INTRODUCTION

As the elderly population increases, the number of older adults with geriatric and chronic diseases is also increasing. The number of long-term care hospitals increased by 8,578 from 93,184 in 2018 to 101,762 in 2023, and the number of nurses working in nursing hospitals increased by 2,134 from 25,873 in 2018 to 28,007 in 2024 [1].

Patients at long-term care hospitals often have degenerative and chronic diseases that are difficult to recover from. Many patients are older adults in long-term care or near death [2,3]. Long-term care hospital nurses provide care to these patients, including care that extends lifespan, active treatment of terminally ill patients, physical restraint, and the use of drug-related chemical inhibitors to maintain patient life and ensure patient safety [2,3]. Ethical dilemmas arise in situations in which patients do not have the right to make their own decisions, nursing techniques limit basic human rights, and there is a lack of nursing knowledge and experience [2,4].

However, because few guidelines exist to help nurses resolve ethical dilemmas, they prioritize, avoid, or act indifferently to customs, religious beliefs, and personal conscience when facing such moral dilemmas. Unresolved ethical dilemmas can lead to helplessness [5] and the need to quit work in situations that conflict with expectations [6], which can increase stress and result in burnout. However, few studies have explicitly addressed this issue [4].

Job stress is a condition in which nurses feel burdened to the point of suffering physiological, psychological, and social disorders caused by nursing work [7]. Long-term care hospital nurses are more vulnerable to burnout due to mental and physical stress than nurses in other medical institutions [8]. Since patients with geriatric and chronic diseases are hospitalized for long periods with reduced physical and cognitive functions, long-term care hospital nurses perform multiple roles, providing disease management and daily life support to patients. Despite the lower...
ratio of nurses in secondary and tertiary medical institutions, nurses must perform hospital sanitation, documentation, and medical personnel training in addition to their general nursing duties [7,8]. Therefore, owing to the working environment in long-term care hospitals, nurses face diverse role expectations and excessive job stress. Excessive job stress reduces the job satisfaction of long-term care hospital nurses, causes burnout, and ultimately affects turnover intention [7-10].

Burnout is a state of physical, emotional, and mental exhaustion that occurs in people working in service professions, often due to an excessive workload and psychological, social, and physical problems [10]. The attributes of burnout in long-term care hospital nurses include physical and psychological fatigue and role stress, which can manifest as conflict, heavy work burden, decreased sense of personal accomplishment, and skepticism [2,10]. Studies of nurse burnout have mainly focused on clinical nurses in general hospitals. Studies on the factors related to burnout among long-term care hospital nurses have included emotional labor, attitudes toward death, and end-of-life care stress [2,10,11,12]. Burnout has been reported in many studies as a factor related to turnover intention [11], but meta-analyses have shown insignificant results [13].

Elderly people admitted to long-term care hospitals have difficulty living independently and require integrated care and medical services, including medical treatment, nursing, and rehabilitation, to improve their daily living skills. Therefore, long-term care hospitals require skilled nurses to provide comprehensive nursing care. However, due to difficulties in supplying manpower, they often hire nursing assistants rather than nurses, burdening the remaining nurses with an excessive workload. This increases stress and leads to additional turnover among nurses [9,14].

The increased workload of long-term care hospital nurses causes excessive stress, resulting in physical health problems, such as decreased motivation to work, job satisfaction, fatigue, lack of sleep, and indifference to patients. Psychological issues may also arise, leading to a decline in the quality of nursing care and negative consequences for patient care [11]. Therefore, for the effective human resource management of long-term care hospital nurses, factors related to turnover intention must be identified and preventive measures for turnover should be taken in advance [14,15].

According to a previous study, factors affecting the turnover intention of nurses in long-term care hospitals include overtime hours, compensation, and the working environment [11]. In a study conducted in Korea, long-term care hospital nurses’ turnover intention was related to their perception of their work environment, including the importance of compensation, job stress, job satisfaction, work performance, burnout, resilience, self-esteem, and empowerment [10,11,14,15].

Nurses’ turnover intention is influenced by the complex interplay between personal characteristics and situational factors [4]. Previous studies have mainly focused on hospital nurses’ turnover intentions. Personal factors related to turnover intention include age, marital status, education level, clinical career, position, work type, and salary, while situational factors include job satisfaction [4,11]. Previous studies focused on long-term care hospital nurses have confirmed the relationship between factors such as organizational commitment, job stress, and burnout [8,11]. However, these studies have yielded inconsistent results, and there are limitations in presenting clear causal factors related to turnover intention [4,11]. Thus, there are limitations in applying the results of existing studies to the turnover intention of long-term care hospital nurses.

The National Institute for Occupational Safety and Health (NIOSH) developed a new job stress model to assess the psychosocial risk factors of job stress. According to the NIOSH job stress model, job stress factors include job factors (job demands, job autonomy, role ambiguity, shift work, etc.), organizational factors (management style, interpersonal relationships, organizational culture, job instability, etc.), and environmental factors (lighting, noise, vibration, high heat, cold, etc.). Indirect factors of job stress include personal factors (age, gender, personality, health, self-esteem, etc.), non-job factors (financial status, family status, etc.), and buffering factors (social support, coping style, leisure activities, health care). The NIOSH job stress model explains the process by which job stress affects health during the stages of exposure, stress response, and subsequent health deterioration, and is a useful model for comprehensively assessing job stress [16,17].

In the NIOSH model, personal factors such as age, marriage, and work career were considered causes of job stress [16,17]. In a previous study, job-related factors such as work type, position, job department, organizational conflict, and work conflict were classified, and it was explained that personal and job-related factors reduce job satisfaction and lead to burnout [17]. In this study, we revised and reorganized the NIOSH job stress model into an expanded turnover intention model and investigated its impact on turnover intention.

This study attempted to apply the modified NIOSH model to identify the impacts of ethical dilemma, job stress, and burnout on long-term care hospital nurses’ turnover intention and suggest ways to reduce turnover intention.
Additionally, we aim to provide primary data necessary for developing policies and educational programs that can effectively address the turnover intention of long-term care hospital nurses caused by job stress, ethical dilemma, and burnout in long-term care hospital nursing practice.

**METHODS**

1. **Study Design**

This descriptive study aimed to identify the factors affecting the turnover intention of long-term care hospital nurses by applying a modified NIOSH model.

2. **Participants**

The participants in this study were nurses with more than 6 months of work experience in long-term care hospitals who were judged to have a relatively good understanding of the situation in nursing hospitals. Among the nurses in 10 long-term care hospitals with 100~500 beds who expressed their intention to participate in the study, those who understood the purpose of the study and voluntarily agreed to participate were selected as the final participants. To calculate the minimum sample number for this study, using the regression analysis statistical method in the G*Power 3.1.9.7 program calculation standard, significance level \( \alpha = .05 \), effect size medium 0.15, power 95%, the minimum sample number was 172 people. Considering a dropout rate of approximately 10%, 189 participants were recruited for this study. A total of 189 people were recruited, of which 17 with insufficient data were excluded, and the data of 172 people were ultimately analyzed.

3. **Instruments**

1) **Ethical dilemma**

The ethical dilemma scale was developed by Han [18] for nurses and modified and supplemented by Yang and Oh [19]. It is a 4-point Likert scale consisting of 34 questions measuring four sub-domains: nurses and patients, nurses and professional work, nurses and collaborators, respect for life and human rights. The higher the score, the greater the ethical dilemma. In this study, among the questions pertaining to ethical dilemmas, questions 5 (“problems related to abortion”) and 6 (“suspicions about organ sales”), which had little relevance to the actual conditions of long-term care hospitals, were deleted, resulting in a total of 32 questions. We used the scale after receiving approval from the scale developer. In the study by Yang and Oh, Cronbach’s \( \alpha \) was .92 [19], and in this study, Cronbach’s \( \alpha \) was .94 in this study.

2) **Job stress**

Job stress was assessed using the job stress scale developed by Gu and Kim [20] and subsequently modified and improved by Yoon and Lee [21]. This scale addresses issues related to nursing work, professional role conflicts, lack of professional knowledge and skills, other human resource and interpersonal problems, conflicts with doctors, psychological burdens regarding medical limitations, treatment of nurses, work schedules, and guardians. It uses a 5-point Likert scale consisting of 43 questions, with higher scores indicating a higher degree of stress. We used the scale after receiving approval from the scale developer. The reliability of this scale, as measured by Cronbach’s \( \alpha \) coefficient was .94 at the time of development, and .96 in this study.

3) **Burnout**

Choi [22] adapted the tool developed by Maslach and Jackson [23] to measure burnout among human service professionals. This tool is a 7-point Likert scale comprising 22 questions that measure three subdomains: emotional exhaustion, dehumanization of the subject, and a reduced sense of personal accomplishment. Higher scores indicate a higher degree of psychological exhaustion. We used the scale after receiving approval from the scale developer. The reliability of this scale, as measured by Cronbach’s \( \alpha \) was .76 at the time of development by Maslach and Jackson [23], and .82 in this study.

4) **Turnover intention**

The turnover intention scale was developed by Mobley and Becker [24,25], and later modified and supplemented by Kim [26]. This scale uses a 5-point Likert scale consisting of six questions, with a higher score indicating a higher intention to change jobs. We used the scale after receiving approval from the scale developer. In Kim’s study [26], the Cronbach’s \( \alpha \) was .76 and in this study, and .66 in this study.

4. **Data Collection**

Data collection for this study was conducted after receiving approval from the Institutional Review Board (IRB) of G University. To recruit participants, the purpose and methods of this study were explained to the nursing directors of 10 long-term care hospitals located in three cities, each with more than 100 beds but fewer than 500 beds.
Permission was obtained, and a recruitment notice was posted on the hospital’s employee bulletin board. The researcher personally visited the participants who wanted to participate, explained the study, obtained their consent, and conducted the survey. Nurses with more than six months of work experience at a nursing hospital were recruited. To ensure the validity of the data, the researcher directly explained the purpose and method of the study to the participants. Participation in the study was voluntary. A beverage coupon worth 5,000 won was provided to compensate the research participants. Data collection was conducted from January 2, 2024, to April 30, 2024. The questionnaire took approximately 15~20 minutes to complete.

5. General Characteristics of the Participants

General characteristics included age, gender, education, marital status, number of hospital beds, position, clinical career, and employment status.

6. Data Analysis

The data collected in this study were analyzed using the SPSS/WIN 28.0 (IBM, Armonk, NY, USA) according to the characteristics of the variables. As a result of conducting the Kolmogorov-Smirnov test to test normality, the general characteristics of the participants such as gender, age, education, marital status, number of hospital beds, position, and clinical career showed \( p < .05 \). In light of this, differences in ethical dilemma, job stress, burnout, and turnover intention according to the participants’ general characteristics were analyzed using the Kruskal-Wallis test. A Pearson’s correlation coefficient was used to assess the correlations between ethical dilemma, job stress, burnout, and turnover intention. A hierarchical regression analysis was performed to determine the factors affecting turnover intention.

7. Ethical Consideration

The Institutional Review Board (IRB) approved this study (IRB No. GWNUIRB-2023-19-1). The participants were informed of the importance of anonymity and voluntary participation in data collection. Consent was obtained from those who agreed to participate, and the survey was administered subsequently. The participants were also informed that their consent could be withdrawn at any time during their participation in the study and that there would be no consequences for withdrawal.

## RESULTS

1. General Characteristics of Participants

As a result of analyzing the general characteristics of the participants, 94.8\%(n=163) were female, and the majority were aged between 51 and 60 years (38.4\%, \( n=66 \)). The average age of the participants was 47.63±11.14 years. The most common level of education was ‘associate degree’ (55.2\%, \( n=95 \)). Most participants were married (66.9\%, \( n=115 \)). As for the numbers of hospital beds, the largest was ‘less than 200 beds’ (57\%, \( n=98 \)). The most common position was ‘staff nurse’ (73.8\%, \( n=127 \)). The most common years of clinical career was ‘20 years or more’ (25.6\%, \( n=44 \)). The average clinical career was 13.95±9.27 years. Regarding employment status, ‘three-shift work’ was the most common (57.0\%, \( n=98 \)). The results are presented in Table 1.

2. Differences among Ethical Dilemma, Job Stress, Burnout, and Turnover Intention Based on Participants’ General Characteristics

There were no statistically significant differences among ethical dilemma, job stress, and burnout based on the participants’ general characteristics. In the case of turnover intention, there was a statistically significant difference in the participants’ age (\( \chi^2=117.78, p=.001 \)), marital status (\( \chi^2=8.35, p=.015 \)), and position (\( \chi^2=9.37, p=.025 \)) (Table 2).

3. Correlation among Ethical Dilemma, Job Stress, Burnout, and Turnover Intention

Correlation analysis revealed significant positive relationships between turnover intention and ethical dilemma (\( r=.20, p < .05 \)), job stress (\( r=.52, p < .01 \)), and burnout (\( r=.26, p < .01 \)) (Table 3).

4. Factors Impacting Turnover Intention

The Variance Inflation Factor (VIF) ranged from 1.00 to 1.42, all below 10, indicating no multicollinearity between the independent variables. The Durbin-Watson statistic was 1.77, satisfying the independence condition of the residuals, confirming that these data were suitable for the regression analysis. The hierarchical multiple regression analysis showed that the explanatory power of Model 1 was 9\%, which was statistically significant. In Model 1, age (\( \beta=-.27, p=.001 \)), position (\( \beta=-.26, p < .001 \)), and ethical dilemma (\( \beta=.21 p=.004 \)) were statistically significant factors predicting turnover intention. In Model 2, which included...
personal factors such as age, marital status, position, and ethical dilemma, and included job stress in the analysis, the explanatory power was significant at 22%. Age ($\beta = -26, p = .002$), position ($\beta = -23, p = .001$), and job stress ($\beta = .26, p = .001$) had a significant impact on turnover intention. In Model 3, which included all the factors of Models 1 and 2 and included burnout, the explanatory power was 25%, which was statistically significant. Age ($\beta = -23, p = .004$), position ($\beta = -23, p = .001$), job stress ($\beta = .21, p = .004$), and burnout ($\beta = .20, p = .004$) were all statistically significant in turnover intention. Therefore, job stress and burnout were found to impact nurses’ turnover intention in long-term care hospitals (Table 4).

**DISCUSSION**

This study applied a modified NIOSH model to determine the impact of ethical dilemmas, job stress, and burnout on the turnover intention of long-term care hospital nurses, and attempted to find ways to reduce the turnover intention of these nurses. The ethical dilemma of the participants was 2.27 points out of 4, indicating a medium level of ethical dilemma. Long-term care hospital nurses encounter ethical dilemmas for reasons such as life-sustaining treatment, active treatment of terminally ill patients, lack of patients’ right to self-determination, and human rights violations related to the use of physical and chemical restraints [2,4]. These results are supported by Lim and Choi [2] and Choi [3], who studied the ethical dilemmas among long-term care hospital nurses. In Lim and Choi’s study [2], the score was 2.22 points, and in Choi’s [3], the score was 2.39. Both previous studies and the results of this study showed that long-term care hospital nurses’ experience of ethical dilemmas was at a medium level. Studies targeting long-term care hospital nurses, including this study [2,3], used the ethical dilemma measurement scale developed by Han [18]. This scale was developed for nurses in general hospitals. However, items in the original scale related to ‘abortion of pregnancy’ and ‘organ sales’ that were not suitable for the nursing work environment of a long-term care hospital, were excluded in this study. This suggests that a tool to measure the degree of ethical dilemmas that is appropriate for the changing nursing work environment in long-term care hospitals is needed.

Recently, in Korea, the number of older people supporting older people has been increasing owing to rapid population aging. As the proportion of older adults with chronic diseases increases, the burden of social and economic support also increases, leading to social problems such as ageism [27]. In addition, owing to the recent COVID-19 pandemic, long-term care hospitals, where many older adults are vulnerable to respiratory infectious diseases, have been subject to strict social isolation and restrictions on visits by family members, raising issues related to human rights [27]. These social changes are expected to impact the long-term care hospital environments. Therefore, it is necessary to develop an ethical dilemma measurement tool suitable for long-term care hospital nurses to reflect the changing characteristics of clinical settings. In addition, because nurses’ care is revealed through their attitudes toward patients and moral sensibility, it is necessary to secure sufficient manpower, provide professional education, and establish an institutional support system for...
Table 2. Differences in Major Variables according to General Characteristics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Categories</th>
<th>Ethical dilemma</th>
<th>Job stress</th>
<th>Burnout</th>
<th>Turnover intention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M±SD</td>
<td>χ² (p)</td>
<td>M±SD</td>
<td>χ² (p)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2.27±0.52</td>
<td>3.51±0.58</td>
<td>3.71±0.76</td>
<td>3.01±0.63</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
<td>2.28±0.52 (488)</td>
<td>3.39±0.57</td>
<td>0.45</td>
<td>3.69±0.47 (500)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>2.27±0.46</td>
<td>3.52±0.58</td>
<td>(500)</td>
<td>3.72±0.77 (940)</td>
</tr>
<tr>
<td>Age (year)</td>
<td>≤ 30°</td>
<td>2.18±0.39</td>
<td>0.98</td>
<td>3.41±0.56</td>
<td>5.21</td>
</tr>
<tr>
<td></td>
<td>31~40°</td>
<td>2.40±0.48</td>
<td>(913)</td>
<td>3.46±0.50 (267)</td>
<td>3.76±0.89 (136)</td>
</tr>
<tr>
<td></td>
<td>41~50°</td>
<td>2.25±0.48</td>
<td>3.68±0.52</td>
<td>3.78±0.65</td>
<td>3.15±0.61</td>
</tr>
<tr>
<td></td>
<td>51~60°</td>
<td>2.28±0.46</td>
<td>3.47±0.59</td>
<td>3.77±0.80</td>
<td>2.86±0.62</td>
</tr>
<tr>
<td></td>
<td>≥ 61°</td>
<td>2.22±0.45</td>
<td>3.44±0.77</td>
<td>3.24±0.68</td>
<td>2.68±0.61</td>
</tr>
<tr>
<td>Education</td>
<td>Associate degree</td>
<td>2.26±0.43</td>
<td>0.11</td>
<td>3.52±0.60</td>
<td>1.10</td>
</tr>
<tr>
<td></td>
<td>Bachelor’s degree</td>
<td>2.26±0.49</td>
<td>(947)</td>
<td>3.52±0.57 (577)</td>
<td>3.80±0.57 (112)</td>
</tr>
<tr>
<td></td>
<td>≥ Graduate degree</td>
<td>2.36±0.54</td>
<td>3.56±0.50</td>
<td>3.92±0.56</td>
<td>2.96±0.72</td>
</tr>
<tr>
<td>Marital status</td>
<td>Married</td>
<td>2.27±0.48</td>
<td>0.14</td>
<td>3.52±0.61</td>
<td>0.72</td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>2.28±0.40</td>
<td>(935)</td>
<td>3.48±0.48 (698)</td>
<td>3.72±0.51 (455)</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>2.21±0.40</td>
<td>3.54±0.57</td>
<td>3.46±0.80</td>
<td>2.75±0.57</td>
</tr>
<tr>
<td>Numbers of beds in hospital</td>
<td>&lt; 200</td>
<td>2.21±0.10</td>
<td>4.02</td>
<td>3.51±0.53</td>
<td>2.44</td>
</tr>
<tr>
<td></td>
<td>200~299</td>
<td>2.34±0.49</td>
<td>(134)</td>
<td>3.53±0.65 (296)</td>
<td>3.76±0.79 (691)</td>
</tr>
<tr>
<td></td>
<td>≥ 300</td>
<td>2.37±0.51</td>
<td>3.45±0.60</td>
<td>3.75±0.82</td>
<td>2.86±0.47</td>
</tr>
<tr>
<td>Position</td>
<td>Staff nurse</td>
<td>2.23±0.44</td>
<td>2.16</td>
<td>3.51±0.58</td>
<td>4.04</td>
</tr>
<tr>
<td></td>
<td>Charge nurse</td>
<td>2.36±0.46</td>
<td>(340)</td>
<td>3.74±0.54 (257)</td>
<td>4.01±0.73 (182)</td>
</tr>
<tr>
<td></td>
<td>Head nurse</td>
<td>2.34±0.48</td>
<td>3.42±0.61</td>
<td>3.93±0.89</td>
<td>2.97±0.64</td>
</tr>
<tr>
<td></td>
<td>Nursing department manager</td>
<td>2.44±0.68</td>
<td>3.36±0.56</td>
<td>3.57±0.69</td>
<td>2.23±0.78</td>
</tr>
<tr>
<td>Clinical career (year)</td>
<td>&lt; 5</td>
<td>2.30±0.41</td>
<td>0.86</td>
<td>3.45±0.49</td>
<td>2.96</td>
</tr>
<tr>
<td></td>
<td>5~9</td>
<td>2.22±0.46</td>
<td>(930)</td>
<td>3.44±0.59 (564)</td>
<td>3.58±0.10 (529)</td>
</tr>
<tr>
<td></td>
<td>10~14</td>
<td>2.24±0.36</td>
<td>3.46±0.61</td>
<td>3.64±0.70</td>
<td>3.02±0.58</td>
</tr>
<tr>
<td></td>
<td>15~19</td>
<td>2.32±0.57</td>
<td>3.55±0.57</td>
<td>3.75±0.60</td>
<td>3.05±0.60</td>
</tr>
<tr>
<td></td>
<td>≥ 20</td>
<td>2.26±0.49</td>
<td>3.62±0.62</td>
<td>3.78±0.88</td>
<td>2.83±0.72</td>
</tr>
<tr>
<td>Employment status</td>
<td>Full-time position</td>
<td>2.42±0.46</td>
<td>7.98</td>
<td>3.57±0.52</td>
<td>8.23</td>
</tr>
<tr>
<td></td>
<td>Two-shift work</td>
<td>2.37±0.41</td>
<td>(092)</td>
<td>3.75±0.62 (084)</td>
<td>3.67±0.59 (857)</td>
</tr>
<tr>
<td></td>
<td>Three-shift work</td>
<td>2.21±0.45</td>
<td>3.52±0.56</td>
<td>3.70±0.77</td>
<td>3.01±0.64</td>
</tr>
<tr>
<td></td>
<td>Night duty keep</td>
<td>2.11±0.42</td>
<td>3.16±0.65</td>
<td>3.52±0.54</td>
<td>3.00±0.84</td>
</tr>
<tr>
<td></td>
<td>Day duty keep</td>
<td>2.27±0.52</td>
<td>3.33±0.68</td>
<td>3.87±1.07</td>
<td>3.17±0.61</td>
</tr>
</tbody>
</table>

Possible score range: 1~4, 1~5, 1~7; Separation, divorced, bereaved; a, b, c, d, e=Scheffe test; M=mean; SD=standard deviation.

Table 3. Relationships between Job Stress, Ethical Dilemma, Burnout, and Turnover Intention

<table>
<thead>
<tr>
<th>Variables</th>
<th>Ethical dilemma</th>
<th>Job stress</th>
<th>Burnout</th>
<th>Turnover intention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
<td>r</td>
<td>r</td>
<td>r</td>
</tr>
<tr>
<td>Ethical dilemma</td>
<td>1.00</td>
<td>.52**</td>
<td>.26**</td>
<td>.20*</td>
</tr>
<tr>
<td>Job stress</td>
<td>1.00</td>
<td>.24**</td>
<td>.31**</td>
<td></td>
</tr>
<tr>
<td>Burnout</td>
<td>1.00</td>
<td>.30**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turnover intention</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05, **p<.01.

nurse’s self-care so that nurses can practice the ethics of holistic care as professionals [28]. Future research should focus on the relationship between moral sensibility and the ethical dilemmas of hospital nurses, consider their specific characteristics, and develop an educational program to improve moral sensibility suitable for hospital nurses.
Teaching strategies are required to increase moral sensitivity by providing and discussing examples of appropriate ethical dilemmas.

In this study, job stress was found to be at a somewhat high level, with a score of 3.51 out of 5. This result is lower than the 3.96 score of Choi, So, and Go [4], who studied the job stress of hospital nurses. These values were slightly higher than the 3.34 points of Park and Kang [8] and the 3.36 points of Han [29] for hospital nurses. The average age of the long-term care hospital nurses in this study was 47.63 ± 11.14 years, and the average clinical career was 13.95 ± 9.27 years. Despite relatively high job experience and skills, job stress was above moderate levels, suggesting insufficient job stress management. In addition, nurses in long-term care hospitals, where the nurse-to-patient ratio is lower than that in general hospitals, are primarily responsible for significant nursing care such as disease management and daily life care for long-term inpatients with geriatric and chronic diseases that are difficult to cure.

Nurses also perform tasks such as training nursing assistants and caregivers, preparing for medical institution evaluation certification, maintaining sanitation, and preparing administrative documents [8,9]. These various work burdens are reflected in the job stress levels. Compared to other occupations, nurses have insufficient job stress management because of their professional image of sacrifice and service. If job stress is not managed, it can lead to burnout and turnover intention [15]. Therefore, nurses in long-term care hospitals should identify and manage specific job stress factors.

Burnout was found to be 3.71 points out of 7. In the study by Choi, So, and Ko [4], using the same scale in this study, the burnout score was 3.71 points, the same as the results of this study. Other studies on burnout among long-term care hospital nurses [2] showed medium or high burnout levels, indicating that burnout is significant for both hospital nurses and nurses in long-term care hospitals. Under Korean medical law, nursing staff in nursing hospitals are treated in the same manner as nursing assistants, resulting in a higher ratio of nursing assistants to nurses [12]. Despite this poor working environment, long-term care hospital nurses provide professional nursing services to hospitalized patients with chronic diseases and the elderly. They assist with activities of daily living, educate and supervise nursing assistants and caregivers, and provide medical services typically performed by doctors due to a shortage of physicians. They also perform heavy tasks, such as environmental and administrative management [12]. Many hospitalized patients with cognitive impairment experience behavioral and psychological symptoms, which increase the burden of work and cause burnout due to job stress [12,15]. Therefore, managing the factors leading to burnout experienced by long-term care hospital nurses is crucial for reducing patient dissatisfaction, nursing errors, and turnover caused by nurse burnout [12]. Therapeutic counseling for long-term care hospital nurses and educational programs to prevent burnout are necessary, and government support is needed to develop and distribute burnout prevention programs.

There were no statistically significant differences in job stress, ethical dilemma, and burnout according to the general characteristics of the study subjects. However, there was a statistically significant difference in turnover intention depending on participants’ age, marital status, and position. There was also a significant difference in position between nursing managers and other groups. This suggests that nursing managers have relatively stable administrative tasks and are better at overcoming turnover crises, leading to lower turnover intention.

Correlation analysis revealed significant positive corre-
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Hierarchical regression analysis revealed that age, position, and ethical dilemma were statistically significant in predicting turnover intention in Model 1. In Model 2, age, position, and job stress significantly affected turnover intention. In Model 3, age, position, job stress, and burnout were significant predictors of turnover intentions. Applying these results to the revised NIOSH job stress model, it can be explained that personal characteristics such as age and position induce job stress, resulting in physical and mental burnout, which affects turnover intention. Although ethical dilemmas did not significantly affect turnover intention in Models 2 and 3, their significance in Model 1 suggests that they may act as moderating or mediating variables, which warrants further research.

This study examined turnover intention by evaluating the relationship between concepts based on the existing job stress model, the NIOSH model [16,17] and the related literature. By deriving the results on the factors that affect turnover intention, the applicability of the NIOSH model to the nursing field is suggested. In addition, it is meaningful in that it sought to understand the impact of ethical dilemmas, job stress, and burnout on turnover intention, which have not been addressed in studies targeting long-term care hospital nurses.

However, the reliability of the turnover intention measurement tool used in this study was acceptable compared to previous studies [4,26], the reliability was relatively low. This is likely due to the convenience of sampling of subjects from only some regions, and the limitation that the respondents’ questionnaire response could not completely rule out the phenomenon of centralization. This is thought to be a result of the fact that the participants of this study were convenience sampled only in some regions; moreover their responses in the questionnaire were a limitation in that the phenomenon of centralization could not be ruled out. In addition, long-term care hospitals often have different purposes for nursing care, such as rehabilitation specialists, dementia specialists, and hospice specialists, depending on the size of the beds and the characteristics of the hospitalized patients [30] It is necessary to take these characteristics into account in future studies targeting long-term care hospital nurses. Because this study used a convenience sample of long-term care hospital nurses in some regions, the generalizability of the study results to all long-term care hospital nurses is limited.

CONCLUSION

This study, guided by the modified NIOSH model and existing literature, aimed to identify the impact of ethical dilemmas, job stress, and burnout on turnover intention among long-term care hospital nurses. In light of the results, we propose certain human resource management measures to effectively reduce turnover intention in this context. This study confirmed that ethical dilemma, job stress, burnout, and turnover intention of long-term care hospital nurses all had a significant positive correlation, and that job stress, and burnout were substantial influencing factors in the turnover intention of long-term care hospital nurses. This study’s contributions include the provision of primary data for improving the quality of nursing in long-term care hospitals, promoting efficient human resource management, and suggesting policies that can mitigate burnout and turnover intention.

Based on the study results, we would like to make the following suggestions. First, it is necessary to develop an appropriate tool to measure the degree of ethical dilemma of long-term care hospital nurse in Korea. Second, research is needed to analyze the moderating and mediating effects of ethical dilemmas on job stress, burnout, and turnover intention in long-term care hospital nurse. Third, in future studies targeting nurses in long-term care hospitals, the number of hospital beds and the characteristics of hospitalized patients must be fully considered when selecting samples. Finally, researchers need to continue to focus on long-term care clinical nurses, who receive relatively less attention compared to hospital nurses. Additionally, qualitative and quantitative studies should be conducted to identify the ethical dilemmas experienced by nurses in clinical settings and various nursing phenomena according to hospital characteristics.

CONFLICTS OF INTEREST

The authors declared no conflicts of interest.

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