



# Enhancing Nursing Preceptors Competencies Through Workshops at A Tertiary Care Hospital Swabi, Pakistan – A Quasi Experimental Study

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Received: 📅 August 16, 2024

Published: 📅 August 23, 2024

## Abstract

**Aim:** This quasi-experimental study aimed to enhance nursing preceptors' competencies through workshops at a tertiary care hospital Swabi, Pakistan. The study focused on evaluating the impact of a training intervention on competencies related to preceptorship.

**Design:** The study employed a quasi-experimental design to assess the effectiveness of a customized training intervention for nursing preceptors.

**Methods:** A sample of 67 participants underwent a three-hour training program, targeting the enhancement of preceptorship competencies. The training program incorporated interactive sessions, practical exercises, collaborative learning, and access to valuable resources. Demographic characteristics and competencies were assessed using the validated "Assessment Tool for Nurse Preceptor Competencies" with Likert-scale responses.

**Results:** Mean scores for competencies notably increased, indicating the positive impact of the training program on nursing preceptors' skills and knowledge.

**Keywords:** Clinical training; Competency enhancement; Healthcare education; Medical Teaching Institution; Nursing preceptorship; Quasi-experimental study

## Introduction

In the field of healthcare, the role of clinical preceptors is of paramount importance in shaping the learning experiences and professional development of nursing students (Dube & Rakhudu, 2021) [1]. According to Dube (2018) [2], these skilled and experienced clinicians play a pivotal role in bridging the gap between theoretical knowledge and real-world clinical practice. The role of clinical preceptors in nursing education has

long been acknowledged as fundamental to the development of competent and compassionate nurses (Edward, Ousey, Playle, & Giandinoto, 2017) [3]. The effectiveness of preceptorship is crucial in shaping the clinical learning experiences of nursing students and ultimately impacting their professional growth (AlMekkawi & El Khalil, 2020) [4]. A study by Phuma-Ngaiyaye et al., (2017) [5] explored the perceptions of nursing students regarding the

impact of preceptorship on their clinical learning experiences. The findings indicated that a positive and supportive preceptor-student relationship significantly influence students' confidence, clinical competence, and overall satisfaction with the learning process. This highlights the significance of effective preceptor training in fostering conducive learning environments that facilitate student success. As nursing education evolves to meet the demands of modern healthcare settings, the importance of evaluating preceptor training programs becomes increasingly evident.

The effectiveness of clinical preceptorship directly influences the quality of nursing education and, consequently, the competency of future nurses. In recent years, there has been a growing recognition of the need to enhance the training and support provided to clinical preceptors to ensure that they are equipped with the necessary pedagogical and mentoring skills (Lunden, Teräs, Kvist & Häggman-Laitila, 2017) [6]. Consequently, preceptor development programs have become an essential focus for nursing institutions and healthcare facilities alike (Chang, Lin, Chen, Kang & Chang, 2015) [7]. Rodrigues, (2022) [8] emphasized the need for continuous professional development programs for preceptors. They found that ongoing training and skill enhancement positively correlated with preceptors' teaching effectiveness and the quality of their feedback to students. Quasi-experimental studies have demonstrated promising results in assessing the impact of preceptor training programs. In a study by Wu, (2022) [9], a quasi-experimental design was used to evaluate the effectiveness of a preceptorship development program in a large healthcare institution. The intervention group, which received the training, showed significantly improved preceptorship skills compared to the control group. This study highlights the potential of quasi-experimental designs in examining the causal relationships between training interventions and preceptor performance.

Furthermore, the need for customized preceptor training programs tailored to the unique needs of different healthcare settings has been emphasized in the work of Asirifi et al., (2019) [10]. It has been advocated for context-specific training that addresses the challenges faced by preceptors in various clinical settings (Kahlke, 2022) [11]. This reinforces the idea that preceptor training should be adapted to suit the specific requirements of a tertiary care hospital and its nursing student population in Swabi, Pakistan.

Moreover, a study conducted by Lisnadiyanti et al., (2023) [12] on improvement of clinical educator competence through the development of a culture-based clinical education model with a transcultural nursing approach identified several challenges faced by clinical preceptors, including heavy workload, time constraints, and the need for more structured support and training. This study highlights the importance of assessing the impact of pre-post quasi-experimental training interventions on clinical preceptors within the unique contexts. Considering the above, this study seeks to address the gap in research by evaluating the effectiveness of a

pre-post quasi-experimental training program designed for clinical preceptors of nursing students at a tertiary care hospital Swabi, Pakistan. The primary objective was to assess the extent to which this targeted training enhances the capabilities of preceptors in facilitating nursing students' clinical learning experiences.

By delving into the effectiveness of this training program, this study aims to shed light on the potential benefits it can bring to the preceptors' instructional skills, communication strategies, and overall ability to nurture the development of competent and compassionate nurses. The findings of this research are anticipated to not only contribute to the academic literature on nursing education but also to offer evidence-based recommendations for refining preceptor development initiatives within a tertiary care hospital Swabi, Pakistan and similar healthcare settings. Ultimately, the overarching goal is to strengthen the foundation of nursing education and healthcare delivery, fostering an environment where nursing students can thrive under the guidance of skilled and motivated clinical preceptors. The outcomes of this study have the potential to inform best practices and policy decisions that will positively impact the quality of nursing education and, by extension, elevate the standard of patient care in Swabi, Pakistan, and beyond.

## Methodology

### Study design

The research design for this study was a quasi-experimental pre-post design. Due to practical constraints and the unavailability of randomization, a quasi-experimental approach was suitable to evaluate the training interventions on clinical preceptors (Polit & Beck, 2018) [13].

### Study population and setting

The participants in this study were Registered Nurses from a tertiary care hospital Swabi, Pakistan, a prominent medical facility situated in Shahmansoor, Swabi District, Khyber Pakhtunkhwa, Pakistan. This hospital is a 500-bedded hospital with a dedicated team of over 1000 nurses who work across various departments, including emergency care, inpatient and outpatient care, diagnostic services, as well as specialized treatments in fields like surgery, cardiology, and neurology. Additionally, nursing students receive valuable exposure in different departments, allowing them to gain insights from experienced nurses.

### Eligibility criteria

To be eligible to become a nurse preceptor following criteria was used

#### Inclusion criteria

1. Hold a Generic Bachelor of Science in Nursing (BSN) degree, Post RN Bachelor of Science in Nursing (BSN) degree, or Master of Science in Nursing (MSN) degree.
2. Have at least 6 months of relevant nursing experience.

### Exclusion criteria

1. Candidates who do not meet the above-mentioned educational qualifications (Generic BSN, Post RN BSN, or MSN) and those who are not registered in any degree program were excluded.
2. Additionally, nurses who were on long leaves or extended absences from active nursing duties were not considered for the nurse preceptor role.

### Sample size

This was a pilot study and based on an effect size of 0.5, a power of 80%, and a significance level of 0.05, the estimated sample size was 63 participants (Mirsane et al., 2016[14]; Whitehead et al., 2016) [15]. Following formula was used to estimate the sample size: Sample Size

Moreover, after adding a 5% attrition rate to the initial sample size of 63 the final sample size was 67 participants.

### Sampling strategy

A non-probability convenient sampling technique was utilized to select participants for the training intervention. Nurse preceptors who were easily available and met the inclusion criteria, aligned with the study's objectives, and represented the target population were invited to participate.

### Data collection

After selecting the study participants, the researcher introduced the study and its purpose to each participant. Informed consent was obtained from all participants before commencing the intervention.

### Intervention description

The training session for nurse preceptors was conducted as a comprehensive three-hour program, specifically tailored to address the needs of clinical preceptors. The intervention focused on imparting essential skills and knowledge to enhance the preceptors' mentorship capabilities and create a supportive learning environment for nursing students.

1. During the training, nurse preceptors had the opportunity to acquire the following competencies:
2. **Develop Effective Evaluation Techniques:** Participants learned techniques to assess student performance effectively, enabling them to provide constructive feedback and monitor student progress accurately.
3. **Strategies for Constructive Feedback and Guidance:** The training equipped preceptors with effective strategies to provide constructive feedback and guidance, facilitating continuous student growth and improvement.
4. **Enhancement of Mentoring and Communication Skills:** The session emphasized refining mentoring and communication skills to foster a positive and supportive learning atmosphere

for nursing students.

5. **Understanding the Importance of a Supportive Learning Environment:** Preceptors gained insights into the significance of creating a supportive and nurturing environment to promote student confidence and motivation.
6. **Insights into Best Practices in Clinical Education:** The training incorporated the latest best practices in clinical education, enabling participants to implement evidence-based methods in their mentoring roles.

### Workshop highlights

The training session featured the following highlights:

1. **Interactive Sessions with Experienced Facilitators:** Facilitators were experienced professionals in clinical education, ensuring engaging and insightful discussions throughout the training.
2. **Practical Scenarios and Hands-on Exercises:** Participants engaged in practical scenarios and hands-on exercises, providing opportunities to apply their learning to real-life mentoring situations.
3. **Collaborative Learning Opportunities:** The workshop fostered a collaborative learning environment, encouraging nurse preceptors to share experiences and learn from each other.
4. **Question and Answer Sessions:** Dedicated question and answer sessions allowed participants to seek clarification and address specific challenges encountered in their mentoring roles.
5. **Access to Valuable Resources:** Participants were provided with valuable resources and reference materials to support their ongoing mentorship responsibilities.

### Data collection tool

The data collection tool utilized in this study was developed by a panel of experts, including the Director of Continuing Educational and Professional Development, Director Nursing MTI BKMC and a Senior Registered Nurse MTI BKMC, who possesses extensive experience in clinical practice, education, and research. Additionally, the tool underwent thorough review and validation processes to ensure its content relevancy and clarity. Tool titles as the "Assessment Tool for Nurse Preceptor Competencies," the data collection instrument consisted of two major sections. The first section captured the demographic characteristics of nurse preceptors, providing valuable background information about the participants. The second section encompassed various constructs, each representing essential traits and competencies of clinical preceptors, with distinct statements for assessment. The different constructs included in the "Assessment Tool for Nurse Preceptor Competencies" are as follows:

### Teaching and instructional methods

This construct comprised 13 statements aimed at evaluating the preceptors' proficiency in employing effective teaching and instructional techniques during the mentoring process.

### Facilitation and support

With 3 statements, this construct focused on assessing the preceptors' ability to facilitate a conducive learning environment and provide adequate support to nursing students.

### Adult learning approach

Encompassing 3 statements, this construct aimed to gauge the preceptors' understanding and implementation of adult learning principles in their mentoring interactions.

### Role modelling and leadership

This construct contained 5 statements, designed to evaluate the preceptors' capabilities in demonstrating positive role modelling and exhibiting leadership qualities.

### Social interaction and networking

Comprising 6 statements, this construct assessed the preceptors' proficiency in fostering social interactions and networking opportunities to enhance students' learning experiences.

### Advocacy and support

With 5 statements, this construct focused on appraising the preceptors' dedication to advocating for their students' needs and providing necessary support throughout their educational journey.

### Feedback provision and evaluation

This construct involved 6 statements, intended to examine the preceptors' effectiveness in offering constructive feedback and conducting comprehensive evaluations of student progress.

### Scoring of the data collection tool

The "Assessment Tool for Nurse Preceptor Competencies" composed of a total of 41 items, employing a Likert scale ranging from 1 to 5. In this scale, 1 represented "Strongly Disagree," while 5 denoted "Strongly Agree."

### Scoring for each construct

To assess the competencies of nurse preceptors across specific constructs, the scores for each construct were calculated by summing the individual Likert scale responses for the statements within that construct and for each construct, the total scores are as follows:

- a) Teaching and Instructional Methods: 53
- b) Facilitation and Support: 14
- c) Adult Learning Approach: 12

- d) Role Modelling and Leadership: 28
- e) Social Interaction and Networking: 35
- f) Advocacy and Support: 29
- g) Feedback Provision and Evaluation: 31

### Composite score

Therefore, the composite score for the nurse preceptor's competencies, based on the 41-item questionnaire, is 202. This composite score provides an overall assessment of the preceptor's performance in the identified constructs, helping to identify areas of strength and areas that may benefit from further development.

### Interpretation

Higher scores for each construct indicated a higher level of agreement or competence in the corresponding areas. On the other hand, lower scores pointed towards potential areas for improvement and development. The composite score offered an integrated view of the nurse preceptor's overall performance, considering all the constructs collectively.

### Recruitment procedure

Upon obtaining the necessary Institutional Review Board (IRB) approval, the recruitment procedures for selecting nurse preceptors for the study were meticulously followed. The steps undertaken to identify and enrol eligible participants were as follows:

#### Permission from director of nursing

Prior to commencing the recruitment process, formal permission was sought from the Director of Nursing at the healthcare facility. The Director's approval was crucial to ensure that the study aligned with the institution's guidelines and policies.

#### Identification of eligible preceptors

The Director of Nursing, in collaboration with nurse managers, identified potential nurse preceptors who met the inclusion criteria established for the study. The inclusion criteria were carefully crafted to select preceptors with the necessary qualifications and experience relevant to the research objectives.

#### Provision of information

Eligible nurse preceptors were provided with detailed information about the study, including its purpose, expected commitment, and potential benefits. This transparent approach ensured that participants were fully informed before deciding to join the study.

### Training workshop arrangements

For the training workshop, the nursing director played a pivotal role in facilitating the process. They granted formal permission for the workshop and collaborated with the research team to arrange the date, time, and venue that suited the participants' convenience.

### Training Certification and Appreciation

At the conclusion of the training workshop, participants were awarded training certifications, recognizing their active involvement and commitment to enhancing their preceptorship skills. As a gesture of appreciation, a refreshment session was arranged by the Chief Executive Officer (CEO), fostering a positive and supportive environment for all participants. The recruitment procedures were conducted with utmost professionalism and respect for the participants' rights and well-being. By following a systematic and ethical approach, the study ensured that nurse preceptors were engaged willingly and that they received the necessary support and recognition for their valuable contributions to the research.

### Data analysis

The statistical analysis was conducted using SPSS version 29. Frequencies were reported for categorical data, while mean and standard deviation were computed for continuous data. Additionally, a t-test was employed to assess the variance in pre- and post-intervention means.

### Ethical considerations

Ethical Review Board reviewed the protocol and gave the permission of study (REDACTED). Throughout the recruitment process, strict adherence to ethical principles and guidelines was ensured. Confidentiality of participant information was maintained, and informed consent was obtained from each preceptor before their inclusion in the study. Participants were informed of their right to withdraw at any point without any repercussions.

**Table 1:** Demographic characteristics of nurse preceptors

Demographic characteristics	Frequency (%)
Age (in years)	
< 35	57 (93.40%)
35 ≤ 45	3 (4.90%)
> 45	1 (1.6%)
Gender	
Female	10 (16.40%)
Male	51 (83.60%)
Level of education	
Generic BSN	37 (60.70%)
Post-RN BSN	20 (32.80%)
MScN	00 (0.00%)
Other	4 (6.60%)
Years of work experience	
< 05 years	46 (75.40%)
05 ≤ 10 years	11 (18.00%)
> 10 years	4 (6.60%)

### Results

In this study, a total of 67 participants were initially approached out of these, 61 participated in the study. Two participants did not meet the criteria for inclusion, and four participants chose to discontinue leading to a dropout rate of 6%.

### Demographic characteristics of nurse preceptors

Table 1, presents a comprehensive overview of the demographic characteristics of the study participants. The majority of participants, 93.40%, were aged below 35 years. The gender distribution indicates a substantial majority of male participants, constituting 83.60% of the total. The highest proportion of participants, 60.70%, possessed a Generic Bachelor of Science in Nursing (BSN) degree.

### Nurse preceptors' competencies before and after training intervention

Table 2, presents the nurse preceptors' competencies before and after training intervention, showcasing the mean scores along with standard deviations across various competency categories. The pre-intervention scores represent the baseline competencies, while the post-intervention scores indicate the competencies following the training intervention. These findings suggest the effectiveness of the intervention across various domains such as teaching and instructional methods (55±7); facilitation and support (18±4); adult learning approaches (15±5); role modelling and leadership (30±6); social interaction and networking (38±5); advocacy and support (32±4); and feedback provision and evaluation (34±5).

**Table 2:** Domain-wise nurse preceptors' competencies before and after training intervention

Category	Pre-intervention scores Mean $\pm$ SD	Post-intervention scores Mean $\pm$ SD
Teaching and Instructional Methods	50 $\pm$ 8	55 $\pm$ 7
Facilitation and Support	12 $\pm$ 5	18 $\pm$ 4
Adult Learning Approach	10 $\pm$ 4	15 $\pm$ 5
Role Modelling and Leadership	25 $\pm$ 7	30 $\pm$ 6
Social Interaction and Networking	30 $\pm$ 6	38 $\pm$ 5
Advocacy and Support	26 $\pm$ 5	32 $\pm$ 4
Feedback Provision and Evaluation	28 $\pm$ 6	34 $\pm$ 5

**Table 3:** Overall preceptors' competencies before and after training intervention

Category	Mean $\pm$ SD	t-value	df	p-value
Pre-Intervention	6.80 $\pm$ 3.44	13.56	55	<0.001
Post-Intervention	11.50 $\pm$ 2.57			

Table 3, presents the mean preceptor competencies scores before and after the workshop training intervention. Prior to the intervention, the mean preceptor competency score was 6.80  $\pm$  3.44. Following the intervention, a significant increase was observed, with the post-intervention mean score reaching 11.50  $\pm$  2.57. The t-value of 13.56, with 55 degrees of freedom, indicates a highly significant difference ( $p < 0.001$ ) between the pre- and post-intervention competency scores, highlighting the positive impact of the training intervention on enhancing preceptors' competencies.

## Discussion

The study aimed to assess the impact of a workshop training intervention on nurse preceptors' competencies, focusing on various domains such as teaching and instructional methods, facilitation and support, adult learning approaches, role modelling and leadership, social interaction and networking, advocacy and support, and feedback provision and evaluation. The demographic characteristics of the nurse preceptors revealed interesting insights. The majority of participants were below the age of 35, indicating a relatively young cohort. The demographic profile of the nurse preceptors in current study reveals unique characteristics when comparing to previous studies. Notably, participants' cohort in current study skewed towards a younger age group. This contrasts with some earlier investigations where a more diverse age distribution among nurse preceptors was observed (Ke, Kuo & Hung, 2017) [16]. The prevalence of a relatively young cohort in current study might suggest a shifting trend in the demographic composition of individuals assuming the role of nurse preceptors.

Furthermore, the striking gender disparity observed in current study, the predominant gender was male, constituting 83.60% of the total participants, deviates from the gender distribution reported in some prior studies (Irwin, Bliss & Poole, 2018[17], Piccinini et al.,

2018) [18]. This notable difference prompts a closer examination of the factors contributing to such gender imbalances in the nurse preceptor role. Understanding the underlying dynamics influencing gender representation in preceptorship can be crucial for designing targeted interventions to promote diversity and inclusivity in nursing education. In current study significant proportion held a Generic Bachelor of Science in Nursing (BSN) degree aligns with broader trends in nursing education (Griffiths et al., 2022) [19]. However, variations in the educational qualifications of nurse preceptors across different studies could impact the generalizability of findings. Additionally, the majority of participants in the current study were having less than 5 years of work experience sets a distinctive context for this study.

This relatively limited professional experience might influence the dynamics of the preceptor-ceptee relationship, potentially shaping the effectiveness of training interventions differently compared to studies with more experienced preceptors. Furthermore, the striking gender disparity observed in our study, with males constituting 83.60% of the total participants, deviates from the gender distribution reported in some prior studies. This notable difference prompts a closer examination of the factors contributing to such gender imbalances in the nurse preceptor role. Understanding the underlying dynamics influencing gender representation in preceptorship can be crucial for designing targeted interventions to promote diversity and inclusivity in nursing education (Rachael Vernon, 2017; Madhavanpraphakaran et al., 2014) [20,21].

Turning to the core focus of the study, the nurse preceptors' competencies before and after the training intervention exhibited noteworthy changes. The pre-intervention baseline scores reflected a mean competency score of 6.80  $\pm$  3.44. Following the intervention, a substantial and statistically significant improvement

was observed, with the post-intervention mean score increasing to  $11.50 \pm 2.57$ . The t-value of 13.56, with 55 degrees of freedom, underscores the robustness of this improvement, and the p-value of  $<0.001$  indicates a highly significant difference. These results were in line with the previous studies in which the intervention was educational training workshops (Wu et al., 2020; Ke et al, 2017) [22,16].

Moreover, domain-wise analysis revealed specific areas where the intervention had a significant impact. Across categories such as teaching and instructional methods, facilitation and support, adult learning approaches, role modeling and leadership, social interaction and networking, advocacy and support, and feedback provision and evaluation, there were consistent improvements post-intervention. These results were in line with the previous reported studies (Museene et al., 2018; DeLucia, 2023) [23,24]. These findings suggest that the training intervention effectively enhanced nurse preceptors' competencies, indicating a positive and beneficial impact on their abilities to fulfil their roles. However, it's crucial to recognize that the study design may have limitations, such as the lack of a control group and the reliance on self-reported competencies. Future research could explore these aspects further and assess the sustainability of the observed improvements over an extended period. Additionally, exploring the real-world application of these enhanced competencies in clinical settings could provide valuable insights into the practical implications of the training intervention.

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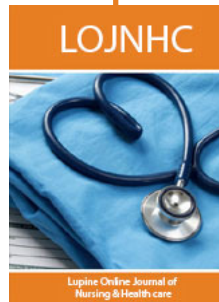
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