



Original Article

Impact of work environment and work-related stress on turnover intention in physical therapists

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Abstract. [Purpose] This study was conducted to provide basic data for solutions to reduce the turnover rate of physical therapists. It should help create efficient personnel and organization management by exploring the impact of the work environment and work-related stress on turnover intention and analyzing the correlation between them. [Subjects and Methods] A survey was conducted with 236 physical therapists working at medical institutions in the Daejeon and Chungcheong areas. For the analysis on the collected data, correlational and linear regression analyses were conducted using the SPSS 18.0 program and Cronbach's alpha coefficient. [Results] The results showed a statistically significant positive correlation between turnover intention and work-related stress but a statistically significant negative correlation respectively between turnover intention and work environment. Work-related stress ($\beta=0.415$) had a significant positive impact on turnover intention and work environment ($\beta=-0.387$) had a significant negative impact on turnover intention. [Conclusion] To increase satisfaction level with the profession as well as the workplace for physical therapists, improvement of the work environment was the most necessary primary improvement.

Key words: Intention, Environment, Stress

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INTRODUCTION

Due to the nature of the job, physical therapists provide medical services in close relationships with patients^{1, 2)}. The turnover of physical therapists is a major loss in quality improvement of health services and rehabilitation related to human resources³⁾.

Currently, medical services are moving from healthcare provider-centered to patient-centered and hospitals are also converting into patient-centered healthcare systems⁴⁾. In addition, hospital organizations are recognizing recruitment, training, and retraining for healthcare providers in each specialized field⁵⁾.

To provide good quality health services, healthcare providers' beliefs in significantly contributing to patient care and their own work satisfaction should be preceded⁵⁾. Emotional labor refers to the idea of suppressing and limiting emotions to satisfy hospitals' changing patient-centered goals and patients' feelings^{6, 7)}. A physical therapist is a representative emotional laborer⁸⁾. Stress caused by excessive emotional labor has a negative effect on workers' commitment to the organization and satisfaction toward the job^{9, 10)}, resulting in work-related stress (WS). The work environment (WE) of human service workers has also been presented as a major factor in turnovers¹¹⁾.

If an organization member leaves the organization due to turnover, ensuring good quality staffing is threatened; large amounts of money are spent in the selection and training of new staff, finally resulting in loss to the organization¹²⁾. Additionally, new employees are highly likely to make mistakes or cause accidents compared to employees with experience.

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Employee replacement costs are also much higher than the costs of actually recruiting, hiring, and training new staff¹²; therefore, this has negative effects on the overall health and economic sectors. Byun¹³ said in her previous research that promoting efficient task execution and reducing turnovers by reducing WS and increasing job satisfaction are very important. For the efficient management of internal employees, it is necessary to accurately identify job satisfaction and WS and analyze their correlations with turnovers.

Examining similar research on the correlation between a variety of factors in the workplace and turnovers within medical institutions, radiological technologists showed higher job satisfaction with higher annual income and lower working years and showed higher turnovers depending on the number of working years, wages, and night watch duty¹⁴. Age, characteristics of medical institutions in which they are working, and job satisfaction are related to turnover of occupational therapists¹⁵. For nurses, excellent nursing is dependent on job satisfaction enabling them to handle work positively and efficiently; higher job satisfaction reduces turnovers¹⁶. The reality is that studies related to physical therapists include studies on WS¹⁷, research on working conditions and job satisfaction¹⁸, empowerment and job satisfaction, research on organizational commitment¹⁹, etc. However, the number is remarkably small compared to studies targeting other health service workers and the data on turnover intention (TI) itself as well as studies that analyze the relationship between TI and WE and WS of physical therapists are very rare.

Therefore, by investigating the effect of WS and WE on physical therapists and turnover, this study can provide basic data for reducing the turnover of physical therapists and seeking effective human resource and organizational management measures in the future.

SUBJECTS AND METHODS

The study participants were 241 physical therapists currently working in medical institutions who were directly visited during the three months from January to March 2014 for questionnaire distribution and collection. Five questionnaires were miswritten due to error or insufficient survey answer contents; 236 questionnaires were examined statistically. All subjects provided written informed consent prior to participation in this study. Those who fully comprehended the study procedure and voluntarily agreed to participate were selected as participants. This study was conducted consistent with the principles of the Declaration of Helsinki.

The TI measurement tool used seven questions; for turnover factors, four questions modified and used by Gang²⁰ were modified and reconstructed for this study. The tool is composed of 11 questions. To measure WS, this study used the questionnaire consisting of 15 questions after modifying and complementing the method used by Byun¹³. The WE measurement tool was reconstructed for this study based on the survey tool reconstructed by Lim²¹. WE was measured with a questionnaire of 26 questions. Each question on the measurement tool was based on a Likert scale from 1 (not at all) to 5 (strongly agree) points and higher scores meant better WE. Cronbach's alpha values in a previous and the present study were more than 0.700.

SPSS 18.0 was used for the collected data and the analysis method is as follows. Participants' general characteristics were shown as frequency and percentage. TI, WS, and WE of the participants were obtained as means and standard deviations. The data were analyzed using Cronbach's alpha coefficient to verify the reliability of questionnaire internal consistencies. The correlation between TI, WS, and WE used correlation analysis through Pearson's correlation coefficient and linear regression analysis to determine the impact of WS and WE on TI². The significance level of this study was set as 0.05.

RESULTS

The participants' general characteristics are as follows. There were 106 males (44.9%) and 130 females (55.1%). For age, 155 were less than 30 years old (65.7%) and 81 were older than 30 years (34.3%). Most were single (n=190, 80.5%); 46 were married (19.5%). There were 104 college graduates (44.1%), 88 university graduates (37.3%), and 44 graduate students or higher (18.6%). Most were hopeful (n=198, 83.9%). This was the first job for 113 (47.9%). In career tenure, 56 had less than one year (23.7%), 99 had 1–4 years (41.9%), 42 had 5–9 years (17.8%), and 39 had more than 10 years (16.5%). In current hospital tenure, 79 had less than 1 year (33.5%), 125 had 1–3 years (53.0%), and 32 had more than four years (13.6%). Sixty people had less than ₩1.5 million monthly income (25.4%), 98 had ₩1.5–2 million (41.5%), 57 had ₩2–2.5 million (24.2%), and 21 had more than ₩2.5 million (8.9%).

The total TI mean of participants was 3.09 ± 0.78 ; for WS, 3.31 ± 0.56 ; and for WE, 3.25 ± 0.46 . TI and WS ($r=0.531$, $p<0.01$) had a statistically significant positive correlation and TI and WE ($r=-0.511$, $p<0.01$) had a statistically significant negative correlation. WS ($\beta=0.415$) had a significant positive impact and WE ($\beta=-0.387$) had a significant negative impact on TI ($p<0.01$) (Table 1).

DISCUSSION

The effects of physical therapy appear through emotional and cognitive interactions in the relationship with patients. In this process, emotional labor of a physical therapist affects both the therapist and the patient. However, therapists who have previously adapted to the healthcare system have emphasized only ability and have neglected the emotional aspect²².

Table 1. Impact of work environment and work related stress of study subjects on the turnover intention

Variables	β	t
Work related stress	0.415	7.929*
Work environment	-0.387	-7.395*

$R^2=0.419$, Adjust $R^2=0.414$, $F=83.848$ (* $p<0.001$)

Accordingly, psychological factors may burden poor WE and reduced job involvement and job satisfaction levels^{9, 10}). To provide the best care services to patients, physical therapists should continue to have a smooth interactive relationship with patients, constantly watch the patient condition, and find the optimum treatment in this process. Thus, physical therapists' satisfaction with their job and working with responsibility are essential elements in increasing treatment efficiency as well as cementing the relationship with patients⁸).

In this study, the correlations between TI, WS, and WE were analyzed; there was a statistically significant positive correlation between TI and WS. This was consistent with a study¹³) targeting 212 new nurses. TI and WE had a statistically significant negative correlation; results of a study²¹) targeting 290 nurses support the results of this paper.

The results of regression analysis on physical therapists' TI by WS showed a positive explanatory power of 41.5% ($R^2=0.415$); the size of the influence ($\beta=0.415$) shows that higher WS leads to relatively higher TI. Lim's study targeting 248 nursing teachers showed 53.6% explanatory power ($R^2=0.536$) and influence of $\beta=0.540$; WS also affected TI in other occupations, highly supporting the results of this study¹⁹). However, Heo's study, targeting 353 nurses obtained only 12% explanatory power (influence $\beta=0.36$) showing relatively low support for the results of this study²⁴). On the other hand, satisfaction with WE showed a negative explanatory power of 41.5% of TI ($R^2=0.415$) and the size of the influence was $\beta=-0.387$, indicating that low satisfaction with WE leads to relatively high TI.

Other research results include explanatory power of 52.1% ($R^2=0.521$), and influence of $\beta=-0.229$ (working environment), $\beta=-0.382$ (self-development), and $\beta=-0.263$ (working facilities) in Lee's study targeting 236 golf course employees²⁵); explanatory power of 53.6% ($R^2=0.536$) and influence of $\beta=-0.141$ (relationship with superintendent) and $\beta=-0.118$ (compensation adequacy) in Lim's study targeting nursing teachers²¹); and explanatory power of 36% ($R^2=0.360$) and influence of $\beta=-0.228$ in Sin's study targeting local hospital nurses²³). Thus, WE affected TI in other occupations, showing high support for the results of this study.

According to the results of this study, the higher the WS, the higher the TI, and the better the WE, the lower the TI. In particular, WS had a greater impact on TI than WE. This is similar to the results of Lim²¹) and Jeong's²⁶) studies in which WS had the most significant impact on TI. Therefore, WS becomes the direct cause of turnovers and if not solved, leads to turnovers. Thus, it is essential to reduce the WS of physical therapists and improve the WE; ways to reduce turnovers should be sought through this.

The limitation of this study is that it cannot be generalized to all physical therapists due to its potential selection bias; physical therapists in Daejeon (Chungcheong), physical therapists working in rehabilitation hospitals, and young physical therapists were surveyed. Further, the correlations between various stress factors and WE affecting TI could not be clearly identified because survey questions were not segmented. In conclusion, future research including national physical therapists, all medical institutions, and participants of various ages needs to be conducted. The root cause can be found and solved when correlations of each factor are identified more clearly through the segmentation of the survey questions.

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