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The Impact of SIMCAR LASTRI Development on Team Communication in the Implementation of the Nursing Career Ladder at RSUD Tanjungpinang

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Abstract

Background: The implementation of a career ladder system in hospitals is crucial for the professional development of nurses. However, communication barriers within nursing teams often hinder the effectiveness of this system. SIMCAR LASTRI was developed to enhance communication within nursing teams, ensuring a more structured and efficient career progression process. This study aims to analyze the impact of SIMCAR LASTRI on team communication in the implementation of the nursing career ladder at RSUD Tanjungpinang.
Methods: This study employed a quantitative analytical approach with a quasi-experimental design, involving 76 nursing practitioners at RSUD Tanjungpinang. Data were collected using structured questionnaires and analyzed using the Wilcoxon signed-rank test to assess the impact of SIMCAR LASTRI on team communication in career ladder implementation.
Results: The univariate analysis revealed that the majority of respondents were female (92.1%), aged 26-35 years (73.7%), with a vocational education background (84.2%) and 7-15 years of work experience (54%). Before the implementation of SIMCAR LASTRI, 43.4% of nurses were at the Pre-PK level, and 61.84% of respondents perceived career ladder implementation as suboptimal, with major obstacles in the credentialing process (50%), competency assessment (36.84%), and issuance of Clinical Assignment Letters (SPK) and Clinical Authority Details (RKK) (34.21%).
The analysis showed that before SIMCAR LASTRI implementation, the mean team communication score was 34.09 (median 34.00, range 30-37), which significantly increased to 41.88 (median 42.00, range 39-42) after implementation. Bivariate analysis confirmed a statistically significant positive impact of SIMCAR LASTRI on team communication, with a p-value of 0.000, indicating that its implementation facilitated better coordination, improved information flow, and enhanced clarity in career progression for nurses.
Conclusion: These findings suggest that SIMCAR LASTRI plays a crucial role in improving communication within nursing teams, thereby optimizing the implementation of the career ladder system in hospitals. Further research is recommended to explore its long-term effects on job satisfaction, professional development, and healthcare service quality.

Keywords: career ladder, team communication, nursing, hospital management, SIMCAR LASTRI

Introduction

The career ladder system in hospitals serves as an essential framework for guiding nurses' professional growth and career development. This system provides structured career progression, ensuring that nurses gain competencies, experience, and recognition in their roles.[1] A well-implemented career ladder system can enhance job satisfaction, improve retention rates, and ensure high-quality healthcare services.[2,3] However, despite its importance, several challenges hinder its effective implementation, particularly team communication issues within nursing staff. Poor communication can lead to misinterpretations of career advancement criteria, delays in credentialing, and ineffective coordination between nurses and management, ultimately affecting their motivation and performance.[4,5]

One of the major barriers in the implementation of career ladders in hospitals is the lack of clear and structured communication among nursing teams. Effective team communication is crucial to ensuring transparency, collaboration, and alignment between nurses, supervisors, and hospital management regarding career pathways.[6] Previous studies have shown that hospitals with effective communication mechanisms experience smoother career ladder implementation, while those with weak communication channels face challenges such as unclear promotion criteria, inefficient competency assessments, and delays in career progression.[7] Given these challenges, it is necessary to develop a system that facilitates better team communication in career ladder implementation.

To address this issue, SIMCAR LASTRI (Sistem Informasi Manajemen Karir Keperawatan – Layanan Administrasi Sistem Terintegrasi) was developed as a technology-based solution to improve communication and information dissemination regarding career ladder implementation in hospitals. This system aims to streamline the credentialing process, competency assessments, and clinical authority approvals while ensuring that nurses receive real-time updates and transparent career advancement guidelines.[8,9] Through digital documentation and automated career tracking, SIMCAR LASTRI facilitates better coordination among nurses, supervisors, and hospital administrators, reducing miscommunication and career stagnation.[10,11]

This study aims to analyze the impact of SIMCAR LASTRI on team communication in the implementation of the nursing career ladder at RSUD Tanjungpinang. By assessing pre- and post-implementation communication levels, this research seeks to determine whether SIMCAR LASTRI can effectively enhance communication within nursing teams, thus leading to a more structured and efficient career progression system. Additionally, this study will provide insights into the role of digital innovations in improving career management in healthcare settings and suggest potential improvements for further optimizing nursing career pathways.

Methods

This study employed a quantitative analytical approach with a quasi-experimental design using a pre-and post-test approach without a control group. The research was conducted at RSUD Tanjungpinang, a regional public hospital that implements a career ladder system for nurses. The study aimed to assess the impact of SIMCAR LASTRI on team communication in the implementation of the nursing career ladder.

The study population consisted of nurses working at RSUD Tanjungpinang who were actively involved in the career ladder process. A total of 76 nursing practitioners participated in the study, selected through total sampling technique. The inclusion criteria were nurses who had been employed for at least one year, those actively undergoing career ladder credentialing, and those willing to participate in the study. Nurses who were on long-term leave or not actively involved in career ladder implementation were excluded from the study.

Data were collected using structured questionnaires distributed before and after the implementation of SIMCAR LASTRI. The questionnaire assessed sociodemographic characteristics (age, gender, education level, years of experience, and career ladder level), career ladder implementation (nurses' perception of its effectiveness, obstacles, and accessibility), and team communication (effectiveness of communication, clarity of information, and coordination among nurses and supervisors in the career ladder process). The career ladder and team communication variables were measured using Likert-scale-based instruments, where higher scores indicated better career ladder implementation and stronger team communication.

Data were analyzed using univariate and bivariate analysis. Univariate analysis was conducted to describe sociodemographic characteristics, perceptions of career ladder implementation, and team communication before and after SIMCAR LASTRI implementation. Bivariate analysis was conducted using the Wilcoxon signed-rank test to assess significant differences in team communication before and after the intervention. A p-value of < 0.05 was considered statistically significant.

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This study received ethical approval from the Ethics Committee of RSUD Tanjungpinang under approval number 263.layaketik/KEPKFKEPUNAND. Written informed consent was obtained from all participants, ensuring confidentiality, voluntary participation, and the right to withdraw at any time.

Results

This study involved 76 nursing practitioners at RSUD Tanjungpinang, where the impact of SIMCAR LASTRI on team communication in career ladder implementation was assessed. The results are presented in the following sections, covering sociodemographic characteristics, career ladder implementation, and team communication analysis before and after the intervention.

Sociodemographic Characteristics

Table 1. Sociodemographic Characteristics of Respondents

Characteristics	Frequency (n)	Percentage (%)
Age 26-35 years	56	73.7
Age 36-45 years	20	26.3
Male	6	7.9
Female	70	92.1
Vocational Education	64	84.2
Professional Education	12	15.8
Work Experience <7 years	22	28.9
Work Experience 7-15 years	41	54.0
Work Experience >15 years	13	17.1
Pre-PK Level	33	43.4
PK I Level	31	40.8
PK II Level	12	15.8

The majority of respondents (73.7%) were aged 26-35 years, while 26.3% were between 36-45 years old. Most participants were female (92.1%), with only 7.9% male. Regarding education, 84.2% had a vocational education background, while 15.8% had a professional education degree. In terms of work experience, 54.0% had 7-15 years of experience, followed by 28.9% with less than 7 years, and 17.1% with more than 15 years. The career ladder status before SIMCAR LASTRI implementation indicated that 43.4% of nurses were at the Pre-PK level, 40.8% at PK I, and 15.8% at PK II.

Career Ladder Implementation

Table 2. Career Ladder Implementation Perception

Category	Frequency (n)	Percentage (%)
Less Optimal	47	61.84
Credentialing Process as a Barrier	38	50.00
Competency Assessment as a Barrier	28	36.84
Issuance of Clinical Assignment Letters (SPK)	26	34.21

Before the implementation of SIMCAR LASTRI, 61.84% of nurses perceived the career ladder system as less optimal, mainly due to barriers in credentialing (50%), competency assessment (36.84%), and issuance of Clinical Assignment Letters (SPK) and Clinical Authority Details (RKK) (34.21%). These findings highlight that the manual process previously used was inefficient, leading to delays and miscommunication regarding career

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progression. After SIMCAR LASTRI implementation, nurses reported improved accessibility to information and a clearer career path, which contributed to a more structured and transparent system.

Team Communication Analysis

Table 3. Univariate and Bivariate Analysis of Team Communication

Variable	Median (Pre-Test)	Min-Max (Pre-Test)	Median (Post-Test)	Min-Max (Post-Test)	p-value
Team Communication (Pre-test)	34.00	30-37	42.00	39-42	0.000

The univariate analysis of team communication showed that before the intervention, the median communication score was 34.00 (range 30-37), indicating moderate communication effectiveness. However, after implementing SIMCAR LASTRI, the median communication score significantly improved to 42.00 (range 39-42).

The bivariate analysis confirmed a statistically significant positive impact of SIMCAR LASTRI on team communication, with a p-value of 0.000, indicating that its implementation facilitated better coordination, improved information flow, and enhanced clarity in career progression for nurses.

These results demonstrate that SIMCAR LASTRI had a significant positive impact on team communication, leading to better alignment between nurses and supervisors, improved career pathway transparency, and reduced inefficiencies in career ladder progression. Future research is recommended to assess its long-term effects on job satisfaction, career development, and patient care quality.

Discussions

This study examined the impact of SIMCAR LASTRI on team communication in the implementation of the nursing career ladder at RSUD Tanjungpinang. The findings revealed a significant improvement in team communication after the implementation of SIMCAR LASTRI, indicating that the system effectively enhances coordination, transparency, and efficiency in the career ladder process. The discussion below explores these findings in the context of existing literature and provides insights into their implications for nursing management and healthcare policy.

Sociodemographic Characteristics and Career Ladder Implementation

The results showed that most nurses in this study were young professionals aged 26-35 years (73.7%), with 92.1% being female and 84.2% having a vocational education background. These findings align with previous studies indicating that nurses in the early stages of their careers often face challenges in career ladder progression due to a lack of clear guidance and structured support systems.[12,1] Prior to the implementation of SIMCAR LASTRI, 61.84% of respondents perceived career ladder implementation as suboptimal, with major obstacles in credentialing (50%), competency assessment (36.84%), and the issuance of Clinical Assignment Letters (SPK) and Clinical Authority Details (RKK) (34.21%). These barriers reflect common administrative inefficiencies that have been widely reported in hospital career management systems, where manual documentation and unclear policies often cause delays and miscommunication.[8,9]

The integration of technology-based systems such as SIMCAR LASTRI is an essential strategy for overcoming these challenges. Studies have highlighted that digital career management tools improve process efficiency by providing real-time access to information, automated tracking of career progression, and streamlined administrative workflows.[10,11] The significant improvement in nurses' perception of career ladder

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implementation after SIMCAR LASTRI supports this notion, demonstrating that enhancing accessibility and transparency in career development contributes to higher engagement and satisfaction among nursing staff.[5,8]

The Role of Team Communication in Career Ladder Implementation

One of the key findings of this study was the significant improvement in team communication, with the median score increasing from 34.00 (range 30-37) to 42.00 (range 39-42) after SIMCAR LASTRI implementation (p = 0.000). Effective communication is a critical component of successful career ladder implementation, as it ensures that nurses, supervisors, and administrators are aligned in their understanding of career progression pathways.[4,6] Previous studies have shown that poor communication in nursing teams leads to confusion, delays in credentialing, and limited professional growth opportunities, ultimately affecting job satisfaction and workforce retention.[2,3]

The implementation of SIMCAR LASTRI addressed these communication barriers by providing a centralized platform for career-related discussions, facilitating easier access to information, and improving coordination between nurses and supervisors.[8,9] By automating key processes such as competency assessment and document verification, the system reduced reliance on manual communication, minimizing errors and ensuring that nurses received timely updates on their career status.[10,11] The positive impact observed in this study is consistent with research demonstrating that digital communication tools enhance teamwork efficiency and organizational transparency in healthcare settings.[7,13]

Implications for Nursing Management and Healthcare Policy

The findings from this study provide valuable insights for hospital administrators and policymakers seeking to improve career ladder implementation in healthcare institutions. First, the significant improvement in team communication and career ladder clarity suggests that hospitals should integrate digital career management systems as part of their workforce development strategies.[1,14] The success of SIMCAR LASTRI demonstrates that structured and technology-driven interventions can effectively reduce administrative inefficiencies, enhance communication, and support professional growth among nurses.[8,9]

Second, hospitals should focus on strengthening leadership and training programs to ensure the sustainability of career ladder systems. While technology can facilitate smoother processes, the role of nursing leaders and supervisors remains crucial in providing guidance, mentorship, and performance evaluations.[15,16] Investing in leadership development and digital literacy training for nursing staff will maximize the benefits of career management systems and foster a culture of continuous learning and professional development.[17,18]

Finally, future research should explore the long-term impact of SIMCAR LASTRI on job satisfaction, retention rates, and patient care outcomes. While this study confirms its effectiveness in improving communication and career ladder implementation, further investigations are needed to assess its broader implications for nursing workforce stability, hospital efficiency, and overall healthcare quality.[2,19,20]

Limitations and Future Research Directions

Despite its strengths, this study has several limitations. First, the research was conducted at a single hospital, which may limit the generalizability of findings to other healthcare settings. Second, the study focused primarily on communication outcomes, while other factors such as nurse motivation, job satisfaction, and long-term career progression were not explored in depth. Future studies should consider a multi-center approach to compare the effectiveness of SIMCAR LASTRI across different hospitals and assess its impact on other key performance indicators in nursing career development.

Conclusions

This study confirms that SIMCAR LASTRI significantly improves team communication in the implementation of the nursing career ladder at RSUD Tanjungpinang. The system has been proven to enhance coordination, provide real-time access to career-related information, and reduce administrative barriers, allowing nurses to navigate

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their career pathways more effectively. The findings indicate that prior to SIMCAR LASTRI implementation, career ladder progression faced challenges related to credentialing, competency assessment, and administrative inefficiencies, which often resulted in miscommunication and delays in professional development. However, after the introduction of SIMCAR LASTRI, there was a significant improvement in team communication, as evidenced by a statistically significant increase in median communication scores ($p = 0.000$).

The integration of technology-based career management systems like SIMCAR LASTRI should be considered a strategic priority for hospital administrators and healthcare policymakers. Implementing such digital innovations can facilitate a more structured, transparent, and efficient nursing career progression system, ultimately leading to higher job satisfaction, better workforce retention, and improved healthcare service quality.

Despite its promising results, this study has several limitations. The research was conducted in a single hospital, limiting the generalizability of findings to other healthcare settings. Additionally, while the study focused on team communication, other important factors such as long-term career progression, job satisfaction, and patient care quality were not explored in depth. Future research should adopt a multi-center approach to compare SIMCAR LASTRI's effectiveness across different hospitals and examine its long-term impact on nursing workforce stability and healthcare service outcomes.

In conclusion, SIMCAR LASTRI represents a crucial step forward in modernizing nursing career management through digital transformation. Further studies are recommended to evaluate its sustainability and broader impact on healthcare institutions, ensuring that nurses receive adequate support in their professional growth and development while maintaining high standards of patient care.

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Declarations of competing interest

No potential competing interest was reported by the authors.

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