

Sustained Effects of a Peplau-Based Anxiety Reduction Program in Total Knee Replacement Patients: A Repeated Measures Study

Wimolnun Putdivarnichapong¹, Tanyarat Chatchawarnpan², Associate Professor Dr. Nopporn Vongsirimas³, and Phuangphet Kaesornsamut⁴

¹College of Nursing, Dhurakij Pundit University, Laksi, Bangkok

²Registered Nurse, Master of Nursing Science Program in Psychiatric Nursing and Mental Health, Taksin Hospital, Bangkok, Thailand

³Department of Mental Health and Psychiatric Nursing, Faculty of Nursing, Mahidol University, Bangkok, Thailand

⁴Department of Mental Health and Psychiatric Nursing, Faculty of Nursing, Mahidol University, Bangkok, Thailand

Background: This study evaluates the effectiveness of a Peplau-based anxiety reduction program (PARP) in alleviating anxiety levels at three time points: before intervention (T1), after intervention (T2), and on the morning of surgery (T3).

Methods: A quasi-experimental study was conducted with 27 total knee replacement (TKR) patients receiving PARP a day before surgery. Anxiety levels were assessed using the State-Trait Anxiety Inventory (STAI) form Y-1 at T1, T2, and T3. Statistical differences were analyzed using the Friedman Test and Wilcoxon Signed Ranks Test.

Results: Anxiety levels significantly decreased post-intervention and remained lower on the morning of surgery. The Friedman Test indicated significant differences between T1, T2, and T3 ($\chi^2(2) = 54.000$, $p < .001$). Wilcoxon Signed Ranks Test showed anxiety at T2 was significantly lower than T1 ($Z = -4.543$, $p < .001$), and anxiety at T3 was significantly lower than both T1 ($Z = -4.545$, $p < .001$) and T2 ($Z = -4.549$, $p < .001$).

Conclusion: PARP effectively reduced anxiety levels in TKR patients at all measured time points, highlighting its potential as a valuable preoperative psychological preparation strategy.

Implications: Integrating PARP into preoperative care can enhance patient well-being, nursing education, and policy development by improving patient education, training, and quality improvement initiatives.

Suggestions: Future research should explore the program's generalizability, optimize its components, assess long-term outcomes, and evaluate feasibility in standard care protocols. A cost-benefit analysis is recommended to determine its economic viability compared to other anxiety reduction strategies.