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SYSTEMATIC REVIEW

Trends in Turnover Research on Korean Nurses: Based on 8 Journals Published by Member Societies under the Korean Academy of Nursing Science, 2006-2015

Hyo Geun Geun*

Department of Nursing, Chodang University, 380, Muanro, Muaneup, Muangun, Jeollanamdo, South Korea

Abstract:

Purpose:

This study was done to identify the current status of turnover research on Korean nurses and to suggest directions for future research.

Methods:

A total of 63 articles over the past 10 years were selected using key words such as turnover intention or turnover-related variables from several databases. Frequency and percent were used to describe the characteristics of the turnover studies.

Results:

Quantitative research accounted for 90.5% of the total studies, and 60.3% of the studies were published by the Journal of Korean Academy of Nursing Administration. Most studies focused on the turnover intention of general nurses (71.9%) working in general hospitals (54.4%). Lawler's turnover intention tool was used in 28.1% of the studies with a relatively high score for Cronbach's alpha (0.7≤ a in 98.2% studies). 50.9% of the studies used descriptive survey design, and stepwise or hierarchical regression was used for the final statistical methods in 49.1% of the studies. Among the studies, 42.1% included job satisfaction as an influencing factor for turnover intention. In late twenties, single status, college graduates, staff nurse, low salary, and nursing experience with 1-5 years appeared to be significantly related to turnover intention across the studies.

Conclusion:

To date, turnover intention has been substituted for turnover in most studies. Because it is believed that nursing turnover will continue and ultimately challenge patient care and nursing outcomes, longitudinal research with actual turnover data is needed to produce new evidence on the turnover culture and its effects on health care outcomes in Korea.

Keywords: Academic journals, Korean nurses, Job satisfaction, Turnover, Turnover intention, Socio-demographic.

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1. INTRODUCTION

It is generally acknowledged that the nursing shortage is mostly being aggravated by an aging nursing workforce or early retirement. However, the nursing shortage also occurs due to nurse turnover. It is not surprising that there are thousands of studies reporting on nurse' turnover which include related attributes such as job satisfaction. In Korea, early nurse turnover with less than 1-year of nursing practice is especially a concern [1]. Regarding the current vacancy rates of Korean nurses, it is estimated at 18.7% of turnover typically associated with the official organization termination [1].

Meanwhile, Korea has become an aged society with more than 14% of the population aged 65 years or older in 2017 [2]. This aging of the Korean population is much faster than other populations in developed countries such as France or Japan. Considering these situations, it is clear that more nurses are needed to take care of older groups of people.

Actually, there are currently 205 nursing schools in 3-year colleges and 4-year universities, and there are about 20,000 new graduates per year [1]. However, the turnover rate for new graduate nurses after 1 year of employment was estimated at 38.1% in 2016 [1]. Many of them would not come back to work or even to the nursing profession. In addition, only half of the registered nurses are employed in practical nursing fields [1]. Therefore, nurse turnover is a very critical issue in Korean nursing.

* Address correspondence to this author at the Department of Nursing, Chodang University, 380, Muanro, Muaneup, Muangun, Jeollanamdo, South Korea 58530; Tel: (82)-61-450-1814; Fax: (82)-61-450-1801; H.P. (82)-10-4059-2982; E-mails: geunhg@gmail.com; geunhyo@umich.edu or hyogeun@cdu.ac.kr

To date, a great deal of studies related to nurse turnover have been published by Korean academic journals or periodicals. From the literature, one point should be emphasized that turnover intention, instead of turnover, has been used as a substitute for turnover in most turnover studies. It is assumed that it was probably difficult to get real turnover data from hospitals or even nurses.

Turnover intention scales reflecting the comprehensive picture of Korean nurse turnover are used in very few studies. That is, most studies used instruments that were developed by authors outside Korea and modified by Korean authors to meet their purpose [3 - 4]. In addition, study designs used were mostly cross-sectional designs, limited to examining simple relationships among the variables included. In terms of the study methods, very few studies used qualitative methods to explain the turnover intention of Korean nurses while quantitative studies were adopted in over 90% of the turnover research.

Regarding the related factors or causes of turnover, many turnover studies have investigated the related variables for turnover intention mostly in terms of the conditions of the work environment as well as the nursing fields or individual characteristics. For example, the type of independent variables most frequently included per study were job satisfaction, organizational commitment, job stress and so on, which are the main characteristics of a poor work environment [3 - 5]. In addition, the level of wages or the size of the hospitals where nurses were working were found to be related to nurse turnover [1, 6 - 7].

When considering the increased nurse turnover or vacancy rates, there were some suggestions regarding practical plans for the supply and demand of the nursing workforce in Korea in 2013 as follows [8]: re-draw two-year associate degree; decrease the salary gap between nurses working at hospitals in cities or in rural areas, or introduce new rating systems. However, the effect of the suggested strategies was not followed-up with implementation during similar periods (2006-2015).

As shown by evidence, it is hard to capture the turnover culture in Korean nursing even though there are many turnover studies. That is, we have little understanding of the turnover phenomenon, which restricts predicting future directions for nurse turnover and retention strategies. Fortunately, new research advocating a deeper understanding of issues regarding nurse turnover or retention is emerging in the field of nursing.

The purpose of this study was to explore the trends in turnover studies published in journals by member societies over the past 10 years in Korea and suggest future directions for research, which will consequently advance the knowledge and discussion on the turnover of Korean nurses.

2. METHODS

We followed the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) strategy.

2.1. Study Designs & Samples

The target paper were articles published from 11 journals of Korean Academy Nursing: Journal of Korean Academy of Fundamentals Nursing (3 studies), Korean Journal of Women Health Nursing (1 study), Journal of Korean Academy of Nursing Administration (38 studies), Korean Journal of Adult Nursing (3 studies), Journal of Korean Gerontology Nursing (2 studies), Journal of Korean Academic Society of Nursing Education (1 study), Journal of Korean Academy Nursing (9 studies), and Journal of Korean Clinical Nursing Research (6 studies). No turnover studies were published in 3 journals in the same periods. Sixty-three articles in total were selected for analyses. Of them, 6 articles (9.5%) were qualitative studies. The author excluded master theses or dissertations published during these periods because they are not yet categorized into any one of the nursing journals or fields. The author only focused on the papers published in the 8 selected journals of the Korean Academy Nursing.

2.2. Data Collection

Data were collected by searching journals using key words. Keyword searches were limited to publications from 2006 to 2015 that examined turnover or turnover intention and targeted for Korean registered nursing populations working in general hospitals, long-term care facilities or community-based institutions. The keywords used for the search were as follows: nurses, turnover, turnover intention, retention, stay, remain, workforce, work environment, and job satisfaction. Initially, 63 articles were individually identified in the search by applying the selection criteria. Six qualitative studies were excluded due to the purpose of this study, and 57 studies were used for further analyses.

2.3. Study Categories

Characteristics of the samples were selected based on a literature review and grouped into 5 descriptive sections: 1) overall figures of the papers by years and journals, 2) descriptions of the subjects and institutions per paper, 3) distribution of the turnover intention measurements used, 4) major variables and research methods used, and 5) socio-demographic variables significantly related to turnover intention.

2.3.1. Statistical Analysis

Basic information on all the studies was initially documented in the EXCEL program. Then, descriptive analyses were used for the frequency distribution and percentage according to the study categories.

3. RESULTS

3.1. Descriptive Figures of the Sample

Of the 63 studies, quantitative research accounted for 90.5%, while qualitative research accounted for 9.5% (Table **1**). In the first 5-year period, 21 articles (33.3%) were published, while 66.7% of the articles were published from 2010 to 2015, indicating a one third increment during the later period. By year, 12 studies were published in 2013 alone, and the Journal of Korean Academy of Nursing Administration published 38 (60.3%) studies, followed by the Journal of Korean Academy Nursing (14.3%) for the 10-year period. No studies were presented from the following three nursing journals: The Journals of Korean Academy of Community Health, Child Health Nursing, and Psychiatric and Mental Health Nursing.

Table 1. Distribution of Turnover Articles Published by Academic Journals Between 2006 and 2015 (N=63).

Name of Journal / Publication Year	2006	2007	2008	2009	2010	2006-2010	2011	2012	2013	2014	2015	2011-2015	Total, N(/%)
1. J. of Korean Academy Fundamental Nursing	–	–	–	–	–	0	–	3	–	–	–	3	3(4.8)
2. Korean J. of Women Health Nursing	–	–	–	–	–	0	–	–	–	–	1(1)	1(1)	1(1.6)
3. J. of Korean Academy of Nursing Administration	–	3	2	4	3	12	1	4	7(1)	6	8	26(1)	38(60.3)
4. Korean J. of Adult Nursing	–	–	–	–	1	1	–	–	–	1(1)	1	2(1)	3(4.8)
5. J. of Korean Gerontology Nursing	–	–	–	1		1	–	–	1	–	–	1	2(3.2)
6. J. of Korean Academic Society of Nursing Education	–	–	1	–	–	1	–	–	–	–	–	0	1(1.6)
7. J. of Korean Academy Nursing	1	2(2)	1	–	–	4(2)	1	1	3(1)*	–	–	5(1)	9(14.3)
8. J. of Korean Clinical Nursing Research	–	–	–	2	–	2	1	1	1	1	–	4	6(9.5)
Total by year	1	5(2)	4	7	4	21(2)	3	9	12(2)	8(1)	10(1)	42	63(100)

No papers published from 3 journals (The Journals of Korean Academy of Community Health, Child Health, and Psychiatric and Mental Health Nursing community health nursing). [+]( ) Number of qualitative research.

Table 2. Characteristics of the Subjects and Hospitals in Articles (N=57).

Characteristics	Categories	N	%
Type of subjects	General nurse	41	71.9
	Emergency room nurse	4	7.0
	Surgical nurse	3	5.3
	Long-term care hospital nurse	2	3.5
	Else[+]	7	12.3
No. of subjects surveyed	≤99	2	5.3
	100-299	31	7.0
	300-499	17	29.8
	500-999	4	54.4
	1,000≤	3	3.5
No. of hospitals surveyed	1	10	17.5
	2-9	33	57.9
	10-99	8	14.0
	100≤	2	3.5
	Else[++]	4	7.0
Type of hospital surveyed	University hospital	11	19.3
	General hospital	31	54.4
	Medium or small sized hospital	9	15.8
	Long term-care hospital	3	5.3
	Else[+++]	3	5.3

[+]male, public institution, new graduate, psychiatric unit, intensive care unit nurse,; [++]public institution, continuing education center and so on.; [+++]accessible population, not recoded, total population.

3.2. General Characteristics of the Target Subjects and Related Variables

Table **2** shows the general characteristics of the target subjects and institutions included in each study. For this description, only quantitative studies were included (N=57). The most frequently used study subjects were general nurses (71.9%). The number of total subjects included per study was 500-999 in 54.4% of the studies, followed by 300-499 subjects in 29.8% of the studies. 57.9% of the studies investi-gated subjects from 10 to 99 different hospitals, while 2 studies searched for all targeted institutions that the subjects worked in. The type of hospital was mostly general hospitals (54.4%), while 3 studies (5.3%) were conducted in long-term care hospitals.

3.3. Measurement Types of Turnover Intentions

As shown in Table **3**, various tools for turnover intentions were used in turnover studies. The most frequently used instrument for turnover intention was Lawler's tool [9] (16 studies), while 4 studies used an instrument, which was newly developed for their study's purpose. Lawler's instrument is composed of 4 items with 5-point Likert scales, and it has been revised and used by Korean authors. It was found that 35.1% of turnover studies used turnover measurement tools consisting of 5 or 6 items, and the 5-point Likert scale was used in more than a third of the turnover studies. The reliabilities of the instruments showed that Cronbach's alpha was more than 0.8 in 75.4% of the studies, indicating the appropriate reliability of the instrument in general.

3.4. Characteristics of the Variables and Type of Research Methods per Study

Table **4** presents the characteristics of the variables and type of research methods per study. Research design, which was most frequently used, was a descriptive exploratory survey (50.9%), and 49.1% of the studies used stepwise or hierarchical multiple regression for the final analysis. A variety of independent or dependent variables, about 76 different types of variables, were included in the turnover studies. Regarding the number of variables used per study, 3 or 4 variables on average were included in about half of the studies (52.6%) to define the relationships with turnover intentions. Of them, job satisfaction was the most frequently used variable in the turnover intention studies (24 studies, 42.1%), followed by organizational commitment (19 studies, 33.3%) and job stress (11 studies, 19.3%). In 40% of the studies, more than 4 variables per study were included to explain the variance in turnover intention. In addition, these explanatory variables accounted for 30-50% of the variance in the turnover intention.

Table 3. Distribution of Turnover Intention Tools Used in Articles (N=57).

Characteristics	Categories	N	%
Tools by authors	Lawler's tool (1983)	16	28.1
	Mobley's tool (1982)	13	22.8
	Lee, S. M's tool (1995)	6	10.5
	Newly developed tool	4	7.0
	Else[+]	18	31.6
No. of items consisted	1	2	3.5
	2-3	11	19.3
	4	18	31.6
	5-6	20	35.1
	7≤	6	10.5
Type of Likert scale	4 points	5	8.8
	5 points	44	77.2
	7 points	2	3.5
	8 points	2	3.5
	Else	4	7.0
Reliability	0.6≤ r <0.7	1	1.8
	0.7≤ r <0.8	9	15.8
	0.8≤ r <0.9	35	61.4
	0.9≤	8	14.0
	Else	4	7.0

[+]Kim, Y. R.'s tool (2007) and so on.

Table 4. Characteristics of the Variables and Type of Research Methods Used for Articles.

Characteristics	Categories	N	%
Type of research design	Descriptive survey design	29	50.9
	Descriptive correlational design	11	19.3
	Model, SEM, path analysis	8	14.0
	Else[+]	9	15.8
Final statistical methods	Stepwise or Hierarchical regression	28	49.1
	Simple or Multiple regression	7	12.3
	Correlation, Chi-square, ANOVA	9	15.8
	Else[++]	13	22.8
No. of variables included	1-2	22	38.6
	3-4	30	52.6
	5≤	5	8.8
Independent variables included[+]	Job satisfaction	24	42.1
	Organizational commitment	19	33.3
	Job stress	11	19.3
	Burnout, stress (post-traumatic, role)	7	12.3
	Else[+++]	15	26.3

(Table 4) contd.....

Characteristics	Categories	N	%
No. of explanatory variables	1	4	10.0
	2	5	12.5
	3	15	37.5
	4≤	16	40.0
Percent of variance explained(R^2)	R^2<10	3	7.5
	10≤ R^2<30	12	30.0
	30≤ R^2<50	18	45.0
	50≤ R^2	7	17.5

[+]AMOS, boostrap and so on

[++]Correlation, ANCOVA and so on

[+++]Empowerment, Internal marketing, emotional labor, Work-family conflict, social support and so on

3.5. Socio-demographic Variables Significantly Related to Turnover Intention

As described in Table **5** of the socio-demographic characteristics of the study participants, the variables significantly associated to turnover intention were age, marital status, education level, years of nursing experience, position, and salary. In one third of the studies, 25-29 years old nurses reported a significantly different turnover intention compared to nurses in the other age groups. In addition, single nurse was much more significantly related to turnover intention than married nurse in 14 studies (92.9% and 7.1%, respectively). In 7 studies (50%), college graduated nurses reported a higher turnover intention than nurses with different educational backgrounds. Nurses, who had experienced in nursing practice between 1 to 5 years, were more likely to have a high turnover intention than nurses who had a different number of years of nursing experiences (45.5%). As for the position, except 2 in studies, 86.7% of the studies reported that staff nurses showed a significantly higher turnover intention than that of the head nurse or nurse managers. In 10 of 13 studies, it was found that when nurses received lower than 3,000,000 won (about 3,200 $) per month, they had a great intention to leave their current organizations.

4. DISCUSSION

Nurse turnover is regarded as important all over the world, and it is well acknowledged that exploring factors that can contribute to both the retention of nursing staff and leading to turnover in their current organizations or jobs is also a very important issue in Korean nursing. This literature review aimed to reach a deeper understanding of the culture of turnover in Korean nurses. As in other developed countries, nurse turnover in Korea is projected to increase, and accordingly, the nursing shortage will continue over the next decade. Fortunately, from the current literature review, research on nurse turnover has increased from 21 articles (2006-2010 period) to 42 articles (2011-2015 period). That is, nurse turnover is an increasingly appealing issue in Korean nursing although the available number of qualified nurses continues to increase.

Of the 8 academic journals, the Journal of Korean Academy of Nursing Administration published 38 articles, representing 60.3% of the total publication articles. This finding seemed understandable because nursing administration is closely related to the management of human resources in health care organizations. However, it is expected that nurses working in different areas such as operation [3] or emergency rooms [10], or public institutions [11] have different factors affecting their turnover or turnover intention; thus, further studies are strongly needed to investigate the factors underlying their professional backgrounds or working departments. In addition, because the author found that turnover studies have been mostly done using quantitative research methods and surveys, more qualitative studies to produce an in-depth understanding of the turnover trend needs to be explored [12 - 14].

Regarding the nurses and hospitals used in the studies, general nurses were the most common subjects. They were easily contacted by the survey researchers because these nurses were working in general or university hospitals, and these hospitals have a department for research cooperation. There is a report that nurses in small-sized hospitals are two-times more likely to leave their hospitals than nurses working in big sized general hospitals [1, 6]. Actually, it is expected that medium or small sized hospitals may not provide a better working environment than the other big-sized hospitals for staff nurses [6]. Therefore, further studies that compare nurses' turnover trends based on hospital size or diverse samples are warranted.

Lawler's turnover intention measurement was the most frequently used tool in the studies [3 - 7]. The Validities of the instruments were assessed in some of the studies by a thorough literature review, but not all of them [15]. Turnover scales consisted of different numbers of items, from a single item [16] up to more than 10 items [4, 11, 15]. For example, single item Visual Analog Scale (VAS) was used to measure the turnover intention in 2 years and 5 years [16]. Mostly, five or six multi-item Likert scales were used to measure the turnover intentions and their reliabilities were analyzed using Cronbach's alpha, which were more than 0.8 for most of the scales. Studies intending to develop new tools for Korean nurses were found in very few studies [15]. Evident by the literature review, researchers were more likely to use exiting tools rather than develop new ones for their studies. Therefore, the development of tools to access Korean nurse turnover is needed more than any other research activity.

As for the study design used in the studies, cross-sectional design was highly frequently used, resulting in not causal inference but simple correlations among main variables. Stepwise or Hierarchical regression analyses were frequently used to find factors affecting turnover intentions [3 - 4, 6, 11].

Table 5. Socio-Demographic Variables Significantly Related to Turnover Intention.

Variables	Category	N	%
Age (N=25)	Early 20th	5	20.0
	Late 20th	8	32.0
	20-30 years	7	28.0
	30 years ≤	4	16.0
	40-49 years	1	4.0
Marital status(N=14)	Single	13	92.9
	Married	1	7.1
Education(N=14)	College graduate	7	50.0
	Associate degree	2	14.3
	Bachelor's degree	3	21.4
	Master's degree	2	14.3
Years of clinical	<1	2	9.1
experience(N=22)	1-5	10	45.5
	6-10	8	36.4
	10<	1	4.5
Position(N=15)	Staff	13	86.7
	Head nurse or manager	2	13.3
Salary(N=13) / won	<2,000,000	5	38.5
	2,000,000-3,000,000	5	38.5
	3,000,000≤	3	23.1

Very few studies used path analysis and other advanced statistical methods [5]. The power of the explanatory variables for the percent of variance was not low. The methods and selection of variables for the research seemed appropriate to some extent. However, most studies were conducted repeatedly with similar research designs and methods. Therefore, these studies ended to have results reported in previous studies. There were no studies on program development or the effect an intervention programs provided after verifying the influencing factors on nurse turnover.

To date, many previous studies have shown that registered nurse turnover is influenced by a combination of several different factors such as work environment, health outcomes, workload, retentions strategies and so on [17]. In addition, a general report provided various possible causes of turnover including role adjustment problem, marriage, degree attainment, change to another profession, irregular and night duty, human relationship problem retirement, low pay, and so on [1]. In the current literature reviews, job satisfaction appeared as the most frequently involved factor which impacts negatively the turnover intention of nurses [3 - 4, 11, 17]. In addition, many studies have highlighted the links between nursing turnover and negative organization-related attributes, such as job stress, burnout, and staff ratio [5]. For example, Aiken et al. [18] suggests that additional nurse/patient ratio increased the odds for burnout and accordingly job dissatisfaction by 15%, resulting in a high turnover intention. Unlike job satisfaction, the results for organizational commitment as an influencing factor of turnover intention were inconsistent in the current literature review: related to turnover intention in some studies (19 studies in this literature review), but unrelated in several studies. Therefore, studies investigating influencing factors of turnover intention should continue. Besides these variables, several studies reported that turnover intention was affected by some organizational factors not by directly but indirectly through some mediating variables such as social and psychological supports or nurse mentoring [4 - 6].

Based on the literature, it is assumed that the reasons for the high turnover in Korean nurses are different from those in the USA or other developed countries. The high rates were caused not by the migration of nurses to other countries or by a low number of new graduates but more by individual or organization related factors. For example, a relatively young workforce intends to leave their jobs for the specific purpose of working outside the organization or even abroad [4, 6 - 7, 16 - 17], while old aged nurses, who choose to stay, may think they have relatively fewer choices for other employment. However, due to economic recession in brain-importing countries and the lack of English fluency by the nurses, the opportunities for working abroad seems to be a limited option for Korean nurses. These facts are also evident by the number of nurses migrating to other countries. In addition, a higher or lower education level has a role in a higher turnover rate among a more highly educated group of nurses [6]. The high level of turnover intention may be explained in part by these demographic characteristics such as younger age, education opportunities, tenure, position and so on, but it does not cover all the reasons for turnover intention.

Nurses' role stress due to role ambiguity is also an appealing factor of nurse turnover intention [19]. Schedule flexibility was related to turnover intention of nurses in 10 European countries [20]. These factors are not a simple characteristic such as age or education. Rather, it is more dependent on organizational management or strategies. As evident from those results, turnover studies should be potentially focused on the fact that there still might be some other uncovered factors

from the other side of the turnover umbrella as we face new generations and cultures.

This study has some limitations. This literature review used only articles from Academic Journals, excluding theses or dissertations and non-academic journals such as periodicals. Additionally, the author did not consider the appropriateness of the study methods or statistical analyses, but simply categorize the main characteristics of the studies. Lastly, the author reviewed studies only published from 2006 to 2015 that examined turnover; thus, studies on nurse turnover conducted since 2016 need to be considered for further trends analyses.

5. RECOMMENDATIONS FOR FUTURE STUDIES AND PRACTICE

Turnover intention has been a good substitute for turnover and has shown a strong correlation with turnover [17]. However, it does not reflect all the facts underlying nurses' actual turnover. There was a trial study that developed a tool for hospital nurse intention to keep their positions with 47 items and a high internal consistency [14]. Therefore, development of a tool capturing the characteristics of Korean nurses' turnover with underlying conditions and their specific needs is necessary for further research [14, 15]. In addition, as noted by Hayes *et al*. [21], the definitions of turnover are often inconsistent; accordingly, the results of turnover studies stating the turnover reasons should be reviewed with cautions.

It is clear that there is no one complete solution for nurse turnover, no matter how great supportive retention strategies are implemented. Therefore, efforts for better conditions should be continued. For these changes, first, further research should be conducted with a high level of analytic methods integrating each factor of turnover decision, leading to understanding the culture of Korean nurses' turnover. As approved in other European countries [7], level of satisfaction with work schedule flexibility might be regarded a new significant explanatory factor for nurses' intention to leave in Korea.

CONCLUSION

This study is the first known study in Korea that examined the trends in nurses' turnover using academic nursing journals. It can be projected from the literature review that the nurse shortage in Korea will continue. In addition, turnover decisions are mainly dependent on work-related characteristics as well as individual characteristics, and some of the factors are well known to nursing leaders. If the factors related to turnover are well predicted and adjusted, some of the nurse turnover could be prevented. Therefore, further investigations should be continued with different types of efforts to examine the turnover reasons and appropriate policies for a culture of nursing retention.

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