

## EFFECTIVENESS OF STRESS MANAGEMENT IN NURSES WITH NEURO-LINGUISTIC PROGRAMMING (NLP) AND ITS INFLUENCE ON IMPROVING NURSES PERFORMANCE

*Efektivitas Pengelolaan Stress pada Perawat dengan Neuro Linguistik  
Programing (NLP) dan Pengaruhnya pada Peningkatan Kinerja Perawat*

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### ABSTRAK

Perawat merupakan pekerjaan dengan tingkat stres tinggi, apabila beban tidak secara proporsional sesuai dengan kemampuan fisik, keahlian dan ketersediaan waktu maka dapat menjadi sumber stress yang dapat menyebabkan penurunan yang signifikan pada Kesehatan fisik dan mental perawat hingga berdampak negatif kepada kesejahteraan perawat. Penelitian ini bertujuan untuk menganalisis efektivitas Neuro-Linguistic Programming (NLP) terhadap pengelolaan stres dan pengaruhnya pada peningkatan kinerja perawat. Metode penelitian yang digunakan adalah quasi eksperimen dengan one pretest-posttest group design untuk penilaian stress (skor ENSS) pada kedua kelompok dan one pretest -posttest group design untuk penilaian kinerja perawat pada kelompok intervensi. Sampel dipilih dengan teknik purposive sampling, didapatkan tiga puluh perawat bangsal RSUD Diponegoro Dua Satu Klaten yang kemudian dibagi menjadi kelompok perlakuan dan kontrol. Variabel independent penelitian berupa pelatihan NLP. Variabel dependen berupa stress dan kinerja perawat. Instrumen penelitian menggunakan formulir penelitian kinerja pegawai dan Expanded Nursing Stress Scale (ENSS). Intervensi pelatihan NLP selama 1 minggu. Analisis data skor kinerja perawat dengan Paired T-test sedangkan skor ENSS dengan dependent t test yang dilanjutkan dengan independent t-test. Hasil penelitian menunjukkan terdapat perbedaan peningkatan yang signifikan rerata skor kinerja perawat pada kelompok perlakuan sebesar 3.8 ( $p < 0.05$ ). Terdapat perbedaan penurunan rerata yang signifikan skor ENSS pada kelompok perlakuan sebesar -20.66 ( $p < 0.05$ ). Tidak ada perbedaan yang signifikan skor ENSS pada kedua kelompok setelah diberikan intervensi NLP ( $p > 0.05$ ). Implikasi penelitian bahwa pelatihan Neuro-Linguistic Programming (NLP) dapat menurunkan stress (penurunan skor ENSS) pada perawat bangsal dengan kelompok perlakuan secara signifikan dan meningkatkan kinerja perawat bangsal pada kelompok kontrol secara signifikan.

**Kata kunci:** kinerja, neuro-linguistic programming, pengelolaan stress, perawat

### ABSTRACT

Nursing is a high-stress profession, and when the workload does not align with physical capabilities, skills, and available time, it can become a source of stress, negatively impacting nurses' physical and mental health. This study aims to analyze the effectiveness of Neuro-Linguistic Programming (NLP) in stress management and its effect on nurses' performance. A quasi-experimental design with a one pretest-posttest group design was used for both stress (ENSS scores) and performance assessments. 30 nurses ward from the Diponegoro Dua Satu Hospital's in Klaten were selected using purposive sampling and divided into treatment and control groups. The independent variable was NLP training, while the dependent variables were stress and nurses' performance. Instruments used included the Expanded Nursing Stress Scale (ENSS) and an employee performance form. The Neuro-Linguistic Programming (NLP) training

intervention lasted one week. Data analysis for performance scores was done using Paired T-test, and ENSS scores were analyzed using dependent and independent t-tests. The results showed a significant improvement in performance scores for the treatment group (increase of 3.8,  $p < 0.05$ ), and a significant reduction in ENSS scores (decrease of -20.66,  $p < 0.05$ ). No significant difference in ENSS scores was found between the groups after the NLP intervention ( $p > 0.05$ ). The study suggests that Neuro-Linguistic Programming (NLP) training can significantly reduce stress and improve performance in nurses.

**Keywords:** neuro-linguistic programming, nurses, performance, stress management

## INTRODUCTION

Occupational stress is a dangerous emotional and physical response when job demands do not match the worker's resources, abilities, and needs [1]. Occupational stress in nurses is influenced by various individual, social, environmental, and organizational factors [2]. If this load is not proportional to physical abilities, skills, and time availability, it can become a source of stress [3]. Occupational stress has an impact on reducing the health and well-being of nurses, such as psychosomatic disorders, mental health, alcoholism, drug abuse, absenteeism, injuries at work, and reduced ability to provide quality care [4]. This situation leads to burnout or boredom, a chronic stress characterized by extreme fatigue, detachment from work, and loss of sense of personal achievement. Occupational stress in nurses affects their quality of life and simultaneously affects the quality of care [5].

Nurse performance assessment plays an important role in providing high-quality health services to achieve desired patient outcomes [6]. Nurse performance is significantly related to the work environment, legality of work, continuous job evaluation, incentives, assistance from management to achieve work goals, clarity of main tasks and functions, and individual capabilities [7]. A study conducted by Sari et al., which assessed the factors that influence the performance of inpatient nurses, showed that from a situational perspective, it was influenced by workload, facilities, cooperation, and work environment [7]. From an individual perspective, it is influenced by the inability to manage stress, lack of facilities, and overwork. Meanwhile, from a regulatory perspective, it is influenced by supervision, salary, and rewards.

There are various psychiatric, psychological, and medical methods for dealing with occupational stress and high job demands on nurses. There is no consensus on what is most helpful in terms of management of nurses' stress and there are multiple methods to approach it. A systematic review from Alkhawaldeh et al., on stress management interventions for nurses, examining several level 2 studies [8], identified various interventions such as psychological skills training (including coping, stress, and resilience training), cognitive therapy, mindfulness-based and meditation training (such as mindfulness-based stress reduction, modified mindfulness-based stress reduction, and others), and other modalities (altered environmental or care model, massage, energy therapy like healing touch, jin shin jyutsu, reiki), acupuncture, acupressure, aromatherapy, yoga, other physical activity training, communication training, multimodal training). The results showed significant between-group effects on stress-related outcomes, including mindfulness education program, massage therapy, aromatherapy, dementia care mapping, auriculotherapy, communication skills class, and career identity training [2].

In the last few decades, NLP has developed to overcome this. NLP focuses on an individual's reaction to stressful events and provides practical strategies to improve an individual's coping and adaptation capacity [9]. NLP deals with the subjective structure of human experience, and it determines how a person can regulate what to see, hear, and feel, as well as how to purify a person's external world through their senses [10].

NLP provides an understanding of the level of individual beliefs, attitudes, or values that an individual considers important, as well as helps and motivates individuals to discover their true potential. NLP not only changes at an individual level but can be used to create human perfection and intelligence [11].

Study by Hemmati Maslakkpak et al. regarding the effect of NLP on occupational stress in nurses working in the Urmia critical care unit, it shows that after providing NLP intervention in the intervention group, stress levels were found to decrease, while in the control group, they remained the same [10]. The stress scores of the two groups were significantly different. Although Hemmati Maslakkpak et al. highlighted the effectiveness of Neuro-Linguistic Programming (NLP) in reducing stress among critical care nurses, more recent studies such as Cetin and Yayan, have demonstrated Neuro-Linguistic Programming broader applications and efficacy in different healthcare settings [12]. It can be concluded that NLP can improve coping with stressful situations and reduce the side effects of occupational stress. A study by Gökdere Çınar & Baykal's study regarding the effects of NLP techniques in conflict management and the ability to resolve interpersonal problems of nurse managers and nurses [13]. The results of the study using qualitative data analysis showed that nurse managers in the NLP intervention group had improvements in the ability to plan and increased flexibility, positivity, happiness, and motivation compared to the control group. Another study by Babapour et al., shows that work stress has a negative impact or effect on the health quality of nurses' lives [14].

This study evaluates the effect of Neuro-Linguistic Programming (NLP) on stress management and its influence on performance. At the research site, RSU Diponegoro Dua Satu, several challenges were identified, including high levels of occupational stress among ward nurses due to heavy workloads, low nurse-to-patient ratios, and limited access to structured stress management programs. These conditions highlight the urgent need for effective interventions to address stress and improve nurse performance. The study aimed to evaluate the impact of awareness about the purpose of NLP training on stress levels. Data were collected using validated instruments including the Expanded Nursing Stress Scale (ENSS) to assess occupational stress and Nurse Performance Assessment to evaluate nursing performance during the study period.

## **METHODS**

### **Study design**

This study used quantitative research methods of the quasi-experimental type. The experimental design used in the study was one pretest-posttest group design for stress assessment (ENSS score) in both groups and one pretest-posttest group design for nurse performance assessment in the intervention group.

The NLP intervention consisted of structured sessions over one week, focusing on techniques such as anchoring, reframing, and visualization. Each session lasted two hours, conducted in a quiet setting to maximize focus. The experimental group was informed about the purpose and potential benefits of the training, while the control group received standard care with no specific intervention. Ethical considerations included post-study debriefing and support for the control group to mitigate any adverse effects of stress or burnout during the study.

### **Sample and sampling technique**

From February to April 2024, a purposive sample of 30 ward nurses from RSU Diponegoro Dua Satu Klaten was selected. The sample was divided into two groups: 15 nurses in the treatment group (Yudhistira Ward) and 15 in the control group (Pandawa Ward). This selection was made based on the need to examine nurses facing high occupational stress in inpatient settings.

The criteria for inclusion included active participation during the study period, willingness to participate, and exclusion of nurses head. The selection was driven by reports highlighting significant level of stress and burnout due to workload, patient demands, and complex medical procedures. The study aimed to explore the impact of NLP training on improving coping mechanism and performance on demanding environment.

The population used in this study were ward nurses at Diponegoro Dua Satu Klaten Hospital. The sampling method chosen by the researcher was to use nonprobability sampling method using purposive sampling technique. The inclusion criteria include Yudhistira ward nurses (15 people), Pandawa ward nurses (5 people), who agreed to participate in the study, and not the head of the room. The exclusion criteria include do not agree to participate in the study, absent (sick / leave) during the study, and did not complete the complete NLP assignment. The sample consisted of nurses divided into two groups. Intervention Group (n=15): nurses from the Yudhistira Ward who received NLP training with a clear explanation of its purpose to enhance resilience and stress management. Control Group (n=15): nurses from the Pandawa Ward who also received NLP training, but without being informed of the training's intended purpose.

### **Ethical Approval**

This study is part of research and development of Neuro-Linguistic Programming (NLP) for improving nurses performances. This research has been ethically approved by the Health Research Ethics Committee Faculty of Medicine and Health Sciences Muhammadiyah Yogyakarta University No. 166/EC-KEPK FKIK UMY/IV/2024. This research was conducted at RSU Diponegoro Dua Satu Klaten.

### **Research variable and instrument**

The independent variable is Neuro-Linguistic Programming (NLP) Training. Neuro-Linguistic Programming is a program to reduce stress and improve individual coping and adaptation skills in mental, linguistic, and behavioural areas. The higher the score, the better the stress management the individual receives [14]. The instruments used for the validity and reliability test results consist of dependent variables. First, stress score. Stress is a condition of negative emotions such as pressure, tension, anxiety, and sadness. This can be measured by the Expanded Nursing Stress Scale (ENSS) scale, where the higher the score, the higher the stress or negative emotions the individual feels [4]. Second, nurse performance score. Nurse performance is the result of nurse performance in the form of quality service to patients and efficiency in working individually and in teams to achieve the goals of the vision and mission of the hospital, especially Diponegoro Dua Satu Klaten Hospital. This can be measured by the employee performance assessment form of RSU Diponegoro Dua Satu Klaten by the Head of Yudhistira and Pandawa Ward.

### **Data Analysis**

The first hypothesis was tested to assess the impact of NLP training on the service performance of nurses in the experimental group. Prior to conducting the normality test, validity and reliability tests were performed. Normality was checked using the Shapiro-Wilk test (for samples < 50). If the data were normally distributed, the Paired T-test was used to compare the service performance scores of ward nurses before and after NLP training, with data analysis conducted using IBM SPSS (Statistical Package for Social Sciences) software.

For the second hypothesis, the effect of NLP training on the ability of ward nurses to manage stress was analyzed. Normality was again tested using the Shapiro-Wilk test (for samples < 50). If the data met the normality assumption, the Paired T-test was used to compare the ENSS scores within each group before and after the NLP training.

Additionally, an independent (unpaired) T-test was performed to compare the post-test scores between the experimental and control groups.

## RESULT

### A. Performance Score

Table 1 shows service performance score data for the treatment group before and after NLP training. The mean service performance score after NLP training differs, with a tendency for scores to increase.

**Table 1. Initial and Post-Treatment Group Service Performance Score Data**

Subject	N	Mean $\pm$ SD (pre)	Mean $\pm$ SD (post)
Treatment	15	53.94 $\pm$ 3.34	57.74 $\pm$ 3.45

The Shapiro-Wilk test was used to test the normality of the service performance score data for the treatment group before and after NLP training. The normality test results are in Table 2 and Attachment 2.

**Table 2. Normality Test Results of Service Performance Score Data at the Beginning and After the Treatment Group**

Subject	N	Information	p-value
Treatment	15	early	0.255
		end	0.471

Table 2 shows that the service performance score data for the treatment group before and after NLP training is normally distributed because the p-value is  $> 0.05$ . Because the data was normally distributed, a Paired T-test was carried out to determine the comparison of service performance scores after NLP training. Paired T-test results can be seen in Table 3.

**Table 3. Paired T-Test Results for Initial and Post-Treatment Service Performance Scores**

Group	N	p-value
Treatment	15	0.004

From Table 3, the p-value  $< 0.05$  is obtained, which shows that there is a significant difference in the service performance scores of the treatment group before and after NLP training.

### B. ENSS Score

Table 4 shows ENSS score data for the control group and treatment before and after NLP training. There was a decrease in the mean ENSS score in the treatment group after training by 20.66 with a tendency for stress to decrease. Meanwhile, there was no difference in the mean ENSS score in the control group.

**Table 4. ENSS Score Data at Initial and After Treatment Group**

Group	Pre-test Score (mean $\pm$ SD)	Post-test Score (mean $\pm$ SD)
Treatment Group	86.73 $\pm$ 16.84	66.07 $\pm$ 17.2
Control Group	61.07 $\pm$ 30.90	61.07 $\pm$ 31.16

Test the normality of ENSS score data for control and treatment groups before and after NLP training using the Shapiro-Wilk test.

**Table 5. Normality Test Results of ENSS Score Data at Initial and After Control and Treatment Groups**

Subject	N	Information	p-value
Control	15	Early	0.608
		End	0.291
Treatment	15	Early	0.248
		End	0.623

Table 5. shows that the ENSS score data for the control and treatment groups before and after NLP training are normally distributed because the p-value is  $> 0.05$ . Because the data was normally distributed, a paired t-test was carried out for each control and treatment group to compare the ENSS of the treatment group after NLP training. The T-test results can be seen in Table 6.

**Table 6. Paired T-Test Results of ENSS Scores for Control Group and Treatment Group**

Group	N	p-value
Control	15	1.000
Treatment	15	0.000

From Table 6, it is obtained that the p-value is  $< 0.05$  in the treatment group, which shows that there is a significant difference in reducing stress after NLP training. Meanwhile, in the control group, a p-value was  $> 0.05$ , which indicated there was no difference. Which means a reduction in stress. An unpaired T-test was carried out to compare the post-test scores after NLP training in the treatment group and the control group. The results of the unpaired T-test can be seen in Table 8.

**Table 7. Unpaired T-Test Results of ENSS Scores for Control Group and Treatment Group**

Subject	N	Mean $\pm$ SD	p-value
Control	15	61.07 $\pm$ 31.16	0.591
Treatment	15	66.07 $\pm$ 17.24	

Table 7. shows there is no significant difference in the post-test ENSS scores between the two groups (p-value  $> 0.05$ )

## DISCUSSION

### A. Difference in performance scores after NLP training

After being given NLP training for 1 week in the treatment group, the mean service performance score increased from 53.94 to 57.74. Data analysis techniques were carried out to compare the significance of the increase in service performance scores before and after NLP training. There was a significant increase in service performance scores before and after NLP training with a p-value  $< 0.05$ . This study is in accordance with the study by Anjomshoa et al. (2020), which shows significant results that the influence of NLP can increase work motivation and positive organizational behavior and reduce teacher job stress in the intervention group compared to the control group [15].

A study conducted by Sari et al. (2019), which assessed the factors that influence the performance of inpatient nurses, shows that from a situational perspective, it is influenced by the workload, facilities, cooperation, and work environment. From an individual perspective, it is influenced by the inability to manage stress, lack of facilities, and overwork. Meanwhile, from a regulatory perspective, it is influenced by supervision, salary, and rewards [7]. Stress that occurs in inpatient nurses if proper care is not taken can cause psychological and physical pain. This has an impact on fatigue and decreased performance of nurses [3]. Nurses who experience various levels of occupational stress when unable to meet job demands will negatively affect performance and lead to job dissatisfaction. Through NLP training, individuals can develop skills on how to interact with other individuals by improving and bringing awareness to their thought processes, behavior, and the language they use. This is motivated by the influence of NLP on the subjective structure of human experience, which determines how a person can regulate what to see, hear, and feel, as well as how to purify a person's external world through their senses [10]. The development of awareness of each individual's system of representations, goals, beliefs, and values will result in awareness of the other. This influences more effective individual communication actions, the development of individual support and communication networks, and changes in self-confidence and

self-efficacy. Through NLP, individual and organizational goals can be achieved faster and more efficiently [15].

## **B. Differences in ENSS scores after NLP training**

After being given NLP training for 1 week in the treatment group, the mean ENSS score decreased from 86.73 to 66.07. Meanwhile, in the control group, there was no difference in the decrease in the mean ENSS score, namely from 61.07 to 61.07. Data analysis techniques were carried out to compare the significance of ENSS scores before and after NLP training in each group. In the treatment group, there was a significant difference in reduction in ENSS scores with a p-value  $<0.05$ . In the control group, there was no significant difference in reduction with a p-value  $>0.05$ . An unpaired T-test was carried out to compare the ENSS score after NLP training in the two groups, and there was no significant difference with a p-value  $>0.05$ .

The decrease in ENSS scores in the treatment group shows that one week of NLP training can reduce stress in nurses. Meanwhile, the absence of a difference in the ENSS score between the two groups after the treatment was given could be caused by the higher ENSS score threshold in the treatment group compared to the control before the treatment was given, with the mean score for the control group being 61.07 and the treatment group being 66.07. This study is in accordance with the study conducted by Hemmati Maslakpak et al. (2016), which showed statistically significant differences in all stress subscales between the intervention group and the control group after implementing NLP training strategies in the intervention group ( $P < 0.05$ ) [10]. This shows that the use of NLP can improve the ability to cope with stressful situations and reduce the negative impacts of work stress. Another supporting study by Rajeswari H (2017) showed that there was a significant difference in the NLP wheel of life scale between the average post-test and pretest scores after being given visual-kinesthetic NLP training for 21 days [16]. This shows that NLP-visual kinesthetic is effective in reducing the level of secondary traumatic stress. Another supporting study by Gökdere Çınar & Baykal (2022) showed that nurse managers in the NLP intervention group had improvements in the ability to plan and increased flexibility, positivity, happiness, and motivation compared to the control group [13].

Occupational stress has an impact on reducing the health and well-being of nurses, such as psychosomatic disorders, mental health, alcoholism, drug abuse, absenteeism, absenteeism, injuries at work, and reduced ability to provide quality care. This situation leads to burnout or boredom, a chronic stress characterized by extreme fatigue, detachment from work, and loss of sense of personal achievement [17]. NLP focuses on individual reactions to stressful events and provides practical strategies to increase individual coping and adaptation capacity [10].

This research has several limitations the number of samples is limited due to the purposive sampling method, the duration of NLP intervention is not long enough given that has to adjust the shift work schedule, and this research not excluded the influence of stress outside of occupational stress that can affect the baseline stress score. We recommend in future research with a larger sample size, consider classifying the types of ward nurses, and the longer duration of NLP administration.

## **CONCLUSION**

While this study demonstrates that Neuro-Linguistic Programming (NLP) training positively impacts nurses' mental well-being and performance, the sampling technique and inclusion criteria require further clarification. Future studies should incorporate larger and more diverse samples to validate these findings. First, providing NLP training succeeded in reducing the level of stress experienced by nurses, as evidenced by a decrease in scores on the Expanded Nursing Stress Scale (ENSS) in the treatment group. This shows that the techniques and strategies taught in the training are able to

help nurses manage negative emotions and reduce the pressure they feel at work. Second, the research results also show that this training contributes to improving nurse performance. This improvement is reflected in the evaluation carried out by the head of the room, where nurses who took part in the training showed progress in service quality and work efficiency. Thus, the application of NLP is useful not only for reducing stress but also for increasing nurses' professionalism and job satisfaction. This research recommends that hospitals consider NLP training as part of their human resource development program to support nurses' mental well-being and optimal performance.

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