

Community Training On Distraction And Relaxation Techniques To Improve Nurses' Competence At Guido Valadares National Hospital, Timor Leste

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ABSTRACT

Background: Nurses play an essential role in implementing non-pharmacological pain management; however, the application of distraction and relaxation techniques in clinical practice remains limited due to insufficient knowledge and practical skills. Continuous professional development through structured training is needed to enhance nurses' competence and promote evidence-based nursing practice. **Objective:** This community service activity aimed to improve nurses' competence in applying distraction and relaxation techniques through a structured training program at Guido Valadares National Hospital (HNGV), Timor-Leste. **Methods:** This community service program involved 30 nurses who voluntarily participated in educational activities consisting of lectures, interactive discussions, demonstrations, and supervised practical sessions. Program evaluation was conducted using pretest and posttest questionnaires assessing knowledge, attitudes, practical skills, and clinical application. Descriptive analysis was used to summarize participants' competency levels, while the Wilcoxon Signed-Rank Test was applied to support the evaluation of competency changes before and after the training. **Results:** Prior to the training, most participants demonstrated poor competency (60.0%), whereas after the program, the majority achieved good competency (73.3%). The mean competency score increased from 58.50 ± 11.06 before training to 84.03 ± 9.63 after training. Statistical analysis showed a significant improvement in participants' competency following the implementation of the program ($Z = -4.783$; $p < 0.001$). **Conclusion:** The community service training program successfully improved participants' competencies in implementing distraction and relaxation techniques as non-pharmacological pain management interventions. The program may serve as a sustainable strategy for strengthening evidence-based nursing practice and improving the quality of nursing services at Guido Valadares National Hospital.

Keywords: community service; nurse competence; distraction techniques; relaxation techniques; non-pharmacological pain management; training program.

Background

Nursing care is a vital component of a healthcare system focused on patient safety and quality of care. One indicator of the quality of nursing care is a nurse's ability to provide comprehensive pain management through both pharmacological and non-pharmacological approaches. Pain is a subjective sensory and emotional experience that requires proper assessment and management to prevent it from hindering the healing process, increasing anxiety, prolonging hospital stays, and reducing patient satisfaction. Therefore, nurses' competence in assessing, selecting interventions, and evaluating pain management is an essential part of evidence-based nursing practice (1). However, research shows that nurses' practice of nonpharmacological pain management is still not optimal, so there is a need to improve their competencies through training and continuing education (2)(3).

Advances in evidence-based nursing have encouraged the use of nonpharmacological interventions to complement pharmacological therapy in managing patients' pain and anxiety. Distraction and relaxation techniques are simple, safe, cost-effective, and easy-to-implement interventions. Various studies have shown that both techniques are effective in reducing pain intensity in pediatric patients, patients with hematemeses, postoperative patients, patients with fractures, and patients undergoing surgical procedures (4)(5). In addition, audiovisual distraction and deep breathing relaxation have also

been shown to reduce anxiety in preoperative patients and improve their comfort during treatment (6). Various experimental studies have shown that a combination of distraction and relaxation techniques yields better results than using either technique alone. A reduction in pain intensity has been demonstrated in patients who have undergone hernia surgery, patients with fractures, postoperative patients in the operating room, circumcision patients, and even breast cancer patients undergoing complementary therapy (7)(9). In addition to effectively reducing pain, educating nurses about nonpharmacological therapies has also been shown to increase their knowledge and awareness of implementing pain management in accordance with the principles of evidence-based practice (10).

Although the benefits of distraction and relaxation techniques have been supported by various studies, their implementation in healthcare facilities still faces a number of challenges. Reported that time constraints, heavy workloads, lack of training, and the unavailability of practice guidelines are the main barriers to the implementation of nonpharmacological therapies (11). These findings are consistent with the study by Kia et al. (12), Tsegaye et al (2), then Zeleke et al. (3) which indicates that low competence, poor attitudes, and a lack of institutional support influence nurses' practice of nonpharmacological pain management. These conditions suggest that structured training programs and continuing professional development are important strategies for improving nurses' competence in providing evidence-based nursing care.

International scientific evidence continues to reinforce the importance of implementing nonpharmacological interventions in nursing care. A systematic review shows that various nonpharmacological interventions, including distraction and relaxation, are effective in reducing pain and improving patients' quality of life (13). These findings are supported by a randomized controlled trial that showed that distraction interventions provided by nurses can reduce pain and anxiety and speed up recovery in pediatric patients after surgery (14).

Guido Valadares National Hospital (HNGV), the national referral hospital in Dili, Timor-Leste, is responsible for providing high-quality healthcare services that require nurses to possess adequate competencies in implementing evidence-based interventions, including distraction and relaxation techniques as part of non-pharmacological pain management. Based on current evidence and the identified needs of healthcare services, strengthening nurses' competencies through structured training programs is an effective strategy for improving the quality of nursing care (2)(10). Therefore, a community training program on distraction and relaxation techniques was implemented at Guido Valadares National Hospital to enhance participants' knowledge, practical skills, and confidence in applying non-pharmacological pain management safely, effectively, and in accordance with evidence-based nursing practice, while supporting continuous improvements in the quality of nursing services.

Methods

This community service activity was conducted at Guido Valadares National Hospital (HNGV), Dili, Timor-Leste, involving 30 nurses as participants. The activity consisted of four stages: preparation, implementation, evaluation, and follow-up. During the preparation stage, the team coordinated with hospital management, identified participants' learning needs, prepared educational materials, and developed evaluation instruments. The implementation stage included lectures, interactive discussions, demonstrations, simulation sessions, and guided practice regarding distraction and relaxation techniques as non-pharmacological pain management interventions. The effectiveness of the program was evaluated using pretest and posttest questionnaires consisting of 20 competency statements that assessed participants' knowledge, attitudes, practical skills, and clinical application of distraction and relaxation techniques. The questionnaire used a five-point Likert scale. Data from the pretest and posttest were summarized descriptively to describe changes in participants' competency levels. To strengthen the evaluation of program effectiveness, differences between pretest and posttest scores were analyzed using the Wilcoxon Signed-Rank Test. The activity was conducted with permission from Guido Valadares National Hospital, and all participants provided informed consent before participating in the program.

Results

The implementation of the community service program showed positive improvements in participants' competencies. The evaluation results are presented descriptively using participants' characteristics, competency levels before and after training, and statistical analysis to support program

evaluation.

Table 1. Participant Characteristics

Participant Characteristics	Frequency	%
Gender		
Male	10	33.3
Female	20	66.7
Age		
20-30 years	10	33.3
31-40 years	16	53.3
> 40 years	4	13.3
Last education		
Diploma III in Nursing	6	20
Bachelor's Degree	14	46.7
Nurse	7	23.3
Master's Degree	3	10
Length of work		
<1 year	2	6.7
1-5 years	12	40
6-10 years	9	30
>10 years	7	23.3
Pain Management Training		
Yes	12	40
No	18	60
Frequency of Applying Distraction and Relaxation		
Never	1	3.3
Rarely	9	30
Sometimes	11	36.7
Often	7	23.3
Always	2	6.7
Total	30	100

Based on table 1, most participants in the community service program were female (20 participants, 66.7%), with the largest age group ranging from 31 to 40 years (16 participants, 53.3%). Most participants held a Bachelor's degree in Nursing (14 participants, 46.7%) and had 1-5 years of working experience (12 participants, 40.0%). In addition, 18 participants (60.0%) had never attended previous training on non-pharmacological pain management. Regarding clinical practice, distraction and relaxation techniques were most frequently applied only occasionally (11 participants, 36.7%), followed by rarely (9 participants, 30.0%). These findings indicate the need for continuous community training programs and structured educational activities to strengthen nurses' competencies in applying non-pharmacological pain management techniques in daily clinical practice.

Table 2. Distribution of Participants' Competency Levels Before and After the Training Program

Participants' Competency Level	Before the Training Program (Pre-test)		After the Training Program (Post-test)	
	f	%	f	%
Poor	18	60%	0	0%
Fair	9	30%	8	26.7%
Good	3	10%	22	73.3%
Total	30	100%	30	100%

Based on table 2, before the implementation of the training program, most participants demonstrated poor competency (18 participants, 60.0%), followed by fair competency (9 participants, 30.0%), while only 3 participants (10.0%) were categorized as having good competency. After completing

the training program, no participants remained in the poor competency category. Most participants achieved good competency (22 participants, 73.3%), whereas 8 participants (26.7%) demonstrated fair competency. These findings indicate that the community training program on distraction and relaxation techniques successfully improved participants' competencies in applying non-pharmacological pain management at Guido Valadares National Hospital, Dili, Timor-Leste.

Table 3. Comparison of Participants' Competency Scores Before and After the Community Training Program

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Participants' Competency (Pretest)	30	45	81	58.50	11.063
Participants' Competency (Posttest)	30	66	98	84.03	9.629

Based on table 3, participants' competency scores increased following the implementation of the training program. The mean competency score improved from 58.50 ± 11.06 during the pretest to 84.03 ± 9.63 in the posttest. In addition, the minimum score increased from 45 to 66, while the maximum score increased from 81 to 98. These findings demonstrate that the community training program on distraction and relaxation techniques effectively enhanced participants' competencies in applying non-pharmacological pain management at Guido Valadares National Hospital, Dili, Timor-Leste.

Table 4. Results of the Shapiro–Wilk Normality Test for Participants' Competency Scores Before and After the Training Program

Variable	Statistics	df	p-value
Participants' Competency (Pretest)	0.879	30	0.003
Participants' Competency (Posttest)	0.905	30	0.011

Based on table 4, the results of the Shapiro–Wilk Normality Test showed that the participants' competency scores before the training program had a p-value of 0.003, while the posttest scores after the training program had a p-value of 0.011. Since both p-values were less than 0.05, the pretest and posttest data were not normally distributed. Therefore, the differences in participants' competency scores before and after the training program were further evaluated using the Wilcoxon Signed-Rank Test.

Table 5. Results of the Wilcoxon Signed-Rank Test for Participants' Competency Scores Before and After the Training Program

Variable	Negative Ranks	Positive Ranks	Ties	Z	p-value
Participants' Competency Scores (Posttest–Pretest)	0	30	0	-4.783	0.001

Based on table 5, all participants demonstrated higher competency scores after completing the training program, as indicated by 30 positive ranks with no negative ranks or ties. The Wilcoxon Signed-Rank Test showed a statistically significant difference between the pretest and posttest competency scores ($Z = -4.783$; $p = 0.001$). These findings indicate that the community training program effectively improved participants' competencies in applying distraction and relaxation techniques at Guido Valadares National Hospital, Dili, Timor-Leste.

Discussion

The implementation of this community service program demonstrated that structured training on distraction and relaxation techniques effectively improved participants' competencies at Guido Valadares National Hospital, Dili, Timor-Leste. Before the training, most participants were categorized as having poor competency (60.0%), whereas after the program, the majority achieved good competency (73.3%).

This improvement was reflected in the increase in the mean competency score from 58.50 ± 11.06 before the training to 84.03 ± 9.63 after the training. Furthermore, all participants showed higher posttest scores than pretest scores (positive ranks = 30), with no negative ranks or ties. The Wilcoxon Signed-Rank Test also demonstrated a statistically significant improvement in competency following the implementation of the training program ($Z = -4.783$; $p < 0.001$). These findings indicate that the educational activities successfully enhanced participants' knowledge, practical skills, and confidence in applying distraction and relaxation techniques as non-pharmacological pain management interventions. Considering that most participants had never attended previous training on non-pharmacological pain management (60%), this program fulfilled an important educational need and contributed to strengthening participants' professional competencies.

The positive outcomes of this community service program are consistent with previous studies demonstrating that continuing education and structured training are essential strategies for improving nurses' competence in non-pharmacological pain management. Nurses who receive educational interventions are more capable of applying non-pharmacological techniques appropriately in clinical practice than those who have never received similar training. Educational programs also improve nurses' knowledge, technical skills, self-confidence, and clinical decision-making, thereby supporting the implementation of evidence-based nursing practice in daily patient care (15)(16). The combination of theoretical learning and practical demonstrations provided during this program enabled participants to understand the principles of distraction and relaxation techniques while developing the confidence required for their clinical application.

The improvement observed during this program is also supported by recent scientific evidence regarding the effectiveness of non-pharmacological pain management. Systematic reviews have reported that distraction and relaxation techniques effectively reduce pain intensity, improve patient comfort, and enhance the quality of nursing care across various clinical settings (17)(19). That relaxation techniques provide significant benefits in chronic pain management by reducing pain perception and promoting psychological comfort. These findings strengthen the rationale for integrating distraction and relaxation techniques into routine nursing care as complementary interventions alongside pharmacological treatment (20).

In addition, recent studies have emphasized that distraction and relaxation techniques are practical, safe, inexpensive, and feasible nursing interventions that can easily be incorporated into routine clinical services. That combining distraction and relaxation techniques effectively reduced patients' pain intensity, while highlighted that nurses' knowledge and positive attitudes are fundamental factors influencing the successful implementation of non-pharmacological pain management (21) (22). Therefore, strengthening participants' competencies through structured educational activities, such as those conducted in this community service program, is expected to improve the consistency of evidence-based nursing practice and encourage wider adoption of non-pharmacological interventions in hospital settings.

The successful implementation of this community service program provides practical benefits for Guido Valadares National Hospital. The training program may serve as a foundation for developing regular Continuing Nursing Education (CNE) activities, strengthening Standard Operating Procedures (SOPs) related to distraction and relaxation techniques, and promoting the integration of evidence-based nursing practice into routine clinical services. Continuous competency development is expected to improve the quality of nursing care, patient safety, patient satisfaction, and the sustainability of non-pharmacological pain management practices within healthcare services.

This community service program had several implementation limitations. The activity involved only 30 nurses from a single hospital, and the evaluation was conducted immediately after the training program. Consequently, the sustainability of participants' competencies and the long-term application of distraction and relaxation techniques in daily clinical practice could not yet be assessed. To ensure the sustainability of the program, Guido Valadares National Hospital is encouraged to conduct regular refresher training, mentoring, and periodic competency evaluations as part of its continuing professional development program. Similar community service activities are also recommended to be implemented in other healthcare institutions throughout Timor-Leste to expand the benefits of non-pharmacological pain management education and strengthen evidence-based nursing practice across healthcare settings.

Conclusions and Recommendations

The implementation of the community service training program successfully improved participants'

competencies in implementing distraction and relaxation techniques. The program enhanced participants' knowledge, attitudes, and practical skills and may contribute to strengthening evidence-based nursing.

It is recommended that Guido Valadares National Hospital conduct regular refresher training, mentoring, and periodic competency evaluations to ensure the sustainability of competency improvements achieved through the training program. Similar community service programs may also be implemented in other healthcare institutions throughout Timor-Leste to strengthen evidence-based nursing practice and improve the quality of healthcare services.

Ethical Consideration and Competing Interest

The authors declare that there are no conflicts of interest related to the implementation of this community service program or the publication of this article.

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