

## Nurses as Leaders in Healthcare. The Impact of Advanced Education and Training on Leadership and Managerial Skills

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### Abstract

This study explores the impact of advanced education and training on the leadership and managerial skills of nurses in Albania. The use of advanced training and the development of leadership skills are crucial for improving healthcare services and managing healthcare teams. In this study, 350 nurses working primarily at the University Hospital Center "Mother Teresa" (QSUT) and in primary healthcare centers in Tirana, Albania, were interviewed during the period from July to December 2024. Statistical analysis indicates that advanced training has a significant impact on improving the leadership and managerial skills of nurses, with notable improvements observed in those who had undergone advanced training.

**Keywords:** Nurses, Leadership in Healthcare, Education and Training, Healthcare Management and Health Policies

### Introduction

The global healthcare system is facing significant challenges, and one potential solution for improving healthcare services is empowering nurses and developing their leadership and managerial skills [1]. Advanced training is a key component in the development of these skills and ensuring that nurses can effectively lead healthcare teams. This study focuses on the impact of advanced training for nurses and how it helps improve the quality of care and management in healthcare systems.

### Methodology

This study used a qualitative and statistical research method to analyze the impact of advanced training on the leadership and managerial skills of nurses. Data were collected through in-depth interviews and questionnaires with 350 nurses working at the University Hospital Center "Mother Teresa" and primary healthcare centers in Tirana. The nurses were divided into two groups: 175 who had received advanced training and 175 who had not.

For data analysis, statistical tests such as the chi-square test were used to compare the percentage improvements in leadership and managerial skills, while Pearson's correlation analysis was used to assess the relationship between advanced training and improved skills. The chi-square test results showed that the differences between the groups were statistically significant, with p-values less than 0.05, supporting the argument that advanced training is a key factor in improving the leadership and managerial skills of nurses.

Group of Nurses	Nr of Nurses	Work Center	Advanced Training	Gender	Age	Education Level	Impact on Leadership Skills	Impact on Managerial Skills
Nurses with Advanced Training	175	QSUT, Primary Healthcare Centers	Yes	60% Female, 40% Male	30-45 years	Bachelor: 45%, Master: 55%	80% (Significant Improvement)	85% (Significant Improvement)
Nurses without Advanced Training	175	QSUT, Primary Healthcare Centers	No	55% Female, 45% Male	28-50 years	Bachelor: 60%, Master: 40%	50% (Limited Improvement)	55% (Limited Improvement)
Source: Data collected from July-December 2024.								

**Table 1: Demographic Data of Nurses and Interview Results**

## Statistical Analysis

To analyze the data, percentage comparisons between the two groups of nurses (those with advanced training and those without) were conducted. Analyses were carried out to evaluate the percentage improvements in leadership and managerial skills.

## Hypothesis Testing

- Null hypothesis ( $H_0$ ): There is no significant difference between nurses who have received advanced training and those who have not in their leadership and managerial skills.
- Alternative hypothesis ( $H_1$ ): Nurses who have received advanced training have greater improvements in leadership and managerial skills compared to those who have not.

**Statistical Testing:** Chi-square test was used to compare the percentages between the two groups of nurses, with a confidence level of 95%.

Group of Nurses	Percentage Improvement in Leadership Skills (%)	Percentage Improvement in Managerial Skills (%)	p-value (Chi-Square)
Nurses with Advanced Training	80%	85%	0.0005
Nurses without Advanced Training	50%	55%	0.0012

**Table 2: Chi-Square Test Results for Comparing Percentages**

## Interpretation

### Leadership Skills Improvement

- Nurses with Advanced Training (80%): This group showed a significant improvement in leadership skills, with 80% of nurses reporting an increase in leadership abilities after undergoing advanced training. This indicates that training helped develop leadership skills, making them more capable of managing teams and decision-making in various clinical situations.
- Nurses without Advanced Training (50%): While 50% of nurses without advanced training reported improvement in leadership skills, this improvement was significantly lower compared to the group with advanced training. This suggests that nurses without advanced training have limited opportunities to develop leadership skills and require additional training for further development.

### Managerial Skills Improvement

- Nurses with Advanced Training (85%): This group showed significant improvements in managerial skills, with 85% of nurses reporting an enhancement in their abilities to manage and lead healthcare resources, organize work, and improve patient services. This value is very high, indicating the effectiveness of advanced training in developing managerial skills.
- Nurses without Advanced Training (55%): In this group, only 55% of nurses reported improvements in managerial skills. This improvement was lower than that of the group with advanced training, highlighting that the lack of advanced training negatively impacts the development of managerial skills. This helps identify the need for training opportunities for nurses who wish to improve their management and organizational skills.

## Chi-Square p-Values

- Nurses with Advanced Training ( $p = 0.0005$ ): A p-value of 0.0005 is much lower than 0.05, indicating that the difference between the nurses with and without advanced training is statistically significant. This result underscores the considerable impact of advanced training on improving leadership and managerial skills.
- Nurses without Advanced Training ( $p = 0.0012$ ): Although this p-value (0.0012) is higher than that for the group with advanced training, it is still small enough to indicate a statistically significant difference. Therefore, even the group of nurses without advanced training showed improvements, but to a lesser extent than the other group.

## Correlation Analysis

To assess the relationship between advanced training and improvement in leadership and managerial skills, Pearson's correlation analysis was performed between the two groups of nurses (those with advanced training and those without). This test was conducted to verify whether the improvements in leadership and managerial skills are linked to advanced training.

Group of Nurses	Leadership Skills (r)	Managerial Skills (r)
Nurses with Advanced Training	0.78*	0.85*
Nurses without Advanced Training	0.45*	0.51*
Pearson correlation values (r) are significant at $p < 0.05$ .		

**Table 3: Pearson Correlation Analysis Results**

## Interpretation

### Nurses with Advanced Training

- The correlation between advanced training and leadership skills is 0.78, showing a strong positive relationship between training and the improvement of leadership skills. This suggests that more advanced training results in more developed leadership skills among nurses.
- The correlation between advanced training and managerial skills is 0.85, indicating a very strong relationship between these two variables. This highlights that advanced training has a significant and positive impact on improving nurses' managerial skills.

### Nurses without Advanced Training:

- The correlation between leadership skills and the absence of advanced training is 0.45, indicating a moderate relationship. While there is a noticeable relationship, it is lower than in the group with advanced training.
- The correlation between managerial skills and the absence of advanced training is 0.51, showing a moderate relationship, but still weaker than that found in the group with advanced training.

## Discussion of Correlation

The results of the correlation analysis reinforce the findings from the chi-square test, suggesting a strong relationship between advanced training and the improvement of leadership and managerial skills. This is particularly evident in the group of nurses who received advanced training, where the relationships were much stronger. For nurses without advanced training, the relationships were moderate, suggesting that while there were improvements, they were more limited without the opportunity for advanced training.

## Results

The analysis results showed that nurses who received advanced training reported significant improvements in leadership and managerial skills. 80% of nurses with advanced training reported improvement in leadership skills, while 85% reported improvements in managerial skills. In contrast, nurses without advanced training had more limited improvements, with only 50% reporting improvements in leadership and 55% in managerial skills. This significant difference is supported by statistical analysis, which shows p-values less than 0.05 for both skills, suggesting that advanced training has a significant impact on improving these skills [2].

The study indicates that advanced training has a clear and statistically significant impact on improving the leadership and managerial skills of nurses. Nurses who received advanced training reported considerable improvements in these skills, while those without advanced training experienced more limited gains. This validates the importance of advanced training in developing healthcare leaders and managers, contributing to the improvement of healthcare services.

## Discussion

This study highlights the importance of advanced training for nurses and its impact on developing leadership and managerial skills. Nurses who received advanced training reported significant improvements in their ability to lead and manage healthcare teams, which directly impacts the quality of care for patients. These results align with previous research, which shows that advanced training is a key factor in improving the quality of care and management in healthcare [3]. Specifically, the study found that nurses who received advanced training had a noticeable improvement in leadership and managerial skills, with 80% reporting improvements in leadership and 85% in managerial skills. This demonstrates that advanced training is effective in developing strong leaders capable of managing resources and teams in healthcare systems [4-7].

On the other hand, nurses without advanced training had more limited improvements: only 50% reported improvements in leadership and 55% in managerial skills. This result confirms that the lack of opportunities for advanced training can hinder the development of key leadership and management skills in healthcare settings, highlighting the need for further training opportunities for nurses who wish to advance professionally.

The results of the statistical analysis support these findings. Percentage analyses and chi-square tests showed that advanced training has a significant impact on improving nurses' leadership and managerial skills. A small p-value (0.0005 for leadership skills and 0.0005 for managerial skills) indicated that the differences between the groups of nurses with and without advanced training were statistically significant. This clearly demonstrates that advanced training is a key factor in developing the necessary skills for effective leadership and management in healthcare.

Another important aspect that was highlighted is the strong correlation between advanced training and leadership and managerial skills, as confirmed by the Pearson correlation analysis. Nurses who received advanced training showed very strong correlations ( $r = 0.78$  for leadership skills and  $r = 0.85$  for managerial skills), while those without advanced training had weaker correlations ( $r = 0.45$  for leadership skills and  $r = 0.51$  for managerial skills). This suggests that advanced training is a crucial element for the development of skills necessary to lead and manage in healthcare settings.

## Conclusion

This study emphasizes that advanced training is a critical element for the development of leadership and managerial skills among nurses, thereby improving the quality of care and management of healthcare services. The results of the study support the need for further training and education opportunities for nurses as an essential step to ensure the development of capable and effective leaders who can face the challenges of the healthcare system. Health policies should support and promote advanced training for nurses to ensure the development of sustainable and effective leadership in the healthcare sector.

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