supervisors in implementing MPKBT. Clinical supervisors can implement almost all MPKBT steps, except for several steps that cannot be implemented, namely providing a room for student discussion, and carrying out practical evaluation because there is no opportunity, in detail the MPKBT steps are described as follows.

**Determination of Learning Targets**

At this stage the activities of the clinical supervisor are: studying the clinical practice programme, checking the number and type of cases, setting up the practice room and discussion room, completing the needs of tools and materials, orienting the practice site, studying the overall target according to the time allocated in the room, determining daily targets according to the available cases to each student, and giving assignments to study the specified learning targets and compile preliminary reports. The target setting stage is an opportunity for clinical supervisors and students to prepare clinical learning targets according to hospital conditions. Nursing clinical
learning as behaviouristic learning to change behaviour, requires careful readiness (law of readiness), including the readiness of learning targets that must be achieved (Sasmita, 2014). Clinical supervisors and students jointly determine the learning targets to be achieved tomorrow; so that students can prepare themselves both the concept of disease and standard procedures for action, thereby reducing student anxiety because students generally experience anxiety when participating in clinical learning in hospitals (Purnamasari, 2019; Sianturi & Natalia, 2021).

**Briefing/Preconference**

Clinical supervisor activities are: checking the attendance, equipment and uniform of students, identifying the clinical learning targets of each student, checking the physical and psychological readiness of students, discussing the readiness of knowledge, skills and attitudes to carry out learning according to the specified targets; discussing the preliminary report (LP) or preplanning (PP) that has been prepared. One of the important activities in the preconference stage is checking the physical and psychological readiness to carry out clinical practice. There are two categories of psychological responses before clinical practice, namely the anxiety response (anxiety) and the enthusiastic response to clinical practice (Kereh & Rochmawati, 2022). The task of clinical supervisors is to reduce anxiety and increase enthusiasm for student clinical practice, so that all students are ready to participate in clinical practice. Some physical responses due to anxiety before clinical practice are sleep disturbances, increased heart rate, muscle tension, dizziness, fever, fatigue, and lack of energy (Kereh & Rochmawati, 2022) if the clinical supervisor at the preconference finds these symptoms, it is necessary to provide personal counselling so that there is a need for a consultation room for students (Awaludin et al., 2021)

**Clinical Practice**

Clinical supervisor activities at this stage are: showing the patient to be treated by students according to the target to be achieved, giving examples of performing nursing actions to patients according to SOPs, guiding direct action to patients according to SOPs (maximum guidance); observing students performing nursing actions according to SOPs (minimum guidance); giving assignments to perform nursing actions according to the competencies that have been achieved (independently), helping to solve problems faced by students; providing feedback immediately after performing nursing actions. During clinical practice, clinical supervisors need to pay attention to the targets of students taking action, which consists of five categories, namely 1) observing taking action, 2) doing with maximum guidance, 3) doing with minimal guidance, 4) evaluating standard operational procedures, and 5) taking action independently, based on this target, the clinical supervisor will choose the appropriate learning strategy (Sasmita, 2014). This needs to be done because students face differences between the actual conditions in the hospital and the nursing laboratory on campus, including differences in action procedures and equipment provided between campus and hospital (Awaludin et al., 2021; Kereh & Rochmawati, 2022).

**Closing Activities (Debriefing/Postconference)**

At this stage the clinical supervisor's activities are: reflecting on the learning experience and linking it to the targets that have been set; identifying barriers to learning and finding solutions;
identifying learning progress achieved by learners; rewarding and praising learning outcomes that have been achieved; providing motivation to improve learning outcomes. One of the tasks of the clinical supervisor at this stage is to reflect on the learning experience and relate it to the targets that have been worked on. This is important because it can be found that students are not confident in carrying out clinical practice, fear of the tasks and responsibilities assigned and one of the obligations of clinical supervisors is to reduce anxiety and increase student enthusiasm for clinical practice (Sianturi & Natalia, 2021). Another thing that needs to be identified from students is the difference in language used by patients and students, because this can hinder learning objectives (Yulianti & Krisnawati, 2019), if found, clinical supervisors need to help overcome it.

**Reporting of Target Achievement and Next Day's Target Plan**

The clinical supervisor's activities at this stage are: checking daily targets that have and have not been achieved; checking overall targets that have and have not been achieved; planning and discussing the next day's targets; giving recommendations, follow-up notes and signing the target achievement report. Every target achievement by students needs to be reported and documented as an accountability of the clinical guidance that has been done. There are five categories of target achievement, namely: 1) seeing the action, 2) performing the action with maximum guidance, 3) performing the action with minimal guidance, 4) evaluating the standard action procedure and 5) performing the action independently (Sasmita, 2014). Based on this reporting, the achievement of curriculum objectives can be known because until now students still experience obstacles in achieving learning objectives which have an impact on the low clinical learning outcomes (Helmi Setiawan et al., 2018). This can occur due to unclear reporting of activities by students.

**Evaluation and Follow-up of Clinical Learning Outcomes.**

The activities of clinical supervisors at this stage are: facilitating students to complete assignments; providing assessment instruments in the form of checklists or observation sheets; informing students of assessment indicators; conducting practical examinations; providing feedback and assessment. There are two types of clinical learning evaluation, formative evaluation which can be done at any time and summative evaluation which is usually done at the end of the activity. In summative evaluation activities, clinical supervisors provide an assessment which results in students being declared passed or not passed and need to improve again. Clinical supervisors act as educators and motivators and have the responsibility to ensure students learn and gain clinical skills (Sulistiwyowati et al., 2021). The role of clinical supervisors still needs to be improved because until now students still feel there are obstacles from clinical supervisors (65.9%) in carrying out clinical learning (Etlidawati & Yulistika, 2022).

The target-based clinical learning model approach has components that must be passed in each part, so that the role of preceptors can be more direct, structured and have targets that become output in the learning process, this is in accordance with the study conducted by Dube & Rakhudu, (2021) regarding the preceptorship model to facilitate clinical nursing education in health training institutions in Botswana, which obtained 6 main components. The model has six components, namely, agent, recipient, context, procedure, dynamics and terminus. The six components are summarized in a more structured way in the target-based clinical learning model.
Setting targets is the most important component in the application of this model, because in this phase we can determine targets according to the expected achievements in the clinical guidance process, besides that setting targets can make preceptors have a commitment to conducting guidance (Gholizadeh et al., 2022). The process undertaken in this target-based clinical learning approach can enhance the factors that positively influence preceptorship such as: program expectations discussed at the start of the placement, preceptors and unit managers with sufficient knowledge to meet preceptee learning outcomes, the hospital unit is a good clinical learning environment and good interprofessional relationships in clinical areas. In addition, the target-based clinical learning model approach can prevent the negative factors proposed by Lethale et al., (2019) including: preceptors' knowledge and skills that are considered insufficient to meet preceptee learning outcomes; and nurses in the unit who do not support student supervision. Because in the target-based clinical learning model, the ability of preceptors is improved during training in addition to cognitive and skills, preceptors are also trained on various clinical guidance methods to achieve the targets set in the initial phase, so that students have new skills every meeting according to the set targets.

5. CONCLUSIONS
The target-based learning model is proven to be effective in improving the competence of clinical preceptors. In addition, the target-based learning model increases the possibility of achieving learning outcomes because each competency is programmed and structured according to the clinical practice learning time for prospective nurses or new nurses.

6. ACKNOWLEDGEMENTS
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7. CONFLICT OF INTEREST
The authors have no conflicts of interest to declare.

8. REFERENCES


