



NURSING TURNOVER- AN OVERVIEW AND UPDATES FROM KINGDOM OF SAUDI ARABIA

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Abstract:

The complicated topic of nurse turnover in healthcare systems is impacted by a number of organizational, personal, and environmental factors. This paper offers a summary of the large body of research on nurse turnover, concentrating on important factors and how they affect retention tactics. Workload, management style, opportunity for advancement, and work schedules are a few examples of organizational elements that have a big impact on how happy and retained nurses are in their jobs. There is a significant correlation between lower turnover rates and leadership that values employee contributions, empowerment, and career growth chances. Furthermore, it has been demonstrated that interventions like career progression programs and flexible schedules increase nurse retention. Individual characteristics including age, experience, and obligations to their families can influence a nurse's decision to remain in or quit their position. Compared to their younger counterparts, older, more experienced nurses typically show better levels of job satisfaction and lower turnover rates. Workplace modifications may be necessary to meet the demands of nurses due to family responsibilities, such as taking care of elderly parents or children. Although significant advancements have been achieved in comprehending the components that influence nurse turnover, additional investigation is required to examine the interaction between organizational and individual elements and their combined influence on turnover rates. Further research is also necessary to determine how higher nursing education affects turnover rates and how important it is to fund nursing programs in order to lessen dependency on foreign expertise. In order to guarantee the retention of qualified and committed nursing personnel and, ultimately, support the provision of high-quality patient care, addressing nurse turnover necessitates a comprehensive strategy that considers both organizational and individual aspects.



Introduction:

It is well known that high nurse turnover is a serious problem for healthcare organizations, having an impact on system costs, nurse morale, and the standard of patient care. Studies have indicated that elevated rates of employee turnover may result in a decline in the morale of the remaining workforce and impede productivity during the onboarding process. Moreover, turnover can lead to emotional tiredness and discontent with the structure of the work for nurses, which feeds the cycle of attrition. While turnover behavior has been the subject of several studies conducted in a variety of nations and academic fields, more investigation is still required to completely comprehend how it affects the ability of healthcare organizations to meet patient demands. More research is specifically needed to look at how the skilled nursing workforce's turnover impacts healthcare systems' capacity to meet the rising demand for care (Yang, 2017).

A comprehensive strategy that considers variables including work environment, job satisfaction, and organizational culture is needed to address the difficulties of nurse turnover. Healthcare executives may create plans to lessen the negative effects of turnover and encourage workforce stability by learning more about the underlying causes and effects of turnover. In the end, maintaining high-quality patient care and long-lasting healthcare delivery systems requires spending money to recruit and retain seasoned nurses and establish positive work cultures. The healthcare industry has a long-standing problem with registered nurse (RN) turnover, which presents serious obstacles to organizational stability and the standard of patient care. Elevated occupation and training costs as a result of high turnover rates lead to the depletion of nursing education resources. Beyond just the financial costs, nurse turnover has an impact on nurses' psychological health, perceptions of patient safety, and organizational efficacy (Haddad, 2020).

Increased workplace injuries, patient morbidity and death rates, and nursing shortages can result from the loss of qualified and experienced nurses owing to turnover, which exacerbates the depletion of human capital. Inadequate incentives and support for newly hired nurses, along with dissatisfaction with work surroundings, are common causes of nurse turnover in hospitals and healthcare facilities. The job discontent and turnover intentions of nurses are influenced by both extrinsic factors, such as working conditions and salary, and intrinsic factors, such as a sense of accomplishment. Studies conducted worldwide indicate a relationship between the number of nurses on staff, the standard of patient care, and the job satisfaction of nurses. Persistent decline in job satisfaction makes staffing shortages worse and raises replacement costs. Nurse turnover is a persistent problem in Asian locations, particularly Indonesia, because to things like inadequate support, poor communication, and undesirable working situations. Coworker support, work policies, and pay are only a few examples of the factors that have a big impact on nurses' job satisfaction and turnover decisions (Hughes, 2008).

Nurses' performance and ability to meet job expectations are negatively impacted by stress, which highlights the significance of detecting and addressing stressors in order to lower turnover rates and improve service quality. Enhancing corporate culture and remuneration can promote employee retention and happiness by addressing concerns including weariness, worry,

and work discontent. Negative work conditions, insufficient possibilities for professional growth, and inadequate supervisory relationships are frequently mentioned as reasons why nurses quit their jobs. Healthcare businesses must emphasize measures to enhance work environments, foster professional development, and alleviate stressors through effective leadership and competitive remuneration packages in order to reduce nurse turnover and its negative impacts. Organizations may improve nurse satisfaction, retention, and patient care results by cultivating a supportive and empowered workplace culture (Aiken et al., 2001).

In conclusion, high nurse turnover remains a significant challenge for healthcare organizations worldwide, impacting system costs, nurse morale, and ultimately, patient care quality. The detrimental effects of turnover on remaining staff morale and productivity during onboarding are well-documented, highlighting the urgent need for comprehensive strategies to address this issue. While numerous studies have explored turnover behavior across different nations and disciplines, further research is necessary to fully understand its implications for healthcare systems' ability to meet increasing patient demands. Specifically, more investigation into how turnover within the skilled nursing workforce affects healthcare organizations' capacity to deliver care is warranted. Addressing the complexities of nurse turnover requires a multifaceted approach that considers factors such as work environment, job satisfaction, and organizational culture. Healthcare executives must develop plans to mitigate the negative impacts of turnover and promote workforce stability by gaining a deeper understanding of its underlying causes and consequences. Ultimately, sustaining high-quality patient care and long-term healthcare delivery systems necessitates investment in recruiting and retaining experienced nurses, as well as fostering positive work cultures that prioritize employee well-being and satisfaction. By prioritizing these efforts, healthcare organizations can strive towards reducing nurse turnover and its adverse effects on both staff and patient outcomes.

Definition of Turnover:

For academics, measuring and comparing turnover rates in healthcare systems presents methodological hurdles. Inaccuracies in record-keeping techniques make it challenging to precisely calculate turnover, even at the local level. Studies differ in their definitions of turnover and reasons for leaving, which causes inconsistencies and prevents generalization. According to Jones (1990a, b), nursing turnover includes both voluntary and involuntary departures from the hospital setting. However, because the accompanying costs are incurred regardless of the reason for leaving, it can be difficult to discriminate between these categories in the study. While some studies define turnover broadly to include any change in employment, others concentrate narrowly on exits from the nursing profession or the organization.

According to Mano-Negrin and Kirschenbaum (1999), turnover reflects how well organizational advantages and individual career goals are balanced. Opportunities for career progression and job security can have an impact on turnover behavior, as people assess the advantages of staying vs the rewards of leaving. While a certain amount of turnover can be advantageous to a company as it presents chances for cost savings and boosts productivity through improved job fits, excessively high turnover rates can have unfavorable effects. Because

the potential benefits of renewal are outweighed by the loss of valuable individuals, turnover rates that reach 50% are likely to have a negative net effect on productivity. Conclusively, comprehending the intricacies of turnover definitions and their consequences is imperative for precisely evaluating its influence on healthcare establishments. Through the consideration of methodological issues and the wider context surrounding turnover behavior, researchers can offer significant insights that can guide policies aimed at enhancing staff stability and retention in healthcare environments.

Models Describe Turnover:

Earlier theoretical models have compiled research on turnover and drawn relationships between factors that influence turnover. According to Price and Mueller (1981a, b), job satisfaction and commitment—which are impacted by organizational, demographic, and environmental factors such as alternative job opportunities—are the primary causes of turnover in the workplace. According to Hinshaw and Atwood's (1983) model, two categories of job satisfaction—organizational, which is related to group cohesion and job stress, and professional, which is related to the quality of care and job enjoyment—determine nurses' expected and actual turnover. Intention to quit is the most direct predictor of actual turnover, according to Parasuraman's (1989) analysis of the importance of time lag in creating correlations between variables consistently related with turnover. Due to their effects on stress, work satisfaction, and organizational commitment, personal and organizational factors have an indirect impact on turnover and intention to leave. Over time, the intention-turnover link becomes weaker.

Early models provide a thorough framework for investigating turnover, but they have several drawbacks, such as small sample sizes, poor generalizability, inability to simultaneously adjust for several variables, cross-sectional data, and an emphasis on data at the individual level. Understanding of nurse turnover has improved thanks to recent modeling attempts. In order to explain nurse turnover, Irvine, and Evans (1995) offer a model that builds on Mueller and Price's (1990) theory and incorporates knowledge from sociologists, psychologists, and economists. According to Krausz et al. (1995), incremental withdrawal is a strategy that nurses should consider before deciding to leave their ward, the hospital, or the profession altogether. According to Alexander et al. (1998), there are several stages in the turnover process that are impacted by the workplace, social orientations, attitudes toward the work, and the decision to leave, with the desire to leave being the most significant predictor.

Nurse Turnover Driving Factors:

Job Satisfaction:

The connection between turnover and job satisfaction in nursing has been extensively studied. Numerous tools have been created to assess job satisfaction, most notably the Mueller and McCloskey (1990) scale that includes eight factors: professional opportunities, praise/recognition, control/responsibility, coworkers, scheduling, family/work balance, extrinsic rewards, interaction, and coworkers. Research has repeatedly shown that nurses' main reasons for quitting their jobs include job unhappiness (Tzeng, 2002). Data from a nationwide survey of nurses employed by the National Health Service (NHS) were analyzed by Shields and Ward

(2001), who found that job satisfaction was more important than the attraction of outside employment prospects. More specifically, they discovered that young, recently qualified, and well educated nurses were especially likely to have low job satisfaction. This discontent was linked to elements like administrative problems, little opportunities for advancement, worries about job security, and a lack of time allotted for clinical responsibilities.

Work Moderator:

It has been proposed that a few moderators, in addition to external, personal, and work-related factors, affect job satisfaction, intention to leave, and behavior connected to leaving. Moore (2001) found that, in spite of the impact of restructuring changes on hospital and nurse conditions, inadequate management and communication style, and exhaustion, a feeling of professionalism moderated the intention to resign. In a similar vein, Angerami et al. (2000) discovered that nurses' reasons for continuing to work in the field had to do with their commitment to nursing, even in the lack of proper compensation and recognition. For new nurses, meanwhile, career dedication might not have the same moderating effect. Based on poor relationships between career commitment and turnover intention in new nurses from a longitudinal survey, Gardner (1992) hypothesized that career commitment is unstable in the first year, especially vulnerable to organizational influences.

It has been discovered that professional dedication predicts intention to leave nursing more accurately than desire to leave the company (Lu et al., 2002). According to Chang (1999), there is a difference between organizational and career commitment, with people who are devoted to their organization and their career being less likely to leave than those who are devoted to the organization alone. Even after adjusting for external, personal, and work-related variables, Blau and Lunz (1998) discovered that professional commitment significantly explains intent to leave the field, suggesting its stability. Furthermore, the notion of job embeddedness was presented by Holtom and O'Neill (2004), who postulated that being integrated into an organization lowers both actual and intended turnover. It has also been discovered that the association between voluntary turnover and job satisfaction is moderated by personal disposition. Judge (1993) found that among workers with good dispositions, there was a stronger correlation between voluntary turnover and job satisfaction, indicating that proactive measures like resigning are recommended. Similarly, when positive mood was high, George and Jones (1996) observed a greater association between job satisfaction and turnover intention, suggesting that people in positive moods are more likely to act.

Factors Related to Organization:

A large body of research on nurse turnover examines the ways in which organizational features—like workload, management style, autonomy, empowerment, and prospects for promotion—affect employee turnover. Researchers contend that long-term turnover reductions are better achieved through administrative interventions aimed at improving the quality of work life, even though immediate solutions like increasing nurse recruitment and improving compensation may lessen the nursing shortage (Shields and Ward, 2001; Gifford et al., 2002). The Revised Nursing Work Index (NWI-R) has advanced the measurement of organizational

features that characterize professional nursing practice (Aiken & Patrician, 2000). To determine its predictive power and applicability to companies in other countries, more research is needed. This highlights the significance of creating all-encompassing plans that address the organizational issues at the root of nurse turnover as well as the immediate staffing problems. Healthcare businesses can cultivate a supportive culture, offer chances for professional development, and improve work settings to encourage nurse retention and raise the standard of care provided overall.

Workload and Stress Factors:

Increased workplace stress, lower job satisfaction, and a higher risk of turnover are associated with persistently high workloads (Strachota et al., 2003). According to empirical evidence, the likelihood of burnout increases by 23% and the likelihood of job dissatisfaction increases by 15% for every additional patient per nurse (Aiken et al., 2002b). Over the past ten years, methodologies for assessing workload have changed to consider a variety of elements that impact a nurse's workday. Workload measurement should take patient situations' complexity into account, rather than just concentrating on tasks (O'Brien-Pallas, 1988). Still, there are a few factors that need more research, including caregiver team composition, scheduling, and process coordination.

Work content is influenced by the practice environment, and work content influences intrinsic work motivation (Janssen et al., 1999). Although there is evidence of job overload, nurses' frustrations could be better understood if the unpredictable aspects of their direct working environments—such as frequent unanticipated patient events—were well understood.

Certain units are the focus of certain research on work-related stress. Barrett and Yates (2002), for instance, discovered that cancer nurses experienced high levels of workload and emotional exhaustion, and a sizable percentage of them expressed dissatisfaction with remuneration. Nurse turnover in critical care units has been found to be significantly influenced by work-related stress (Cartledge, 2001). Compared to other settings, psychiatric facilities appear to have greater levels of job dissatisfaction, burnout, and turnover intention among registered nurses, according to comparative assessments by unit type (Cameron et al., 1994). Furthermore, there is a connection between job satisfaction and staff burnout and the kind of patient being cared for (Evers et al., 2002). For example, psychiatric nurses' decision to quit their current position has been linked to their estimated danger of assault (Ito et al., 2001).

Management Style and Empowerment:

Empirical studies emphasize the critical role that nurse leadership plays in promoting job satisfaction. In their 2000 study, Bratt et al. looked at a number of variables influencing the job satisfaction of nurses in pediatric critical care units and found that nursing leadership and job stress were important contributors. Leadership that encourages employee contributions tends to improve retention, and job satisfaction levels are consistently greater when there is autonomy, a positive work environment, and a facilitative management style. Research conducted on Magnet hospitals in the United States of America illuminated nursing practices that are successful in

healthcare settings. These practices highlighted the advantages of decentralized structures, flexible work schedules, professional autonomy, and good management-staff communication. Compared to traditional hospital settings, these techniques have been associated with lower nurse turnover and improved job satisfaction.

Numerous studies have also connected improved job satisfaction with participative management styles (Yeatts and Seward, 2000). According to Song et al. (1997), nurses who worked in a shared governance, nurse-managed special care unit (SCU) expressed higher levels of satisfaction than those who worked in a bureaucratic intensive care unit (ICU). Employees' intention to remain employed is directly impacted by the qualities of nurse managers, such as their influence, power, and leadership style. Although it's unclear how directly empowerment—both structural and psychological—relates to nurse turnover, it is linked to job satisfaction. Laschinger et al. (2004) discovered a direct relationship between shifts in psychological empowerment and job satisfaction and shifts in perceived structural empowerment. Higher levels of job satisfaction and better treatment have been continuously associated with nurse autonomy (Kramer and Schmalenberg, 2003). Furthermore, the quality of treatment and satisfaction of nurses have been linked to autonomy, control over resources, connections with doctors, and decision-making (Rafferty et al., 2001). The aforementioned results highlight the significance of cultivating surroundings that augment nurses' sense of empowerment and autonomy, since these can yield enduring benefits.

Opportunities:

It has been discovered that professional development programs and promotion possibilities for nurses greatly improve work satisfaction and raise nurse retention rates. The nurse's turnover has been found to be more strongly predicted by dissatisfaction with training and advancement possibilities than by workload or compensation issues. Research has indicated that nurses who feel they have little room for growth, work in highly routine environments, have little autonomy over their decisions, and deal with a lack of effective communication within the company are more likely to think about quitting. Furthermore, nurses' intention to remain in their current roles has been connected to their motivation in furthering their careers and their sense of value at work. Furthermore, research indicates that among registered nurses (RNs) and licensed practical nurses (LPNs), job satisfaction and performance limitations are important factors that influence their intentions to leave their jobs. For RNs, turnover intentions are specifically driven by satisfaction with promoting chances, whereas LPNs are influenced by performance limits, position ambiguity, and shift work.

Self-scheduling techniques have been recognized as a viable approach to improve work-life balance with regard to work schedules, especially for nurses who have family commitments. It has been determined that extended shifts, overtime, working nights, weekends, and holidays, as well as weekend overtime, are indicators of expected employee turnover. Research has indicated that accommodating work schedules, including job sharing, can have a noteworthy effect on nurses' job satisfaction and retention rates, particularly for those with family responsibilities. In conclusion, a large body of research suggests that organizational elements

including workload, work schedules, management styles, and chances for advancement have a big impact on job satisfaction and nurse turnover rates. More research is required to comprehend the intricacies of nurses' work environments and the interaction of numerous factors on overall unit functioning and nurse well-being, even though interventions targeting these aspects have shown promise in boosting nurse retention. Decision-makers in healthcare organizations can use this knowledge to better inform them of the methods they use to reduce nurse turnover and improve work satisfaction among nursing staff.

Individual Factors:

Individual considerations are important in determining the turnover behavior of nurses; specific socio-demographic traits have an impact on their likelihood of quitting. An proven inverse link, for example, suggests that turnover is lower among senior nurses, indicating that they are less likely to leave their professions. When compared to their younger colleagues, mature nurses typically demonstrate higher levels of job satisfaction, productivity, and organizational commitment. Studies have shown, however, that younger nurses' anticipated turnover is linked to stress and job satisfaction, whereas older nurses—especially those over 50—may be less impacted by turnover predictors because of their experience and closeness to retirement. Another important aspect is work experience; nurses with less experience are more likely to abandon their positions than their more experienced counterparts. Experienced nurses are less likely to quit their jobs and frequently express better levels of job satisfaction. Work experience, tenure, and turnover have a complicated relationship; turnover rates are usually highest in the first few years of employment and then gradually decrease.

Nurse turnover rates are also influenced by family duties, such as taking care of elderly parents or children, which may require adjustments to the work environment to meet the needs of the nurses. According to theory, turnover is influenced by educational attainment, with highly educated people more inclined to look for possibilities for professional advancement—especially if those options are scarce inside their current firm. More investigation is required to determine the impact of a more highly educated nursing workforce on turnover rates, because many nations require a degree in order to practice as a nurse. Reducing dependency on foreign nursing competence and minimizing turnover in healthcare systems necessitate significant investments in nursing education.

Conclusion:

In conclusion, the turnover of nurses within healthcare systems is a multifaceted issue influenced by a variety of organizational, individual, and environmental factors. Extensive research has identified key determinants of turnover, including workload, management style, promotional opportunities, work schedules, and individual characteristics such as age, experience, and family responsibilities. Organizational factors, such as leadership style, empowerment, and career development opportunities, play a crucial role in influencing job satisfaction and retention among nurses. Studies have consistently shown that nurses are more likely to stay in their positions when they feel valued, empowered, and supported by their organizations. Moreover, interventions aimed at improving the quality of work life, such as

flexible scheduling and career advancement opportunities, have been associated with reduced turnover rates. Individual factors, including age, experience, and family obligations, also impact nurses' decisions to stay or leave their jobs. Older, more experienced nurses tend to exhibit higher levels of job satisfaction and are less likely to leave their positions compared to younger, less experienced counterparts. Family responsibilities, such as caring for children or aging parents, may necessitate changes in work environments to accommodate nurses' home obligations.

While substantial progress has been made in understanding the factors contributing to nurse turnover, there are still areas that require further exploration. For instance, the interplay between organizational, individual, and environmental factors and their combined impact on turnover warrants additional research. Additionally, the effects of an increasingly educated nursing workforce on turnover rates and the importance of investing in nursing education to reduce reliance on overseas nursing expertise should be further investigated. Overall, addressing nurse turnover requires a comprehensive approach that considers both organizational and individual factors. By implementing strategies to improve work environments, provide career development opportunities, and support nurses in balancing work and family responsibilities, healthcare organizations can mitigate turnover and ensure the retention of skilled and dedicated nursing staff, ultimately contributing to the delivery of high-quality patient care.

References:

- Aiken, L.H., Clarke, S.P., Sloane, D.M., Sochalski, J.A., Busse, R., Clarke, H., Giovannetti, P., Hunt, J., Rafferty, A.M., Shamian, J., 2001. Nurses' reports on hospital care in five countries. *Health Affairs* 20 (3), 43–53.
- Angerami, E.L., Gomes, D.L., Mendes, I.J., 2000. Permanence of nurses in their profession. *Revista Latino-Americana de Enfermagem* 8 (5), 52–57
- Barrett, L., Yates, P., 2002. Oncology/haematology nurses: a study of job satisfaction, burnout, and intention to leave the specialty. *Australian Health Review* 25 (3), 109–121.
- Bratt, M.M., Broome, M., Kelber, S., Lostocco, L., 2000. Influence of stress and nursing leadership on job satisfaction of pediatric intensive care unit nurses. *American Journal of Critical Care* 9 (5), 307–317.
- Cartledge, S., 2001. Factors influencing the turnover of intensive care nurses. *Intensive and Critical Care Nursing* 17 (6), 348–355.
- Evers, W., Tomic, W., Brouwers, A., 2002. Aggressive behaviour and burnout among staff of homes for the elderly. *International Journal of Mental Health Nursing* 11 (1), 2–9.
- Gardner, D.L., 1992. Career commitment in nursing. *Journal of Professional Nursing* 8 (3), 155–160.
- Gifford, B.D., Zammuto, R.F., Goodman, E.A., 2002. The relationship between hospital unit culture and nurses' quality of work life. *Journal of Healthcare Management* 47 (1), 13–25 discussion 25–6.
- Hinshaw, A.S., Atwood, J.R., 1983. Nursing staff turnover, stress, and satisfaction: Models, measures, and management. *Annual Review of Nursing Research* 1, 133–153.

- Hughes R. Patient safety and quality: An evidence-based handbook for nurses. 2008.
- Haddad LM, Annamaraju P, Toney-Butler TJ. Nursing shortage. StatPearls [Internet]. 2020.
- Irvine, D., Evans, M., 1995. Job satisfaction and turnover among nurses: integrating research findings across studies. *Nursing Research* 44 (4), 246–253.
- Ito, H., Eisen, S.V., Sederer, L.I., Yamada, O., Tachimori, H., 2001. Factors affecting psychiatric nurses' intention to leave their current job. *Psychiatric Services* 52 (2), 232–234.
- Jones, C.B., 1990b. Staff nurse turnover costs: Part II, measurements and results. *Journal of Nursing Administration* 20 (5), 27–32.
- Jones, C.B., Stasiowski, S., Simons, B.J., Boyd, N.J., Lucas, M.D., 1993. Shared governance and the nursing practice environment. *Nursing Economics* 11 (4), 208–214.
- Kramer, M., Schmalenberg, C.E., 2003. Magnet hospital staff nurses describe clinical autonomy. *Nursing Outlook* 51 (1), 13–19
- Lu, K.Y., Lin, P.L., Wu, C.M., Hsieh, Y.L., Chang, Y.Y., 2002. The relationship among turnover intentions, professional commitment, and job satisfaction of hospital nurses. *Journal of Professional Nursing* 18 (4), 214–219.
- Lum, L., Kervin, J., Clark, K., Reid, F., Sirola, W., 1998. Explaining nursing turnover intent: job satisfaction, pay satisfaction, or organizational commitment? *Journal of Organizational Behaviour* 19 (3), 305–320.
- Laschinger, H.K., Finegan, J., Shamian, J., Wilk, P., 2004. A longitudinal analysis of the impact of workplace empowerment on work satisfaction. *Journal of Organizational Behavior* 25, 527–545.
- Mano-Negrin, R., Kirschenbaum, A., 1999. Push and pull factors in medical employees' turnover decisions: the effect of a careerist approach and organizational benefits on the decision to leave the job. *The International Journal of Human Resource Management* 10 (4), 689–702.
- Mor Barak, M.E., Nissly, J.A., Levin, A., 2001. Antecedents to retention and turnover among child welfare, social work, and other human service employees: what can we learn from past research? A review and metanalysis. *Social Service Review* 75 (4), 625–661.
- Mueller, C.W., McCloskey, J.C., 1990. Nurses' job satisfaction: a proposed measure. *Nursing Research* 39 (2), 113–117.
- Price, J.L., Mueller, C.W., 1981a. A causal model of turnover for nurses. *Academy of Management Journal* 24 (3), 543–565.
- Rafferty, A.M., Ball, J., Aiken, L.H., 2001. Are teamwork and professional autonomy compatible, and do they result in improved hospital care? *Quality in Health Care* 10 (Suppl. II), ii32–ii37.
- Shamian, J., O'Brien-Pallas, L., 2001. Effects of job strain, hospital organizational factors and individual characteristics on work-related disability among nurses. Final Report submitted to the Ontario Workplace Safety and Insurance Board.
- Strachota, E., Normandin, P., O'Brien, N., Clary, M., Krukow, B., 2003. Reasons registered nurses leave or change employment status. *Journal of Nursing Administration* 33 (2), 111–117.

Tzeng, H.M., 2002. The influence of nurses' working motivation and job satisfaction on intention to quit: an empirical investigation in Taiwan. *International Journal of Nursing Studies* 39 (8), 867–878.

Yang H, Lv J, Zhou X, Liu H, Mi B. Validation of work pressure and associated factors influencing hospital nurse turnover: a cross-sectional investigation in Shaanxi Province, China. *BMC health services research*. 2017;17(1):1-11

Yeatts, D.E., Seward, R.R., 2000. Reducing turnover and improving health care in nursing homes: the potential effects of self-managed work teams. *Gerontologist* 40 (3), 358–363.