

# Effectiveness of Pre-Clinical Delivery of Behaviour Modelling Training Method to Improve Caring of Nursing Students

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## ABSTRACT

**Background:** Caring behaviour is not only carried out by nurses but is also carried out by nursing students at the service practice stage in hospitals as the first place to learn about the values and nature of their profession. **Objectives:** The aim of this research is to analyse the effectiveness of preclinical debriefing using a behaviour modelling training model for nursing students to find basic strategies that can improve Caring behaviour in carrying out clinical practice in health services. **Methods:** This research includes pre-experimental research with a One Group Pretest-Post-test approach. The research subjects 27 level 1 nursing students. The collected data was processed statistically using the T test, a related analysis technique. **Results:** The statistical tests show significant differences between pre-test and post-test scores. For self-efficacy, the pre-test average was 17.89, increasing to 25.26 in the post-test (an increase of 7.37), with a t value of 32.660 and a p-value of 0.000 for clinical knowledge. For emotional regulation, the pre-test average was 10.22, rising to 14.22 (an increase of 4.00), with a t value of 39.618 and a p-value of 0.000. Both results indicate significant differences ( $p < 0.05$ ). **Conclusion:** The behaviour modelling training method has been proven to be applicable as a training model because it has a clear syntax for changing participant behaviour according to the expected goals.

**Keywords:** Behaviour Modelling Training; Caring; Pre-Clinic

## INTRODUCTION

A nurse is someone who has the knowledge, skills and authority to provide nursing care to other people based on the knowledge and tips they have within the limits of their authority. The foundation of the nursing profession is caregiving. It should be done while working by nurses and nursing students alike. Some nurses are less attentive in terms of comfort, explanations regarding the procedures to be carried out, nurses are less open to clients and provide less affection. Nursing students also demonstrate compassionate behaviour throughout the service practice phase in hospitals as a means of introducing themselves to the principles and core competencies of their vocation (Lundell Rudberg *et al.*, 2022).

It was found that patients were dissatisfied with the behaviour of nursing students when carrying out nursing procedures in the hospital. A number of studies have examined students' lack of compassionate behaviour. Patients expressed dissatisfaction with nurses' soft skills due to a lack of empathy (Nurhayati, 2018). Most students still show a lack of seriousness in their caring behaviour in hospitals (Field-Richards *et al.*, 2024). The majority of students could demonstrate caring indications, but they were still terrified in real life. A number of factors contribute to the fact that students' implementation of caring behaviour in hospitals still falls short of patient expectations. One such factor is the campus teaching process, which still places a strong emphasis on behaviour, attitudes, and knowledge that are not fully integrated into a single learning unit (Setiadi *et al.*, 2020). The majority of students were able to carry out caring indicators but were still afraid in practice. The implementation of caring behaviour by students in hospitals still does not meet patient expectations due to many factors, one of which needs to be evaluated is the teaching process on campus which still relies heavily on knowledge, attitudes and behaviour which are still not perfectly integrated into one unit in the learning process

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(Fenizia *et al.*, 2020). The lack of a robust curriculum and a character education model that is integrated into every course or suggested in the curriculum is one of the shortcomings of Indonesian nursing school in terms of developing compassionate students (Arliman, Arif, & Sarmiati, 2022). The majority of students could demonstrate caring indications, but they were still terrified in real life. A number of factors contribute to the fact that students' implementation of caring behaviour in hospitals still falls short of patient expectations. One such factor is the campus teaching process, which still places a strong emphasis on behaviour, attitudes, and knowledge that are not fully integrated into a single learning unit (Garcia *et al.*, 2024). The lack of a strong curriculum and a character education model that is integrated in each course or that is recommended in the curriculum is one of the weaknesses of Indonesian nursing schools in terms of developing broad-minded students (Harjanto *et al.*, 2018).

Clinical learning, competency skills courses that expose nursing students to actual clinical environments, is one hands-on learning strategy to encourage compassionate behaviour in nursing students (Kereh & Rochmawati, 2022). Students have the opportunity to apply their academic knowledge to real-world learning through clinical learning. This means that through the clinical learning model, students have several opportunities to apply their knowledge, attitudes and skills both directly and indirectly to patients in order to perfect and recognise the values they have learned (Rutten *et al.*, 2024). The clinical environment in a hospital helps students feel more comfortable by increasing their self-esteem, decreasing their anxiety in a medical environment, motivating them to act, helping them understand how to be a nurse, connecting theory with practice, and increasing their motivation (Yeng Lau *et al.*, 2024). To improve students' competence, knowledge, attitudes and caring behaviour during clinical practice in the field, it is necessary to instil and train them so that students can apply these professional attitudes before carrying out clinical practice in health services, which is called pre-practice. Clinical activities- At the preclinical stage, students undergo several activities such as expert lectures, tutorials, clinical skills laboratories and practicum (Saghafi *et al.*, 2024). Tutorials are group discussions applied in problem-based learning (PBL), namely a learning approach that uses problems as a context for students to learn about critical thinking and problem solving skills, as well as to gain important knowledge and concepts from lecture or lesson material (Jannah *et al.*, 2022).

## **METHODOLOGY**

### **Study Design**

This study utilised a pre-experimental design, specifically the one group pretest-posttest design. This design is often engaged in situations where a comparison group is not presented. It involves conducting an initial observation (pretest) to evaluate the status of the dependent variable afore the intervention. By following the intervention, a second observation (posttest) is conducted to assess changes. This design allows researchers to observe the effects of the experimental intervention, in this case, the provision of pre-clinical training using a behaviour modelling method, on the dependent variable, which in this study is student caring behaviour (Anshori & Iswati, 2020). The theoretical framework for the behaviour modelling method is entrenched in Bandura's Social Learning Theory, which emphasises the role of modelling, imitation, and reinforcement in learning new behaviours. According to Bandura (1977), individuals learn by observing others and emulating their behaviours, especially when those behaviours are reinforced or perceived as effective. This theory supports the idea that students can enhance their caring behaviours through observation and practice in a supportive, structured learning environment.

### **Participants, Sample and Setting**

This study's participants were level 1 students who attended Stikes Hang Tuah Surabaya. Students within this population were to undergo clinical practice soon in a hospital setting. The total sample size thus achieved was 27 students. Participants were selected as they were among the few who would do clinical practice in the near future; thus, they could make a suitable sample for the study. The study was done in a clinical setting where behaviours and skills learned during preclinical training would be displayed and applied in contexts such as known and daring patient care as well as emotional regulation. These caring behaviours are consistent with Jean Watson's Theory of Human Caring formulated in 1997, which describes that caring is an essential and central

part of nursing practice. The following attributes were part of Watson's theory on caring: promotion of human dignity, authentic presence, and caring towards the caregiver and the recipient of care. Therefore, in this research, preclinical training would install these core caring behaviours in students.

### Measurement Tool

Two primary instruments were employed for data collection in this study. The first instrument was the Caring Scale, a tool designed to assess student caring behaviours. The Caring Scale was structured to evaluate three critical components of caring behaviour: clinical knowledge, self-efficacy and emotional regulation. The scale used a Likert-type assessment with a 4-point range, where participants rated statements as follows: STS (Strongly Disagree), TS (Disagree), Agree (S), and SS (Strongly Agree). This scale was developed to capture specific elements of caring and was deemed reliable and valid for use in the study (Katayama *et al.*, 2022). The second instrument was the stimulant training material for the behaviour modelling method, which was designed to facilitate learning and practical application of caring behaviours among students (Akgün *et al.*, 2020; American Academy of Addiction Psychiatry & American Society of Addiction Medicine, 2024).

### Data Collection Procedure

The data collection process began with the pretest in which students' original caring behaviours (clinical knowledge, self-efficacy and emotional regulation) were assessed using the Caring Scale. After the pretest, the students participated in a pre-clinical training session that assimilated the behaviour modelling method. This training aimed to improve students' caring behaviours by using role-playing, simulations, and discussions to model appropriate caring actions and responses. According to Bandura's Social Learning Theory, these methods would allow students to observe and emulate caring behaviours, reinforcing the development of these skills through the active participation and giving feedback. Following the training, a posttest was administered to measure any changes in students' caring behaviours. The posttest results were compared with the pretest to assess the effectiveness of the intervention.

### Data Analysis

The data collected from the pretest and posttest were analysed to assess the impact of the behaviour modelling training on student caring behaviours. The results of the validity and reliability tests of the questionnaire showed a significant  $p$ -value of 0.02 ( $p < 0.05$ ), indicating that the data were statistically significant and the measurement tool was reliable. To analyse the data, a comparison of pretest and posttest results was conducted, examining the differences in the mean scores for each of the three components of caring behaviour: clinical knowledge, self-efficacy and emotional regulation. This analysis provided insights into the effectiveness of the intervention in improving student caring behaviours, with particular focus on whether the behaviour modelling training method could positively influence the students' attitudes and practices in a clinical setting. The findings were interpreted through the lens of Jean Watson's Theory of Human Caring (1997), which underscores the importance of cultivating caring relationships and behaviours as part of professional practice.

### Ethical Consideration

The researchers obtained ethical clearance from the Research Ethics Commission of STIKES Hang Tuah Surabaya Health, Indonesia with reference number PE/22/V/2024/KEP/SHT on 10<sup>th</sup> May 2024.

## RESULTS

**Table 1: Student Caring Pre Test Score**

Indicator	Frequency (f)	Average	Std. Deviation
Clinical knowledge	27	36.67	1.52
Self-efficacy	27	17.89	0.89
Emotional regulation	27	10.22	0.75

Table 1 shows a description of the value of clinical knowledge with an average value of 36.67 with a standard deviation of 1.52. Self-efficacy value data has an average value of 17.89 with a standard deviation of 0.89 and emotional regulation value data has an average value of 10.22 with a standard deviation of 0.75

**Table 2: Student Caring Post Test Score**

Indicator	Frequency (f)	Average	Std. Deviation
Clinical knowledge	27	53.48	2.21
Self-efficacy	27	25.26	0.71
Emotional regulation	27	14.22	0.70

Table 2 presents the post-test scores for student caring indicators, including Clinical knowledge, Self-efficacy and Emotional regulation. The Clinical knowledge indicator demonstrated the highest average score of 53.48, with a standard deviation of 2.21, suggesting relatively consistent performance across participants. The Self-efficacy indicator yielded an average score of 25.26 with a standard deviation of 0.71, indicating moderate variation in students' responses. Lastly, the Emotional regulation indicator recorded an average score of 14.22 with a standard deviation of 0.70, reflecting a lower mean score with minimal dispersion. These findings highlight the differences in student performance across the three measured dimensions of caring behaviour.

**Table 3: Average Difference Test Results Pre Test and Post Test**

Indicator	Average	Difference	<i>t</i>	<i>P</i> -Value
Clinical Knowledge				
Pretest	36.67	16.82	32.66	0.000
Post test	53.48			
Self-efficacy				
Pre test	17,89			0.000
Post test	25.26	7.37	39.61	
Emotional Regulation				
Pre test	10.22	4.00	23.69	0.000
Post test	14.22			

Table 3 shows that students' concern was measured twice, namely at the pre-test before being given BMT treatment and at the post-test after completing the BMT. Results of the *t* test mean differences between two groups of paired data in the group without BMT administration. The average pre-test clinical knowledge score was 36.67 and during the post-test it increased to 53.48 or an increase of 16.82. The results of statistical tests with a *t* value of 32.660 and a *p* value of 0.000 have provided evidence that there is a significant difference in clinical knowledge scores between the pre-test and post-test.

The test of the difference in the average pre-test score compared to the post-test for self-efficacy is significant ( $p < 0.05$ ). The average pre-test self-efficacy score was 17.89 and during the post-test it rose to 25.26 or an increase of 7.37. The results of statistical tests with a *t* value of 39.618 and a *p* value of 0.000 have provided evidence that there is a significant difference in self-efficacy scores between the pre-test and post-test.

Furthermore, the results of the comparison of the average emotional regulation score during the pre-test compared to the post-test were significant ( $p < 0.05$ ). The average pre-test emotional regulation score was 10.22 and during the post-test it rose to 14.22 or an increase of 4.00. The results of statistical tests with a *t* value of 23.698 and a *p* value of 0.000 have provided evidence that there is a significant difference in emotional regulation scores between the pre-test and post-test.

**Table 4: Effectiveness of Pre-Test Debriefing with Student Caring Behaviour**

Pretest	Post Test	
	Poor Caregiving Attitudes	Positive Caregiving Attitudes
Poor Caregiving Attitudes	-	18 (66.67%)
Positive Caregiving Attitudes	-	9 (33.33%)
Total	-	27 (100%)

Table 4 shows the sample in the group consisted of 27 respondents, 18 students had poor caregiving attitudes, and 9 other students had positive caregiving attitudes. For students with poor caregiving attitudes during the pre-test, all (18 respondents or 66.67%) post-test results increased significantly. Meanwhile, for students with Positive caregiving attitudes during the pre-test, all of them remained classified as positive

caregiving attitudes during the post-test. These results explain that BMT treatment can increase student caring.

## DISCUSSION

This research starts from the issue of student competency in clinical learning programs in health services: First, there is data on student behaviour when practicing in health services which is less attentive to patient needs. Second, there is a lack of understanding and skills regarding student caring attitudes and behaviour that are appropriate to patient needs. Third, there is a demand that practicing students not only prioritise curriculum targets for the benefit of the learning program but also pay more attention to the needs of patients as service users. Fourth, the results of a survey of students in hospitals show that student caring varies with a tendency to be poor caregiving attitudes, so it needs to be improved (Abawaji *et al.*, 2024).

The application of the pre-clinical debriefing model using the Behaviour Modelling Training model is quite effective in education and training to increase student caring. Based on the average value, it shows that there is a tendency that the results of the training, clinical knowledge students have increased, student self-efficacy tends to be higher, as well as student emotional regulation with the average value showing an increase in results after training through BMT (Tian *et al.*, 2024).

This caring training provision is based on: (1) caring is very basic in health services. (2) learning practices that ignore caring will have an impact on poor academic, social and physical performance (3) students are required by patients to become 'nurse candidates' who have the ability to carry out professional nursing care by building caring traits (Jiang *et al.*, 2024). This syntax was chosen because it suits the conditions of the subject, namely students, who are implementing learning in health services. The effectiveness of the practical model is implemented in accordance with the principles of andragogy, namely that adult training will be more successful if participant involvement is maximised, the trainer acts more as a facilitator by activating participants in discussions, presentations and group work (Hopstock, 2008). The provision is more effective because the caring behaviour modelling training is complemented by showing films which are used as modelling media such as syntax in BMT, lectures, power point media, games, discussions and group work. Caring training using models in films can provide new experiences, maintain participants' enthusiasm and involvement in the training process, so that they do not feel bored (Rozani, Zur-Peled & Aharon 2024).

This training also utilised bibliolearning (reading material) to complement lecture strategies which tend to be one-way. Reading is given to each participant, equipped with a worksheet as a training tool and a medium for reflection. Reading material is useful as a guide in understanding caring, a bibliography can foster insight in a person (Honkavuo, 2019). The use of films and videos as models is also very popular with participants, because they can see direct examples of how students apply caring in health services. Bibliolearning is a support for increasing understanding and insight, so that participants can master concepts and skills. Implementation of behaviour modelling training using 5 modelling steps, retention process, behaviour rehearsal, feedback, and transfer of training. Giving individual and group assignments and then discussing the assignments related to modelling is very effective in increasing the retention process and repeating what has been seen from modelling. Role play activities also really help participants practice behaviour in accordance with the training themes. Constructive feedback between fellow participants can help participants perfect the skills they practice, as well as providing social reinforcement. After the entire series of training is completed, training transfer is carried out at the school where the participant teaches (Ayaz-Alkaya & Terzi, 2022).

Field observations as a follow-up to training on the transfer of training syntax were carried out one week after the training activity ended, namely when students started practicing in the hospital. In general, the results of observations in the field show that the approach taken by students is better when practicing in health services (Syed *et al.*, 2024). Students show a warm attitude towards patients, are more confident. They respect patients as human beings who are sick and need care. Judging from the communication pattern, it also appears that students do not dominate the conversation, but there is dialogue between students and patients. Students can be good listeners and understand patient needs (Kol *et al.*, 2021). During observations at the hospital, practical students were also seen frequently communicating with patients. The results of interviews with students also confirmed that students are now closer and care more about patients according to the patient's condition.



## CONCLUSION

Behaviour modelling training influences concern, clinical knowledge, self-efficacy and emotional regulation in nursing students who will practice in hospitals. It is hoped that future researchers can examine internal or individual factors, so that they can also be used as indicators in selecting students who are allowed to practice in hospitals. It is recommended for future researchers to test the effect of behaviour modelling training on nursing services in hospitals, for example students when they want to practice in the hospital. Future research should focus on developing models of caring for student nurses in Community Health Centre services.

## Limitation

The limitations of this research only lie in the phenomenon of behavioural skills problems, so it is recommended that further research be expanded into other aspects.

## Recommendation

Based on the findings, it is recommended that nursing education programs integrate behaviour modelling training (BMT) into pre-clinical learning to enhance students' caring attitudes, confidence, and communication skills. Educators should apply interactive andragogical methods, using multimedia and bibliolearning resources to support reflective learning. Partnerships between academic institutions and health services should be strengthened to ensure the continuity of caring behaviours in clinical practice. Future research should explore internal individual factors that influence caring behaviour and assess the long-term impact of BMT across different healthcare settings, including Community Health Centres.

## Conflict of Interest

The authors declare that they have no conflict of interests.

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