

RESEARCH ARTICLE

Nurses' perceptions of career ladder systems, job satisfaction and turnover intention: A cross-sectional study

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Abstract

Aim: This study aimed to compare nurses' perceptions of career ladder systems, job satisfaction and turnover intention in small- and medium-sized hospitals with and without a career ladder system.

Design: A cross-sectional, correlational, descriptive study was conducted.

Methods: Data were collected using self-report surveys from 130–144 participants in small- and medium-sized hospitals with and without a career ladder system, respectively. The data were collected from July 1, 2019–July 31, 2019.

Results: The perception of the career ladder system was positively correlated with job satisfaction in hospitals with and without a career ladder system but negatively correlated with turnover intention in those with a career ladder system only. A positive perception of the system is associated with increased job satisfaction and lowered turnover intention. Hospitals should implement a career ladder system and improve nurses' perception by addressing the specific categories identified in this study.

KEYWORDS

career ladder system, job satisfaction, nursing management, turnover intention

1 | INTRODUCTION

Financially compensating and promoting nurses in hospitals is an acknowledgement of their performance with a focus on the excellence of their practice. Zimmer (1972) was the first to conceptualize this process as a clinical ladder. Since then, Benner (1982) proposed a model of clinical competence comprising five developmental stages of a nurse's career ladder: novice, advanced beginner, competent, proficient and expert. A career ladder is a rating system for clinical experience, skills, competence training and proficiency in nursing practice. It motivates and encourages nurses to advance their careers by diversifying the scope of compensation according to levels (Maejima et al., 2021; Wakim et al., 2019). Since the 1980s, nursing organizations in many countries have applied programmes

referred to as a career or clinical ladder system in human resource management to retain competent nurses in clinical practice and, thus, improve the quality of patient care as well as recognize and compensate for their competency (Coleman & Desai, 2019; Pierson et al., 2010; Wakim et al., 2019).

2 | BACKGROUND

According to a systematic review of studies that evaluated the effects of the career ladder system in hospitals focusing on nurses from 2008–2018, career ladder systems effectively promoted career advancement, mentorship, a reward system, skills, education development and awareness of duty (Pertwi & Hariyati, 2019).

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For the first time in Korea, a career ladder system was implemented in two tertiary hospitals in 2003. However, the country's career ladder systems have been implemented only in a few departments of some tertiary hospitals due to the lack of empathy and understanding of the overall process, the lack of specific application methods and knowledge, and the financial support burden on the compensation system. After implementation, there were cases where formality compensation such as an increase in salaries, changing of roles or increase in opportunities was made depending on hospital characteristics (Cho et al., 2017; Choi & Jung, 2018). Studies subsequently investigated the development of a career ladder system in tertiary hospitals (Cho et al., 2017) and examined perceptions of the programme (Park & Lee, 2010). Regarding these programmes' effects, perception of the career ladder programme was identified as the most potent predictor of job satisfaction and nurse turnover rates in tertiary hospitals' operating rooms (ORs), where the former increased and the latter decreased with increasing nurses' perception of the programme (Chae et al., 2015).

Small- and medium-sized hospitals are defined as hospitals with fewer than 400 beds, and they account for 93.8% of all healthcare facilities in Korea (Kim et al., 2018). Nurses' turnover rates are three-fold higher in these hospitals compared with large hospitals (Kim et al., 2018). The high turnover rate negatively impacts the quality and quantity of nursing services, and the continuous placement of less proficient newly graduated nurses leads to work overload and burnout in experienced nurses, thereby leading to increased turnover and perpetuation of the malicious cycle (Kim et al., 2018). Therefore, it is important to explore measures to increase job satisfaction and reduce turnover intention in small- and medium-sized hospitals by improving the quality of care and implementing appropriate career ladder systems (Kim et al., 2018). However, past studies on these systems mainly focused on nurses in large hospitals and ORs or ICUs (Chae et al., 2015; Coleman & Desai, 2019; Park & Lee, 2010). Hence, there is a lack of studies examining the individual and organizational impact of a career ladder system in small- and medium-sized hospitals. Thus, this study aimed to examine the features and compare the differences in perceptions of a career ladder system, job satisfaction and turnover intention 3 years after the implementation of a career ladder system in small- and medium-sized hospitals.

3 | METHODS

3.1 | Study design

This study is a descriptive survey aimed at examining nurses' perceptions of the career ladder system, job satisfaction and nurse turnover rates in small- and medium-sized hospitals. It also compares the correlations between perceptions of the career ladder system and major variables. The manuscript was developed using the STROBE checklist for cross-sectional studies.

3.2 | Study participants and methods

Two small- and medium-sized hospitals with 250 to 300 beds in Gyeonggi Province in Korea without career ladder systems and one hospital of similar size that had implemented a career ladder system in all departments in 2016 were convenience sampled by matching hospital size, medical specialties and the number of healthcare staff. The sample size was determined using G*Power 3.1.9.2 software (Faul et al., 2007). For correlation analysis, the minimum sample size was calculated as 112 for each group with a significance level of 0.05 and power of 0.90; considering potential dropouts, 150 participants from the hospital with a career ladder system (one hospital) and 150 from those without the system (75 from each hospital) were recruited. The inclusion criteria were nurses working in a unit involving direct patient care; those in the administrative department who did not provide direct patient care were excluded.

A total of 290 questionnaires were retrieved out of 300 distributed (96.7% retrieval rate). After excluding incomplete questionnaires and those with inappropriate responses, 274 were used. The career ladder system for nurses implemented in the 250-bed hospital since 2016 comprised five levels: Beginner Nurse (BN, <1 year), Junior Nurse (JN, 1 ~ <3 years), Competent Nurse I (CN1, 3 ~ <7 years), Competent Nurse II (CN2, 7 ~ <12 years) and Expert Nurse (EN, ≥ 12 years; Kim et al., 2018). It was structured to comprise five factors based on the structural model for the career ladder system by Cho et al. (2017): value system, nursing competence behavioural indices by clinical level, advancement system, training system and support and compensation system. In the career ladder system, the requirement for advancement is clinical experience, and in the evaluation of nursing competency, the ratio of the competency item's importance was set differently for each clinical stage. Bonuses were paid differentially according to CN1, CN2 and EN levels. In the JN, CN1 and CN2 stages, expert education was supported, and in the EN stage, graduate school and overseas training were supported.

3.3 | Data collection

Approval from the university institutional review board was obtained, and data were collected from July 1 to 31, 2019. After obtaining permission from the nursing departments in the three study hospitals, we visited the hospitals in person, explained the study's purpose to obtain written consent and distributed the questionnaires. The completed questionnaires were retrieved by visiting the nursing departments again. The participants were instructed to maintain anonymity while completing the questionnaire, and personal data were coded to maintain confidentiality. Participants had the freedom to withdraw from the study at any time and those who provided inappropriate responses were not coerced to provide appropriate ones.

3.4 | Measures

3.4.1 | Perception of the career ladder system

The Korean Perception of Career Ladder System scale developed by Park and Lee (2010), based on the tool for evaluating career ladder programmes for nurses by Nelson and Cook (2008) and that for the perception of the career ladder system developed by Riley et al. (2009), was utilized. The tool comprises 20 items, with six items for general understanding of the system, four for the perception of participation in professional activities and 10 for the perception of expected outcome. The experience of advancing the ladder category was excluded because it is inapplicable to hospitals that have not implemented a career ladder system. Responses are rated on a four-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*), where a higher score indicates a more positive perception of the career ladder system. Its reliability (Cronbach's α) was 0.91 in the study by Park and Lee (2010) and 0.92 in this study.

3.4.2 | Job satisfaction

Job satisfaction is a pleasant and positive emotional state acquired as a result of one's work environment and experiences and was measured using the Korean version of the Copenhagen Psychosocial Questionnaire Scale (COPSOQ-K), modified and supplemented by June and Choi (2013) based on the COPSOQ II developed by Pejtersen et al. (2010). Responses to this four-item tool are rated on a four-point Likert scale, ranging from 1 (*strongly dissatisfied*) to 4 (*strongly satisfied*), where a higher score indicates greater job satisfaction. Its reliability (Cronbach's α) was 0.78 in the study by June and Choi (2013) and 0.79 in this study.

3.4.3 | Turnover intention

Turnover intention refers to one's intention to quit being a member of the organization and voluntarily leave the current workplace in the near future (Mobley et al., 1978). This study used the Turnover Scale originally developed by Mobley et al. (1978), modified and supplemented for the Korean population by Shin and Cho (2013). Responses to this 5-item tool are rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), where a higher score indicates greater turnover intention. Its reliability (Cronbach's α) was 0.88 in the study by Shin and Cho (2013) and 0.81 in this study.

3.5 | Data analysis

The collected data were analysed using IBM SPSS v23.0 (IBM, Armonk, NY) software. The normality of the major study parameters

was confirmed (Kolmogorov–Smirnov test) and two-tailed p -values $< .05$ were considered statistically significant. Participants' general characteristics and relevant variables were presented as frequencies, percentages, means and standard deviations. Differences in the characteristics according to the implementation of a career ladder system were analysed using chi-squared and independent t -tests. A Bonferroni correction was made to control for type 1 error inflation. The reliability of the measurement variables was examined using Cronbach's α , and correlations among the major study variables were analysed using Pearson's correlation coefficients.

4 | RESULTS

4.1 | Differences in sociodemographic characteristics according to the implementation of a career ladder system

A total of 274 participants were enrolled with 130 (47.4%) working in a hospital with a career ladder system and 144 (52.6%) working in hospitals without a career ladder system. Among them, 253 participants were women (92.3%), and 205 (74.8%) had a bachelor's degree. The mean age was 28.3 ± 6.4 years. The mean total nursing career was 5.2 ± 5.5 years, and the mean years at the current department was 3.6 ± 4.1 years. A total of 250 (91.2%) participants were staff nurses, and 223 (81.4%) worked in a three-shift system. Among these participants, 139 (50.7%) had never heard about career ladder systems.

There were no significant differences in sex, age, education level, length of total nursing experience, working period in the current unit and position according to the implementation of a career ladder system ($p \geq .05$). However, there were statistically significant differences in the three-shift system and knowledge of career ladder systems ($p < .05$; Table 1).

4.2 | Differences in the perception of the career ladder system, job satisfaction and turnover intention according to the implementation of a career ladder system

The mean perception of the career ladder system score was 2.4 ± 0.3 , with no significant difference in the score between the implementation (2.5 ± 0.3) and the non-implementation groups (2.4 ± 0.4). By category, the mean scores were 2.4 ± 0.4 for general understanding of the career ladder system, 2.2 ± 0.5 for the perception of participation in professional activities and 2.6 ± 0.4 for the perception of expected outcome.

The mean score for general understanding of the career ladder system significantly differed between the implementation and non-implementation groups ($t = 7.41, p < .001$), with no significant differences in the scores for the perception of participation in professional activities and that of expected outcome.

TABLE 1 Differences in sociodemographic characteristics according to the implementation of a career ladder system (N = 274)

Characteristics	Categories	Total (N = 274) N (%)	Implementation of career ladder system		χ^2/t (p)
			Yes (N = 130) N (%)	No (N = 144) N (%)	
Gender	Female	253 (92.3)	119 (91.5)	134 (93.1)	0.22 (.657)
	Male	21 (7.7)	11 (8.5)	10 (6.9)	
Age in years (M ± SD)		28.3 ± 6.4	30.0 ± 5.9	28.8 ± 5.1	1.77 (.078)
Education level	Diploma	52 (19.0)	26 (20.0)	26 (18.1)	5.15 (.156)
	Bachelors	205 (78.4)	99 (76.2)	116 (80.5)	
	≥Masters	7 (2.6)	5 (3.8)	2 (1.4)	
Length of total nursing experience (years, M ± SD)		5.2 ± 5.5	5.9 ± 6.0	4.6 ± 5.1	1.90 (.056)
Working period in current unit (years, M ± SD)		3.6 ± 4.1	3.4 ± 4.1	3.7 ± 4.0	-0.61 (.541)
Position	Staff	250 (91.2)	119 (91.5)	131 (91.0)	0.59 (.791)
	Charge	17 (6.2)	7 (5.4)	10 (6.9)	
	Head	7 (2.6)	4 (3.1)	3 (2.1)	
Three-shift System	Yes	223 (81.4)	91 (70.0)	132 (91.7)	21.17* (.001)
	No	51 (18.6)	39 (30.0)	12 (8.3)	
Having heard about career ladder system	No	139 (50.7)	12 (9.2)	127 (88.2)	170.44* (.001)
	Yes	135 (49.3)	118 (90.8)	17 (11.8)	

Note: * $p < .01$.

TABLE 2 Characteristics among perception of the career ladder system, job satisfaction and turnover intention according to implementation of the career ladder system (N = 274)

Variables/Domain/Items (range)	Total (N = 274) M ± SD	Implementation of career ladder system		t (p)
		Yes (N = 130) M ± SD	No (N = 144) M ± SD	
Perception of the career ladder system (1–4)	2.4 ± 0.3	2.5 ± 0.3	2.4 ± 0.4	1.64 (.103)
General understanding of career ladder system (6 items)	2.4 ± 0.4	2.5 ± 0.3	2.2 ± 0.4	7.41 (.000)*
I understand the career ladder system of our hospital	2.2 ± 0.8	2.5 ± 0.7	1.8 ± 0.7	8.50 (.000)*
I know how to apply for clinical advancement	2.1 ± 0.7	2.4 ± 0.7	1.8 ± 0.7	6.98 (.000)*
It's very easy for me to progress using the career ladder system	2.4 ± 0.7	2.6 ± 0.6	2.1 ± 0.7	6.78 (.000)*
My nurse manager supports me in participating in the career ladder system	2.4 ± 0.8	2.4 ± 0.8	2.4 ± 0.7	-0.02 (.982)
The career ladder system helps to implement nursing care	2.6 ± 0.6	2.7 ± 0.6	2.4 ± 0.7	3.48 (.001)
Participation in the career ladder system enhances the nursing professionalism of patient care	2.6 ± 0.7	2.6 ± 0.7	2.6 ± 0.7	0.29 (.771)
Perception of participation in professional activities (5 items)	2.2 ± 0.5	2.2 ± 0.6	2.2 ± 0.5	0.15 (.884)
Perception of expected outcome (9 items)	2.6 ± 0.4	2.5 ± 0.4	2.6 ± 0.5	-0.60 (.550)
Job satisfaction (1–4)	2.6 ± 0.4	2.6 ± 0.4	2.6 ± 0.5	0.95 (.344)
Turnover intention (1–5)	2.5 ± 0.5	2.5 ± 0.5	2.4 ± 0.5	0.77 (.441)

Note: *Significant after Bonferroni correction $p < .008$.

Specifically, the two groups differed significantly in domains of general understanding of the career ladder system ($p < .008$), and in the items: "I understand the career ladder system of our hospital," "I know how to apply for clinical advancement," and "It is easy for me to progress using the career ladder system."

The mean job satisfaction score was 2.6 ± 0.4 , and the mean turnover intention score was 2.5 ± 0.5 . There were no significant differences between the implementation and non-implementation groups on these variables ($p > .05$; Table 2).

4.3 | Correlations among perception, job satisfaction and turnover intention according to the implementation of a career ladder system

In the implementation group, perception of the career ladder system was significantly positively correlated with job satisfaction ($r = 0.323$, $p < .01$) and significantly negatively correlated with turnover intention ($r = -0.182$, $p < .01$). In the non-implementation group, perception of the career ladder system was significantly positively correlated with job satisfaction ($r = 0.317$, $p < .01$) and not significantly correlated with turnover intention. For both groups, job satisfaction was significantly negatively correlated with turnover intention (Table 3).

5 | DISCUSSION

This study is the first in Korea to examine relationships among the perception of career ladder systems, job satisfaction and turnover intention in nurses of small- and medium-sized hospitals according to the implementation of a career ladder system, which was first introduced to these hospitals in 2016 (Kim et al., 2018). Further, we used convenience sampling to recruit participants by matching hospitals with similar locations, sizes, medical specialties and number of healthcare staff for an objective comparison according to the implementation of a career ladder system, participant characteristics other than the three-shift schedules and having heard about career ladder system. Specifically, 90.8% of participants in the implementation group had heard about the career ladder system compared with 11.8% in the non-implementation group, indicating a significantly higher rate among nurses working in a hospital with a career ladder system. In this study, there were no significant differences in the

perception of the system between the implementation (2.5 ± 0.3) and the non-implementation groups (2.4 ± 0.4). These means were lower than those found among tertiary hospital nurses with advancement experiences (2.8 ± 0.4 ; Park & Lee, 2010) and among OR nurses in a hospital that used a career ladder system for 10 years (2.7 ± 0.7 ; Chae et al., 2015). These results may be attributable to the differences in the development and duration of implementation, operating system, organizational culture, targeted departments and various environmental factors, considering that tertiary university hospitals developed a system over 5 years or more, preliminarily ran the programme for a year and then applied it for more than 5 years (Chae et al., 2015; Filani et al., 2019; Meucci et al., 2019; Moore et al., 2019). The scores for the sub-categories of the Korean Perception of Career Ladder System Scale differed across studies, where the score for the perception of expected outcome category was the highest in the study by Park and Lee (2010), while that for the general understanding of the clinical ladder system categories was the highest in the studies by Chae et al. (2015) and Kim et al. (2018), similar to this study.

In the present study, the implementation and non-implementation groups only differed significantly in their scores for the "general understanding of career ladder system," with no significant differences in the "perception of participation in professional activities" and "perception of expected outcome for the career ladder system." This may be because the career ladder system existed for 3 years in this small- and medium-sized hospital which might not have been sufficient time for it to be well incorporated and to evaluate the effects of the system, unlike large or university hospitals. Specifically, the two groups differed significantly in their awareness of the career ladder system, method of support and ease of application. The perception that the system is helpful for nursing practice also calls for enhanced professional participation in the career ladder system, increased consensus on the effectiveness of the programme and adequate education and understanding (Chae et al., 2015).

The nursing clinical career ladder system has been applied in several countries (Filani et al., 2019; Hariyati et al., 2017). A systematic review of studies conducted from 2008–2018 focusing on "career," "career ladder" and "satisfaction" showed that there were 10 studies in the United States, three in Korea, two in Taiwan and one in Indonesia (Pertiwi & Hariyati, 2019). The implementation of a career ladder system positively affected nurses' and organizations' career advancement, development of mentorship, the establishment of an effective reward system, skills and education

TABLE 3 Correlations among perception of the career ladder system, job satisfaction and turnover intention by implementation of the career ladder system ($N = 274$)

Variables	Yes			No		
	1	2	3	1	2	3
1. Perception of the career ladder system	1	-	-	1	-	-
2. Job satisfaction	0.323**	1	-	0.317**	1	-
3. Turnover intention	-0.182*	-0.221*	1	-0.032	-0.168*	1

Note: * $p < .05$, ** $p < .01$.

development, and awareness of duty, which led to job satisfaction, as found in this study (Coleman & Desai, 2019; Meucci et al., 2019; Pertiwi & Hariyati, 2019; Wakim et al., 2019). In ORs in tertiary hospitals, nurses' perception was identified as the most potent predictor of job satisfaction and turnover rates, where they decreased with increasing perception (Chae et al., 2015). Our finding that improving the perception of career ladder systems regardless of their implementation was associated with increased job satisfaction was consistent with previous findings (Chae et al., 2015; Hariyati et al., 2017). However, the turnover intention was negatively correlated with the perception of the career ladder system only among nurses working in a hospital with a career ladder system.

Despite showing a statistically significant correlation, there was a significantly weak correlation with $r = -0.182$. Therefore, additional research is needed to expand the number of samples for a career ladder system which may be effective in lowering turnover intention in previous studies (Chae et al., 2015).

Numerous variables exist to explain nurses' job satisfaction and turnover intention. Specifically, working environments such as organizational culture and administrative support, and salary as a compensation system are also significantly important factors. Therefore, it is necessary to consider these various variables for job satisfaction and turnover intention (Chae et al., 2015; Moore et al., 2019). Further, when applying this to the career ladder system of the research target hospital, it is necessary to consider whether changes in roles benefit nurses, educational opportunities, and salaries (Cho et al., 2017; Choi & Jung, 2018).

To summarize, the effects of a career ladder system in tertiary and university hospitals were consistent with those in small- and medium-sized hospitals. In small- and medium-sized hospitals with a career ladder system, nurses' positive perception of the system was associated with increased job satisfaction and lowered turnover intention. This suggests that the implementation of such systems will contribute to the organization's effort to lower turnover rates.

6 | LIMITATIONS

This study has several limitations. First, while we matched objective characteristics between the implementation and non-implementation groups for an accurate comparison, the two groups significantly differed in their three-shift schedules. These schedules and salaries are predictors of job satisfaction and turnover intention; therefore, subsequent studies should adjust for them. Second, only one hospital with a career ladder system was examined. Subsequently, a large sample should be used, and studies should be conducted after a longer period to ensure that the programme has been well-established. Third, among the detailed items of the Perception of Career Ladder System scale used in this study, participants are assumed to be included in the career ladder system.

Therefore, it is necessary to develop a tool that complements these aspects and to conduct additional research. Finally, homogeneity of organizational culture and additional environmental factors that affect the establishment of a career ladder system should be ensured between the comparison groups.

7 | IMPLICATIONS FOR NURSING AND HEALTH POLICY

This study revealed that in small- and medium-sized hospitals in Korea, the career ladder system can be effectively applied to nursing staff management and enhance the hospitals' competitive edge by reducing turnover and improving job satisfaction. Implementing such a system is advised with mentoring and education to improve nurses' perceptions and expectations of the system. This will ensure its successful implementation and integration.

8 | CONCLUSIONS

It is important to implement and evaluate the effects of a career ladder system tailored to small- and medium-sized hospitals as well as larger hospitals. The implementation and non-implementation groups significantly differed in their general understanding of the system. Its perception was significantly positively correlated with job satisfaction in both groups, while it was significantly negatively correlated with the turnover intention only in the implementation group. In a small- and medium-sized hospital with a career ladder system, its perception was associated with increased nurses' job satisfaction and lowered turnover intention, which was consistent with the effects observed in large hospitals. To effectively establish a stable career ladder system in these hospitals, a multidimensional effort is needed to improve the specific categories of perception with low scores and enhance its general perception. These systems should be progressively improved to achieve the expected outcomes of advanced nursing practice through education, committee activities, special nurse role development and the promotion of decision-making abilities.

AUTHORS' CONTRIBUTION

YSA, JSC conceptualized and designed the study, analysed and interpreted the data and drafted the article. YSA collected the data. JSC critically revised the article.

All authors have agreed on the final version and meet at least one of the following criteria [recommended by the ICMJE (<http://www.icmje.org/recommendations/>)]:

- substantial contributions to conception and design, acquisition of data or analysis and interpretation of data;
- drafting the article or revising it critically for important intellectual content.

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CONFLICT OF INTEREST

No conflict of interest has been declared by the authors.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ETHICAL APPROVAL

The study was approved by the Institutional Review Board (IRB) of the Gachon University (1044396-201907-HR-114-02).

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