Demographic Factors Affecting Turnover Intention Among Nurses Working in Hospital

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Abstract: Background: Turnover is one the problems occured in human resources at the hospital. Nurses are the most health workers in health care facilities. High number of nurse turnover impacts on the loss of trained and skilled nurses which lead to decreased productivity in hospitals. The purpose of this research is to explain the relationship between nurse demographic (gender, age, education level, marital status, employment status, tenure, work unit) and turnover intention of nurs es in X hospital. Methods: This research used cross sectional design with sample size of 119 nurses who work in out-patient unit, in-patient unit, emergency unit, critical care unit, hemodialysis unit, neonatal care unit, and surgical unit. Sample is selected by simple random sampling method. Data were analyzed by using logistic regression. Results: Demographic data that influences on turnover intention are gender and work unit variable with p = 0.034 and p = 0.023. Turnover intention can be explained by gender and work unit variable of 27.7%. The accuracy of this model in predicting turnover intention is 69.7%. Conclusions: Female nurses have a higher turnover intention than male nurses and nurses working in places with high stress such as hemodialysis room also increase the chances of nurses to have the intention to leave the hospital. The results of this research can be used as a basis in determining nurse retention strategies, especially in groups with high risk of turnover intention.

1   BACKGROUND

The competition amongs hospitals has become tighter than ever because of the medical market globalization (Kim, 2010). The hospital will improve the services provided continuously to compete with other hospitals. The success of a hospital as an organization depends on how the leadership utilizes its human resources effectively (Lee, Kim and Kim, 2016). Nursing is one of the human resources that becomes the backbone of the hospital (Ulrich *et al.*, 2010). The problems encountered by healthcare providers which related to nursing force is the difficulty in finding and maintaining the qualified nurses (De Gieter, Hofmans and Pepermans, 2011) which impact on nurse turnover (Hayes *et al.*, 2012).

Turnover is a problem encountered by hospitals in various countries. Nursing turnover rate is 10 – 20% in the United State (Takase, 2010; De Gieter, Hofmans and Pepermans, 2011), in the UK, Australia and Japan (Takase, 2010). The nursing turnover rate in Taiwan was approximately 22.1% of the new 4602 nurses with a working period under 3 months in the health center in 2009 (Chiang and Chang, 2012). In Indonesia, the turnover at the Santa Familia Treatment Center (Balai Pengobatan Santa Familia / BPSF) showed nursing turnover rate in 2010 of 33.3% which increased to 55.0% in 2012 (Lusiati and Supriyanto, 2013). The nursing turnover in X Hospital is 15 nurses by 2015, 19 nurses by 2016 and 16 nurses by 2017.

One of the impacts of turnover is the high cost that hospital spent which more than 5% of annual operating costs at Mexican hospitals (Yang *et al.*, 2015). The greatest cost is used for temporary reimbursement, orientation and training (North, N and Hughes, 2006). Turnover also causes the loss of trained and skilled nurses, resulting in decreased hospital productivity (Takase, 2010).

Some studies explain that turnover can be predicted by identifying turnover intention (Hayes *et al.*, 2006). The factors of turnover intention are organizational factors (Khan and Zafar, 2014), commitment (Veurink and Fischer, 2011), job

satisfaction (De Gieter, Hofmans and Pepermans, 2011), work related stress (Wu *et al.*, 2012). Some of the reasons nurses who resign from X Hospital are being accepted to be a civil servant, looking after their parents, following husband, while most other reason are still unknown. Based on the above explanation, it can be seen that the individual factor is the most dominant factor in turnover intention. Therefore, it is necessary to identify other individual factors that may affect the turnover.

The purpose of this study was to analyze the influence of demographic factors on turnover intention. Demographic factors to studied were gender, age, education level, marital status, employment status, tenure and work unit. The result of the research are expected to provide advice to head of the room, nursing managers, human resources managers in the development of nursing resources in hospitals. The research question of this research is whether there is influence demographic factor of nurse (gender, age, education level, marital status, employment status, tenure and work unit) to turnover intention?

2 METHODS

2.1 Design and Sample

This research was conducted in X Hospital using cross sectional design to know the effect of demographic factor on turnover intention in X Hospital. Measured of independent variable is demography factor consisting of gender, age, education level, marital status, employment status, tenure and work unit. While the dependent variable measured is turnover intention.

Data were collected using a questionnaire filled by 119 nurses of X Hospital who worked in February 2018. Seven units were used in this research: in-patient, out-patient, emergency, intensive care, hemodialysis, surgical room and neonatal care units. The sample was choosen by using simple random sampling method.

2.2 Instruments

Turnover intention was measured by a compiled questionnaire of researchers based on the concept Mobley, Horner and Hollingsworth (1978) which consist of 3 sub dimensions of the thought to quit from current job, intention to find another job and the intention to quit. The questionnaire consists of 9 items of statement using Likert Scale ranged 1 (strongly disagree) and 5 (strongly agree). The reliability of this instrument is 0.691 (reliable). Gender, age, education level, marital status, employment status, tenure and work unit is measured by a social demographic questionnaire.

2.3 Ethical Considerations

Before filling out the questionnaires, the researcher explained the purpose of this research to the respondents. To ensure anonymity, respondents only write down their initials. Respondents were involved voluntarily in this research. Ethical approval is obtained from ethical committee of X Hospital with number certificate 0002/KEPK-RSI JS/II/2018

2.4 Data Analysis

Statistic description was used to know the characteristic of respondents, consist of gender, age, education level, marital status, employment status, tenure and work unit of respondents. Data were analyzed using SPSS software version 16.0. Univariate statistical analysis is performed on turnover intention variable to know the distribution of each category. Furthermore, chi square bivariate analysis was conducted to select the variable that will be logistic regression tested. Non-significant demographic variable will be removed, while significant variables will be multivariate logistic regression analysed.

3 RESULTS

3.1 General Characteristics of the Participants

Demographic data of respondents in table 1 showed that female nurses were 87 (73.1%). Most of respondent aged 21 – 40 years which are equal to 116 (97.5%). Nurses with nursing D3 (diploma degree) education were 84 (70.6%), whereas nurses with S1 (bachelor of nursing degree) were 35 (29.4%). Nurses with married status were 79 people (66.4%). Nursing staff status as permanent employee is 83 nurses (69.8%). There are many respondents worked within 1-5 years is 86 nurses (72.3%). Respondents from in-patient unit were the most compared to other units, 57 people (47.9%).

Table 1. General characteristics.

Demographic data	Σ	%	Mean	SD
Gender Male Female	32 87	26,9 73,1	1,73	0,445
Age <21 years 21-40 years 40-60 years	1 116 2	0,8 97,5 1,7	2,01	0,159
Education level S1 D3	35 84	29,4 70,6	2,71	0,458
Marital status Married Single Widower/ widow	79 39 1	66,4 32,8 0,8	1,34	0,495
Employment status permanent employees temporary employees Contract employees	83 10 26	69,7 8,4 21,8	1,52	0,832
Tenure 1-5 years 5-10 years 11-20 years >20 years	86 25 7 1	72,3 21,0 5,9 0,8	1.35	0,692
Work unit Outpatient Inpatient Emergency Intensive care Surgical room Hemodialysis Neonatal care	11 57 15 8 12 10 6	9,2 47,9 12,6 6,7 10,1 8,4 5,0	3,06	1,704

Tabel 2. Chi square test result.

Demographic data	Pearson chi square
Gender	0,049
Age	0,498
Education level	1,000
Marital status	0,006
Employment status	0,233
Tenure	0,402
Work unit	0,005

3.3 Chi-Square Test

Based on table 2, there were 4 variables that tested by logistic regression, gender, marital status, employment status, and work unit. The variable that will be removed is variable with $p > 0.250$. Those variables are age ($p = 0.498$), education level ($p = 1.000$) and tenure ($p = 0.402$).

3.4 Logistic Regression Test

Four variables (gender, marital status, employment status and work unit) were tested with logistic regression test with turnover intention variable. Table 3 showed that gender and work unit were significant with turnover intention variable with $p = 0.034$ and $p = 0.023$. Status of employment and marital status variables are not really significant, so those were removed from the model. Based on logistic regression test results, it can be seen that female has higher turnover intention compared to male. Nurses who work in the hemodialysis unit have the highest turnover intention among other units.

The model showed that turnover intention can be explained by two variables (gender and work unit) of 27.7%. The accuracy of this model in predicting intention turnover is 69.7%. From both factors, work unit was a factor that more having influence on turnover intention than gender factor with B = 13,36.

4 DISCUSSION

4.1 Discussion

Compare to male nurses, female nurses have a higher turnover intention. This is supported by Emiroğlu, Akova and Tanrıverdi (2015) dan Chen

3.2 Descriptive Analysis of Turnover Intention

Data of turnover intention on nurse at X Hospital is equal to 68 people (57.1%) which has intention to leave hospital and 51 nurses (42.9%) has no intention to quit from their job. The mean of the data is 1.57 and the standard deviation is 0.497.

et al. (2008) who stated that women have a higher turnover intention than men.

Table 3. Regresi logistic test result

Demographic data	Sig	Exp (B)	CI	
			Lower	Upper
Gender Male Female	0,034	5,504	1.142	26,535
Marital status Married	0,068			
Single	1,000	1,401	0,000	-
Widower/ widow	1,000	5,199	0,000	-
Employment status Permanent employees	0,924			
Temporary employees	0,723	1,226	0,397	3,790
Contract employees	0,764	1,357	0,186	9,899
Work unit Outpatient	0,023			
Inpatient	0,111	8,299	0,613	112,34
Emergency	0,103	6,636	0,684	64,377
Intensive care	0,848	0,758	0,045	12,831
Surgical	0,663	0,504	0,023	11,020
Hemodialysis	0,067	13,36	0,836	213,53
Neonatal care	0,203	5,529	0,397	76,949

The high turnover intention in women is due to her roles and responsibilities as a woman in the family and in her career (Emiroğlu, Akova and Tanrıverdi, 2015). Those responsibilities are in educating children and doing other household chores. In addition, many female nurses have moved to follow their husband who works elsewhere. Based on the description data, it can be seen that most of the research respondents are women. therefore, the opportunity for nurses to leave the hospital will be even greater.

The age of the nurses has no significant role with turnover intention. This result was contradicted with some previous studies, i.e. the research conducted by Chiang and Chang (2012); Engeda, Birhanu and Alene (2014); Leone *et al.* (2015) which stated that older nurses have lower turnover intention compare with the younger nurses. Nurses with young age are more qualified and invest more in organizations (Emiroğlu, Akova and Tanrıverdi, 2015). Nurses' education level also has no significant relation with turnover intention. This is contrasted with Emiroğlu, Akova and Tanrıverdi (2015) and Chen et al. (2008)

which stated if person with lower education level tends to have lower turnover intention than a higher level of education. Higher-educated nurse have more expectations of their work (Martin and Roodt, 2008), they have an intention to seek other job opportunity and also have a broader view to create a new challenge (Lambert, 2006). The findings of this research indicate that age and level of education is not the basis of a person's choice to resign because of the differences in individual mind-set to plan their career (Rahmawati, Nursalam and Kurniawati, 2016).

Marital status also has no relation with turnover intention. The results of this research contradicted with previous research (Chiang and Chang, 2012), which stated that married nurses have low turnover intention (Engeda, Birhanu and Alene, 2014). Emiroğlu, Akova and Tanrıverdi (2015) argued that this difference lies in the financial responsibilities and personal burden such as children (Stewart et al., 2011). Housing, baby sitting and long distance with their partner are some considerations of married nurses whether to stay or to quit from their job.

Employment status has no relations to turnover intention. There are non-permanent nurses who experience current work insecurity because of the competition to be permanent employees (Smithson and Lewis, 2000).

The nurses' tenure has no effect on turnover intention. This is contrary to research of Emiroğlu, Akova and Tanrıverdi (2015) dan Chen et al. (2008) which stated that a nurse who has 5-7 years of working experience, 8-10 years or more will have a lower intention of turnover than nurses with short working duration (<5 years). New nurses may be affected to quit if they do not experience challenges in the workplace (Lavoie-Tremblay et al., 2008s). The work duration will be the basis to develop their career also to determine the amount of intensives. Uncertainty and uncertain opportunities to be promoted will trigger someone to find another job (Böckerman and Ilmakunnas, 2009). Some of these reasons may be a stronger factor compared to the tenure.

The work unit has an influence on turnover intention. Nursing who work in in-patient, emergency room, hemodialysis and neonatal unit have higher turnover intentions than nurses who work in out-patient unit. The work unit will be related with the perceived stress level of the nurse. Research conducted by Wu *et al.* (2012) stated that turnover intention in unit with high levels of stress is higher than in units with low stress levels. Chiang and Chang (2012) stated that nurses who work in the

in-patient unit have the highest stress level, depression and turnover intention compared to other units. Basically, stress relies heavily on the nurse's response to the stress. Nurses who have a positive perception of stress will be able to adapt to the work environment well. Thus, high stress will not change the desire of nurses to leave the hospital

4.2 Limitations

Instruments used in measuring turnover intention are instrument prepared by researchers who already meet the reliability test. These instruments consist of 3 dimensions which arranged based on concept (Mobley, Horner and Hollingsworth, 1978) of thinking to quit, the intention to find other job and the intention to quit. Score used in this research is the total score of the three dimensions that cannot be used to describe the percentage of each dimension.

The result of this study indicates that only 2 variables of 7 variables were significant with turnover intention and contrary with some of the previous studies. In this research, the independent variables studied were only demographic factors, so the most dominant factor affecting turnover intention has not been identified and the analysis has not been incisive. Basically, turnover intention can be influenced by several other factors, such as organizational factors, job factors and work environment.

5 CONCLUSIONS

Female nurses have a higher turnover compared to male nurses. This relates to the role of women's responsibilities to the family and workplace. The nurse who work at hemodialysis unit has the highest turnover intention among other units. Nurses who have high stress at work can trigger nurses to leave the hospital. The results of this study can be used as a basis in determining nurse retention strategies, especially in groups at high risk of turnover intention. Some strategies to reduce stress levels and nurses' depression level can also be done in units with high stress levels, so it is expected to reduce turnover intention. Further research that can be conducted is to identify other factors that can affect turnover intention with more samples and conducted in some hospitals, so it can be generalized

REFERENCES

Böckerman, P. and Ilmakunnas, P. (2009) 'Job disamenities, job satisfaction, quit intentions, and actual separations: Putting the pieces together', *Industrial Relations*, 48(1), pp. 73–96. doi: 10.1111/j.1468-232X.2008.00546.x.

Chen, H. C. *et al.* (2008) 'Turnover factors revisited: A longitudinal study of Taiwan-based staff nurses', *International Journal of Nursing Studies*, 45(2), pp. 277–285. doi: 10.1016/j.ijnurstu.2006.08.010.

Chiang, Y. M. and Chang, Y. (2012) 'Stress, depression, and intention to leave among nurses in different medical units: Implications for healthcare management/nursing practice', *Health Policy*. Elsevier Ireland Ltd, 108(2–3), pp. 149–157. doi: 10.1016/j.healthpol.2012.08.027.

Emiroğlu, B. D., Akova, O. and Tanrıverdi, H. (2015) 'The Relationship Between Turnover Intention and Demographic Factors in Hotel Businesses: A Study at Five Star Hotels in Istanbul', *Procedia - Social and Behavioral Sciences*. Elsevier B.V., 207, pp. 385–397. doi: 10.1016/j.sbspro.2015.10.108.

Engeda, E. H., Birhanu, A. M. and Alene, K. A. (2014) 'Intent to stay in the nursing profession and associated factors among nurses working in Amhara Regional State Referral Hospitals, Ethiopia', pp. 1–8.

De Gieter, S., Hofmans, J. and Pepermans, R. (2011) 'Revisiting the impact of job satisfaction and organizational commitment on nurse turnover intention: An individual differences analysis', *International Journal of Nursing Studies*. Elsevier Ltd, 48(12), pp. 1562–1569. doi: 10.1016/j.ijnurstu.2011.06.007.

Hayes, L. J. *et al.* (2006) 'Nurse turnover: A literature review', *International Journal of Nursing Studies*, 43, pp. 237–263. doi: 10.1016/j.ijnurstu.2005.02.007.

Hayes, L. J. *et al.* (2012) 'Nurse turnover: A literature review - An update', *International Journal of Nursing Studies*. Elsevier Ltd, 49(7), pp. 887–905. doi: 10.1016/j.ijnurstu.2011.10.001.

Khan, F. and Zafar, S. (2014) 'the Influence of Organizational Factors on Employees' Commitment Levels : a Study of the Banking', *Pakistan Business Review*, pp. 570–590.

Kim, J. (2010) 'The analysis on status and labor process for hopital nurses', *Korean Labour and Society Institute*, pp. 84–94.

Lambert, E. G. (2006) 'I want to leave: A test of a model of turnover intent among correctional staff.', *Applied Psychology in Criminal Justice*, 2(1), pp. 57–83.

Lavoie-Tremblay, M. *et al.* (2008) 'Addressing the turnover issue among new nurses from a generational viewpoint', *Journal of Nursing Management*, 16(6), pp. 724–733. doi: 10.1111/j.1365-2934.2007.00828.x.

Lee, K. E., Kim, J. H. and Kim, M. J. (2016) 'Influence of perceived organizational justice on empowerment, organizational commitment and turnover intention in the hospital nurses', *Indian Journal of Science and Technology*, 9(20), pp. 1–8. doi:

10.17485/ijst/2016/v9i20/94702.

Leone, C. *et al.* (2015) 'Work environment issues and intention-to-leave in Portuguese nurses: A cross-sectional study', *Health Policy*. Elsevier Ireland Ltd, 119(12), pp. 1584–1592. doi: 10.1016/j.healthpol.2015.09.006.

Lusiati, A. and Supriyanto, S. (2013) 'Dampak faktor individu, faktor pekerjaan dan faktor organisasi pada kepuasan kerja dan intensi turnover perawat', *Fakultas Kesehatan Masyarakat, Universitas Airlangga, Surabaya*, 1, pp. 156–166.

Martin, A. and Roodt, G. (2008) 'Perception of organisational commitment, job satisfaction and turnover intentions in a post-merger South African tertiary institution', *SA Journal of Industrial Psychology*, 34(1), pp. 23–31. doi: 10.4102/sajip.v34i1.415.

Mobley, W. H., Horner, S. O. and Hollingsworth, A. (1978) 'An Evaluation of Precursors of Hospital Employee Turnover', *Journal of Applied*, 63(4), pp. 408–411.

North, N and Hughes, F. (2006) 'Methodological Challenges to Researching Nursing Turnover in New Zealand: A Progress Report of a National Study', *Asia Pacific Journal of Health Management*, 1(1), pp. 45–51.

Rahmawati, I. N., Nursalam, N. and Kurniawati, N. D. (2016) 'Development of Intention to Stay Model for Temporary Nursing Staff in RS UNAIR', *Jurnal NERS*, 9(2), p. 313. doi: 10.20473/jn.V9I22014.313-320.

Smithson, J. and Lewis, S. (2000) 'Article information ', *Personnel Review*, Vol. 29 ,(No. 6, 2000), pp. 680–702. doi: http://dx.doi.org/10.1108/JEIM-07-2014-0077.

Stewart, N. J. *et al.* (2011) 'Moving on? Predictors of intent to leave among rural and remote RNs in Canada', *Journal of Rural Health*, 27(1), pp. 103–113. doi: 10.1111/j.1748-0361.2010.00308.x.

Su, S., Baird, K. and Blair, B. (2009) 'Employee organizational commitment: The influence of cultural and organizational factors in the Australian manufacturing industry', *International Journal of Human Resource Management*, 20(12), pp. 2494–2516. doi: 10.1080/09585190903363813.

Takase, M. (2010) 'A concept analysis of turnover intention: Implications for nursing management', *Collegian*. Royal College of Nursing Australia, 17(1), pp. 3–12. doi: 10.1016/j.colegn.2009.05.001.

Ulrich, C. M. *et al.* (2010) 'Everyday ethics: Ethical issues and stress in nursing practice', *Journal of Advanced Nursing*, 66(11), pp. 2510–2519. doi: 10.1111/j.1365-2648.2010.05425.x.

Veurink, S. A. and Fischer, R. (2011) 'A Refocus on Foci : A Multidimensional and Multi-foci Examination of Commitment in Work Contexts', 40(3), pp. 160–167.

Wu, T. Y. *et al.* (2012) 'Work-related stress and intention to quit in newly graduated nurses', *Nurse Education Today*. Elsevier Ltd, 32(6), pp. 669–674. doi: 10.1016/j.nedt.2011.09.002.

Yang, Y. *et al.* (2015) 'The impact of work support and organizational career growth on nurse turnover intention in China', *International Journal of Nursing Sciences*. Elsevier Ltd, 2(2), pp. 134–139. doi: 10.1016/j.ijnss.2015.04.006.