Impacts of nursing work environment and burnout on turnover intentions among nurses in Ghana

Collins Atta Poku (attapokucollins@yahoo.com)
Kwame Nkrumah University of Science and Technology College of Health Sciences
https://orcid.org/0000-0002-5065-3048

Ernestina Donkor
University of Health and Allied Sciences

Florence Naab
University of Ghana School of Nursing

Research

Keywords: Burnout, Impact, Nurses, Nursing Work Environment, Turnover Intention

Posted Date: January 23rd, 2021

DOI: https://doi.org/10.21203/rs.3.rs-151653/v1

Abstract

Background

Professional practice environment supports excellence and decent work and has the influence to entice and retain quality-nursing workforce. In high-resourced settings, significant number of studies exist to prove that professional practice environment with low levels of burnout play important role in enhancing patients' and staff job outcomes. Appreciating the dynamics that affect turnover intention of nurses offer reasonable solutions to the challenges of nursing shortage, which directly influence quality of nursing care. Few studies undertaken on the subject in Ghana, however focused on miners, workers in the hotel industry, and worker telecommunication. There is evidently paucity of information on the impacts of nursing practice environment on turnover intentions among nurses in Sub-Saharan African. The study therefore aimed at determining the predictors of turnover intentions among nurses in Ghana.

Methods

A cross-sectional approach using a simple random and proportionate stratified sampling with a sample of 232 nurses completed validated instruments measuring work environment, burnout and turnover intentions. Descriptive and regression analysis were done on the various variables.

Results

While most nurses had positive perception about their work environment, greater number of them had turnover intentions. There was also significant associations between nursing work environment facets and turnover intention. The age of the nurse, years in nursing and the personal accomplishment of the nurse were significant predictors of turnover intentions of the nurse.

Conclusion

Burnout in any dimension results from unhealthy workplace; and unduly influences nurses' turnover intention. This phenomenon can potentially affect the human resource management and the consequentially poor quality of nursing care provided to patients. Ensuring positive work setting and reduced burnout can therefore improves retention of nurses at their workplace.

Background

Globally, the quality of the nursing workforce and the existence of professional practice environment (PPE) are in close association with client care satisfaction, quality of care delivery and positive staff job outcomes (1, 2). The subject of staff turnover is an important area in every health care setting; and it

needs thorough research to sustain evidence-based nursing practice in health care organizations especially in low-resourced countries.

It is reported that health facilities with positive PPE and adequate nursing workforce had improved outcomes for both patients and nursing staffs (3, 4, 5). Nurses' evaluation on quality care and job satisfaction in the high-resourced countries ranges from worst to best. It is noteworthy to know that countries using the Magnet Certification to encourage value-added practice environments such as the United States has improved in its provision of quality care to patients and other job outcomes (6).

Among the major challenges of low-and-middle income countries' (LMICs) work environment is inadequate number of nurses with its corresponding negative effects of nursing job outcomes (job dissatisfaction, higher staff turnover and poor quality of care delivery). Studies have shown higher incidence of turnover intentions of nurses in LMICs (7, 8), though same cannot be said about the high-resourced countries (9). This phenomenon, if not effectively tackled can cause a lot of challenges in the health care provision in the long run globally.

Staff turnover is the process by which workers vacate their job or are transferred from the worker's employment (10). Health labour force scarcities have consequences on global health care delivery and quality of patients' care; appreciating the challenges of turnover rate and retention of staff is essential to advice on strategies for improving the nursing workforce. Institutions where staff freely express their plans of quitting job usually have higher turnover, thus, employees' intent to leave a job is highly linked with actual quitting of their job (11, 12). In such circumstances, employers face difficulty of not knowing the reasons behind employees' intention to quit an organisation. High staff turnover intentions in many organisation are attributed to factors such as poor quality of staffing and inadequacy of working material to care for the patient (13, 14, 15). Such poor work conditions present high work demand with low nurses' autonomy over their job, inadequate group support, and increased physical and emotional work demand. Lack of support from nurse managers, unjustified workloads and increased emotional exhaustion of nurses mostly lead to increased staff intentions of resignation (10, 11, 12). Moreover, most nurses leave their job owing to financial reasons, professional/career development and organizational climate (12, 13).

Nursing leadership consciousness of the reasons behind turnover intention can help improve the organisational culture (14, 15). It can also inform nurse managers and administrators about important pillars in health care delivery that makes nursing workforce satisfied. Significantly, periodic organizational evaluation of the factors accounting for turnover intention is identified to usually boast of enriched self-esteem and satisfaction of staff, which are vital for quality of patients' care and retention of nurses (16, 17, 18).

In LMICs settings such as Ghana, where turnover intention for workers is projected to be 25.9%; insufficient wages, increased burnout, limited prospects in the area practice and bias in career upgrade are cited as the reason of leaving job. The resultant problem is burnout of the few staff who remain to work at the practice environment (19, 20, 21). These factors account for the major cause of high turnover of health staff in the health care settings.

High turnover intentions in any organization presents its own challenges, notably is high monetary lost. Moreover; the financial costs of nurses quitting their job in organisations are projected to be higher than before (22, 23, 24). With a very challenging nurse-patient ratio in Ghana, there are still reported high rate of brain drain and rise in turnover intention among skilled workers (25, 26). With the health care industry depending on the few remaining nurses, the challenge of burnout also emanate. This situation is identified to bring about reduction of quality of care provision to patients, as facilities count on the few emotional exhausted nurses to provide service to the numerous patients (33).

The problem of high staff turnover rate is an important area in every health care setting; and it needs thorough discussion in the quest to sustain quality in the health care industry. Addressing this problem can fix the quality of patient's care challenge in most health facilities. Contrariwise, there is limited data on the Ghanaian nursing work environment and its implications on turnover intentions among nurses. The study therefore assessed the impacts of PPE and burnout on turnover intentions among nurses in Ghana. Thus, the study sought to ascertain if nurses intended to leave job, assess the relationship between PPE and turnover intention of nurses and to determine the predictors of turnover intentions among nurses. Findings can inform policies to reduce staff turnover thereby addressing unhealthy practice environment, burnout and quality of patient's care challenge especially in the sub-Saharan Africa.

Methods

Study Design and Setting

A quantitative method using a cross-sectional survey was adopted to assess the respondents' views on the impacts of PPE and burnout on turnover intentions of Registered Nurses in Sunyani Municipality, Ghana. The study was undertaken at Sunyani Municipality, which is found in the middle belt of Ghana, West Africa with a population of 138,073 (34). The population involved nurses working (480) in public health facilities who agreed to take part in the research (Ghana Health Service, 2015). Registered Nurses who have worked for at least one-year post qualification experience participated in the study. A random sample of 232 registered nurses was used as estimated using Yamane (35) formula for calculating sample size. They were drawn through a multi-stage sampling method; thus simple random sampling technique was used to select two (2) hospitals for the study. Proportionate stratified sampling approach was used to assign fair number to each facility based on the strength of nursing staff to ensure unbiased representation (Sunyani Municipal Hospital – 77 and Regional Hospital –55). A simple random sampling was used in recruiting the respondents throughout all the three shifts (8am to 2pm, 2pm to 8pm and 8pm to 8am) run by the nurses in the two hospitals. It was ensured that questionnaires were adequately completed before collection. There was 92.8% response rate.

Data Collection

The instruments used for the study were standard tools. The instrument comprised of four (4) sub-sections; socio-demographic information and three (3) other scales. The Practice Environment Scale of Nursing Work Index (PES-NWI) was used to measure PPE (36). The PES-NWI comprises 32 items divided

among five scales (nurse manager ability, leadership and support, collegial nurse-physician relations, staffing and resource adequacy, nurse participation in hospital affairs and nursing foundations for quality care) measured on a four Likert scale 1-4 (1=strongly disagree; 4=strongly agree). The sum and average of the scales score provide PES-NWI score. Other research work that have used the PES-NWI have established reliability co-efficient of 0.892 (37). Burnout was measured using the Maslach Burnout Inventory (MBI) Scale (38). MBI consists of 21 items on a Likert scale of 1-7 (1=Never; 7=Everyday). Burnout is the sum of all 21 items. Several studies have shown acceptable tool reliability and validity (26, 29). A single-item tool was used to measure turnover intentions of nurses on a Likert scale of 1-5 (1=strongly disagree; 5=strongly agree).

Ethical approval was sought from Noguchi Memorial Institute for Medical Research Institutional Review Board –IRB (CPN 045/16-17) and clearance from the Ghana Health Service (GHS) Regional Health Directorate (Brong Ahafo) before the commencement of the research. Consent was obtained from the respondents before questionnaire were given to them. The benefits and possible risks were also explained to the respondents. Additionally, respondents' anonymity and confidentiality were assured by indicating that they were not required to write their name on the questionnaire and by assuring them that their responses will not in any way be linked to them.

Data Analysis

Statistical Package for Social Sciences (SPSS), version 23.0 was used for the statistical analysis. Data were analysed at a significance level of 0.05 and power of 95%. Descriptive analysis was done to find out the mean score of nurses perception of their professional practice environment and turnover intentions. Correlational analysis was done between the facets of Professional Practice Environment and the turnover intention of nurses while Multi-linear regression analysis was used to determine the predictors of turnover intention of nurses'.

Results

Nurses' perception of the Professional Practice Environment

The mean and standard deviation for the study variable of PPE are found in Table 1. Nurses reported relatively moderate perception for professional practice environment (65.87). With regard to the individual subscales, there was moderate perceptions of nurse manager leadership, ability and support (mean=21.98), collegial Nurse-Physician relation (mean=15.17), staffing and resource adequacy (mean=15.47), nurses participation in hospital affair (mean=7.03) and nursing foundation for quality of care (mean=8.71).

Turnover Intention of the Nurse

The result shows the mean score for nurses' intention to leave job to be 2.94 (SD=1.07) which is high and indicates that nurses had turnover intention. Majority (39.2%) had intentions to leave job with 31.5%

being indecisive on the subject.

Relationship between Professional Practice Environment and Turnover Intention

The results of Pearson Moment Correlation in table 2 showed a negative correlation between all subscales of professional practice environment and turnover intention of nurse; nurse manager leadership, ability and support (r=-.180, p=.006), nurse-physician relations (r=-.323, p=.000), nurse participation in hospital affair (r=-.218, p=.001), staffing and resource adequacy (r=-.369, p=.000), and nursing foundation for quality care (r=-.341, p=.000).

Predictors of nurses' intention to leave job

Table 3 shows results of multiple linear regression analysis on the predictors of turnover intentions of nurses. In model 1, the socio-demographic characteristics (age of nurses, years in nursing and years in the hospital) were entered and accounted for only 3% of the variance in nurses' turnover intentions. When the predictors were estimated, only the age of nurses (*B*=0.700, p=.009) significantly predicted the nurse's turnover intention. In the second model, the professional practice environment were added, and together explained 18.4% of the variance in nurses' turnover intention to leave their job. The significant predictors of nurses' turnover intention were the age of the nurse (*B*=.764, p=.002) and a number of years in nursing (*B*=-.691, p=.019). In the final model, burnout dimensions were added, there was an additional 3.5% of the variance in turnover intentions of the nurse. In the final model, all three variables were significantly independent predictors of nurses' turnover intentions explaining 21.9% of the variation (Adjusted R^2=.219, $F=_{(11, 220)}$=5.610, p=.000). It is to note that with an increase of one unit in years of age, there is a corresponding increase of nurses' intention to leave job by .728 unit. Also, an increase of one unit in years in nursing produces a reduction of .682 unit in intention to leave job. Finally, with an increase of one unit in nurses' personal accomplishment, there is a reduction of .255 unit in intention to leave job.

Discussion

High nurse turnover presents a lot of challenges in the care of patients. The study reported nurses generally having positive perception about their practice environment. The study agrees with what was reported by (41) indicating encouraging views of most features of their work environment. There was however, poor perceptions on some facets of the practice environment. With the recent report of inadequate nursing staffing and material resources, it is essential to evaluate the reason behind nurses' intention to leave their profession (29, 30, 31). From the current study, turnover intention of nurses was 2.94 out of 4 (SD = 1.07). This means that nurses had the higher intention of leaving their profession. This position is not different from a study on nurses in South Africa which indicated that about 50% of all nurses have the intention of leaving their job within two years (45). Similar findings of a higher rate of intention to leave job have also been observed across the globe (33, 34, 35). The finding, however, contradict finding among nurses in Europe which projected only 9% of the nurses having intention to leave their job (9). The differences in the findings can be attributed to the setting of the studies. Whilst the

current study was carry out in a low-middle-income country, the previous were conducted in countries with more advanced economies. Indeed, practice environment factors in the European hospitals may be clearly different from the Sub-Saharan Africa setup.

Practice environment characterised with burnout usually brings about poor nursing job outcomes (49). The current study found a weak positive correlation between depersonalization and nurses' intention to leave job (r = .126). This means that depersonalization among nurses can increase the nurse's turnover intentions. This can be ascribed to the nurse's feeling of low self-esteem when with colleagues. The reasonable decision to take when depersonalization is experienced perhaps is to change the environment and start over from another health facility. This finding is consistent with studies (37, 38, 39) which also concluded that depersonalization as associated with physical and psychological disorders consequently result in the higher intention of nurses to leave their job. However, nurses' personal accomplishment was moderate but had statistically negative significance with nurses intention to leave their job (r=-0.343). The results suggest that improvement in nurses' personal accomplishment will result in the higher retention rate of nurses. Therefore, the best ways to reduce turnover rate of nurses is to plan and implement a measure that will aid in supporting the nurse to develop and also accomplish herself in the nursing profession.

Again, nurses' turnover intentions negatively correlated with all dimensions of PPE. This finding is consistent with a study which saw nurse–physician relationship, nursing leadership, and participation in hospital affairs to be negatively correlated with nurse intention to leave (9). Nurse Managers' and leaders' choice of leadership style has also been seen to safeguard quality practice environments, and for that matter have a greater rate of retaining staff. The findings, thus support the assertion that nurse manager ability, leadership and support impact nurses' intention to stay (40, 37). Nurses are more likely to request for transfer or may have high intentions to leave an organisation when the relationship with a physician is not conducive. This probably explains why the increase in poor nurse-physician relations corresponds with intention of nurses to leave job.

The socio-demographic characteristics (age of nurses, years in nursing and years in the hospital) accounted for only 3% of nurses' intention to leave but only the age of nurses significantly predicted nurses' turnover intention (B = 0.700, p = .009). This finding is in line with a study which indicated work-related outcomes are influenced by age of the nurse (54). With the average age of registered nurses being 29years, most of the nurses would have the higher turnover intentions with the reason of joining their spouses at different places. This confirms the Ghana Health Service report (2014) which attributed higher intention of leaving the job on marital grounds. Again, young nurses are ambitious and are always ready to move on with life while the older nurses are usually comfortable probably due to the influences from their spouses or families, and experiences with previous work places. Other studies also noted age as a predictor of turnover intention of nurses with younger nurses having higher intention rate (42, 43).

Furthermore, professional practice environment dimensions (nurse manager ability, leadership and support, collegial nurse-physician relation, staffing and resource adequacy, nurse participation in hospital

affairs and nursing foundation for quality of care) accounted for only 18.4% of the variance in nurses' turnover intentions but only age of the nurse and number of years in nursing significantly contributed to the model. This means that nurses would be less likely to leave their job if the practice environment is positive. New nurses may have the ambition of exploring the challenges at the different level of the health care delivery and for that matter, the higher intention of leaving their current job to a new place.

The study also revealed that burnout dimensions (personal accomplishment, emotional exhaustion and depersonalization) jointly explained 21.9% of the variance in nurses' turnover intentions. However, only the age of the nurse, years in nursing and the nurses' personal accomplishment statistically explained nurses' turnover intention. Even though other studies attributed nurses turnover intentions to inadequate professionalism among colleagues and lack of proper ward management (2) such findings were not supported by the present study. Although this study did not examine the mediation and/or moderation factors between nurses' intention to leave job, burnout and professional practice environment, the findings showed that only age, years in nursing and personal accomplishment of the nurse were significant predictors of turnover intention of the nurse.

From the above discussion, it suggests that not only wages and incentive packages, but the overall professional practice environment and burnout of the nurse also influence turnover intention in many settings and at most time. Health care administrators should, therefore, not only focus on remuneration as a way of decreasing turnover intention but rather strategies to enhance professional practice environment that reduces burnout (45, 46). The resultant effect will be improving nursing job outcome through retention of skilled and experienced nurses, which ultimately will help improve on the provision of quality nursing care to patient.

Limitations Of The Study

Though the model contained the quality of care and job satisfaction constructs, the questionnaire did not capture the influence of PPE on both constructs, which is an important aspect to investigate in future research. Moreover, as a constraint for all socially inclined studies (59), the questionnaire was not absolutely and culturally sensitive to determine the true opinions of participants. The tool was however, made clear to obtain the needed data.

Conclusion

A poor work environment coupled with burnout increases nurses turnover intentions. Though most of the nurses had positive perception about their practice environment, they also had high turnover intentions. Ensuring a healthy work place for nurses can significantly reduce burnout; and as such will help keep experienced nurses notwithstanding their age and length of time in an institution.

With high turnover intention among nurses in Ghana, there is potential effects on the human resource distribution within the clinical setting in particular and it can compromise the quality of care given to

patients.

Abbreviations

PPE
Professional Practice Environment
LMICs
Low-middle-income countries
CHPS
Community-based Health Planning and Services
PES-NWI
Practice Environment Scale of Nursing Work Index
MBI
Maslach Burnout Inventory
GHS
Ghana Health Service
SDA
Seventh Day Adventist

Declarations

Ethical Approval

Ethical approval was sought from Noguchi Memorial Institute for Medical Research Institutional Review Board –IRB (CPN 045/16-17) and clearance from the Ghana Health Service (GHS) Regional Health Directorate (Brong Ahafo) before the commencement of the study. All responded gave verbal consent before answering the questionnaire.

Consent for publication

Not applicable

Availability of data and material

All data generated or analysed during this study are included in this published article

Competing Interest

The authors declare that they have no competing interests.

Funding information

No funding was received for this study.

Author Contributions

CAP, ED and FN conceptualized and designed the study method. CAP and FN collected, analysed and interpreted the data. CAP drafted the original manuscript. All authors read, revised and approved the final manuscript for submission.

Acknowledgements

The authors sincerely thank all Registered Nurses who participated in the study.

References

1. Boamah SA, Laschinger HKS, Wong C, Clarke S. Effect of transformational leadership on job satisfaction and patient safety outcomes. Nurs Outlook. 2018;66(2):180–9. https://doi.org/10.1016/j.outlook.2017.10.004
2. Choi SP-P, Cheung Kin, Pang SM-C. Attributes of nursing work environment as predictors of registered nurses' job satisfaction and intention to leave. J Nurs Manag. 2013;21(3):429–39. https://doi.org/10.1111/j.1365-2834.2012.01415.x
3. White EM, Aiken LH, Sloane DM, McHugh MD. Nursing home work environment, care quality, registered nurse burnout and job dissatisfaction. Geriatr Nur (Lond). 2020;41(2):158–64. https://doi.org/10.1016/j.gerinurse.2019.08.007
4. Copanitsanou P, Fotos N, Brokalaki H. Effects of work environment on patient and nurse outcomes. Br J Nurs. 2017;26(3):172–6. https://doi.org/10.12968/bjon.2017.26.3.172
5. Olds DM, Aiken LH, Cimiotti JP, Lake ET. Association of nurse work environment and safety climate on patient mortality: A cross-sectional study. Int J Nurs Stud. 2017;74:155–61. https://doi.org/10.1016/j.ijnurstu.2017.06.004
6. Aiken LH, Sermeus W, Van den Heede K, Sloane DM, Busse R, McKee M, et al. Patient safety, satisfaction, and quality of hospital care: cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. Bmj. 2012;344:e1717. *https://doi.org/10.1136/bmj.e1717*
7. Poku CA, Donkor E, Naab F. Determinants of emotional exhaustion among nursing workforce in urban Ghana: a cross-sectional study. BMC Nurs. 2020;19(1):1–10. https://doi.org/10.1186/s12912-020-00512-z
8. Lopes SC, Guerra-Arias M, Buchan J, Pozo-Martin F, Nove A. A rapid review of the rate of attrition from the health workforce. Hum Resour Health. 2017;15(1):1–9. https://doi.org/10.1186/s12960-017-0195-2
9. Heinen MM, van Achterberg T, Schwendimann R, Zander B, Matthews A, Kózka M, et al. Nurses' intention to leave their profession: a cross sectional observational study in 10 European countries. Int J Nurs Stud. 2013;50(2):174–84. https://doi.org/10.1016/j.ijnurstu.2012.09.019
10. Hayes B, Douglas C, Bonner A. Work environment, job satisfaction, stress and burnout among haemodialysis nurses. J Nurs Manag. 2015;23(5):588–98. https://doi.org/10.1111/jonm.12184

11. 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 Serv Res. 2017;17(1):112. https://doi.org/10.1186/s12913-017-2056-z
12. Fasbender U, Van der Heijden BI, Grimshaw S. Job satisfaction, job stress and nurses' turnover intentions: The moderating roles of on-the-job and off-the-job embeddedness. J Adv Nurs. 2019;75(2):327–37. https://doi.org/10.1111/jan.13842
13. Tei-Tominaga M, Nakanishi M. Factors related to turnover intentions and work-related injuries and accidents among professional caregivers: a cross-sectional questionnaire study. Environ Health Prev Med. 2020;25(1):1–10. https://doi.org/10.1186/s12199-020-00863-8
14. Lee TJ. Relationship between intrinsic job satisfaction, extrinsic job satisfaction, and turnover intentions among internal auditors. 2017;
15. Afsar B, Ur Rehman Z. Relationship between work-family conflict, job embeddedness, workplace flexibility, and turnover intentions. Makara Hubs-Asia. 2017;21(2):92–104. doi: 10.7454/mssh.v21i2.3504
16. Chan MF, Luk AL, Leong SM, Yeung SM, Van IK. Factors influencing Macao nurses' intention to leave current employment. J Clin Nurs. 2009;18(6):893–901. https://doi.org/10.1111/j.1365-2702.2008.02463.x
17. Chang W-Y, Ma J-C, Chiu H-T, Lin K-C, Lee P-H. Job satisfaction and perceptions of quality of patient care, collaboration and teamwork in acute care hospitals. J Adv Nurs. 2009;65(9):1946–55. https://doi.org/10.1111/j.1365-2648.2009.05085.x
18. Hayes B, Douglas C, Bonner A. (Article 4) Work Environment, Job Satisfaction, Job Stress and Burnout among Haemodialysis Nurses. JOB Satisf STRESS Burn Haemodial NURSES. 2015;155. https://doi.org/10.1111/jonm.12184
19. AbuAlRub RF, Omari FH, Al-Zaru IM. Support, satisfaction and retention among Jordanian nurses in private and public hospitals. Int Nurs Rev. 2009;56(3):326–32. https://doi.org/10.1111/j.1466-7657.2009.00718.x
20. Warrick DD. What leaders need to know about organizational culture. Bus Horiz. 2017;60(3):395–404. https://doi.org/10.1016/j.bushor.2017.01.011
21. Al-Ali AA, Singh SK, Al-Nahyan M, Sohal AS. Change management through leadership: the mediating role of organizational culture. Int J Organ Anal. 2017; https://doi.org/10.1108/IJOA-01-2017-1117
22. Shanafelt TD, Noseworthy JH. Executive leadership and physician well-being: nine organizational strategies to promote engagement and reduce burnout. In: Mayo Clinic Proceedings. Elsevier; 2017. p. 129–46. https://doi.org/10.1016/j.mayocp.2016.10.004
23. Khazanchi S, Sprinkle TA, Masterson SS, Tong N. A spatial model of work relationships: The relationship-building and relationship-straining effects of workspace design. Acad Manage Rev. 2018;43(4):590–609. https://doi.org/10.5465/amr.2016.0240
24. Thanacoody PR, Newman A, Fuchs S. Affective commitment and turnover intentions among healthcare professionals: The role of emotional exhaustion and disengagement. Int J Hum Resour

Manag. 2014;25(13):1841–57. https://doi.org/10.1080/09585192.2013.860389

25. Chen X, Ran L, Zhang Y, Yang J, Yao H, Zhu S, et al. Moderating role of job satisfaction on turnover intention and burnout among workers in primary care institutions: A cross-sectional study. BMC Public Health. 2019;19(1):1526. https://doi.org/10.1186/s12889-019-7894-7
26. Liu W, Zhao S, Shi L, Zhang Z, Liu X, Li L, et al. Workplace violence, job satisfaction, burnout, perceived organisational support and their effects on turnover intention among Chinese nurses in tertiary hospitals: a cross-sectional study. BMJ Open. 2018;8(6). http://dx.doi.org/10.1136/bmjopen-2017-019525
27. Duan X, Ni X, Shi L, Zhang L, Ye Y, Mu H, et al. The impact of workplace violence on job satisfaction, job burnout, and turnover intention: the mediating role of social support. Health Qual Life Outcomes. 2019;17(1):93. https://doi.org/10.1186/s12955-019-1164-3
28. Dewanto A, Wardhani V. Nurse turnover and perceived causes and consequences: A preliminary study at private hospitals in Indonesia. BMC Nurs. 2018;17(2):52. https://doi.org/10.1186/s12912-018-0317-8
29. Halter M, Boiko O, Pelone F, Beighton C, Harris R, Gale J, et al. The determinants and consequences of adult nursing staff turnover: a systematic review of systematic reviews. BMC Health Serv Res. 2017;17(1):824. https://doi.org/10.1186/s12913-017-2707-0
30. Jones CB. Revisiting nurse turnover costs: adjusting for inflation. J Nurs Adm. 2008;38(1):11–8. doi: 10.1097/01.NNA.0000295636.03216.6f
31. Diakpieng JA. Brain Gain in the Health Sector of Ghana–Diaspora Collective in-Kind Remittance and Knowledge Transfers [PhD Thesis]. University of Ghana; 2020.
32. Preko M, Boateng R, Effah J. Health informatics and brain drain mitigation in Ghana. 2019; http://ugspace.ug.edu.gh/handle/123456789/34214
33. Peprah AA, Atarah BA. Assessing patient's satisfaction using SERVQUAL model: a case of Sunyani Regional hospital, Ghana. Int J Bus Soc Res. 2014;4(2):133–43.
34. Ghana Statistical Service 2010 - Google Search [Internet]. [cited 2017 Jul 15]. Available from: https://www.google.com.gh/search?q=Ghana+Health+Service+2014+Annual+Report&ie=utf-8&oe=utf-8&client=firefox-b&gfe_rd=cr&ei=_gRlWbiDBe7G8Aff_bfQBQ#q=Ghana+Statistical+Service+2010
35. Yamane T. Elementary sampling theory$\backslash$Taro Yamane. 1967.
36. Lake ET. Development of the practice environment scale of the Nursing Work Index. Res Nurs Health. 2002;25(3):176–88. https://doi.org/10.1002/nur.10032
37. Amaral AFS, Ferreira PL, Lake E. Validation of the Practice Environment Scale of the Nursing Work Index (PES-NWI) for the Portuguese nurse population. Int J Caring Sci. 2012;5(3):280–8.
38. Maslach C, Jackson SE, Leiter MP, Schaufeli WB, Schwab RL. Maslach burnout inventory. Vol. 21. Consulting psychologists press Palo Alto, CA; 1986.

39. Maslach C, Leiter MP. Early predictors of job burnout and engagement. J Appl Psychol. 2008;93(3):498. https://doi.org/10.1037/0021-9010.93.3.498
40. Richardsen AM, Martinussen M. The Maslach Burnout Inventory: Factorial validity and consistency across occupational groups in Norway. J Occup Organ Psychol. 2004;77(3):377–84. https://doi.org/10.1348/0963179041752691
41. Al-Maaitah R, AbuAlRub RF, Al Blooshi S. Practice environment as perceived by nurses in acute care hospitals in Sharjah and North Emirates. In: Nursing forum. Wiley Online Library; 2018. p. 213–22. https://doi.org/10.1111/nuf.12245
42. Ismail M, Angham AM, Abed A, DN S. Impact of Nursing Staff Perception of Work Environment on Turnover Rate in Hemodialysis Unit. Med J Cairo Univ. 2020;88(March):85–90. 10.21608/mjcu.2020.93964
43. Swiger PA, Patrician PA, Miltner RSS, Raju D, Breckenridge-Sproat S, Loan LA. The Practice Environment Scale of the Nursing Work Index: an updated review and recommendations for use. Int J Nurs Stud. 2017;74:76–84. https://doi.org/10.1016/j.ijnurstu.2017.06.003
44. Rodríguez-García MC. Nursing Degree students' perception about their clinical practice environment: A phenomenological study. Enferm Clínica Engl Ed. 2019;29(5):264–70. https://doi.org/10.1016/j.enfcle.2018.10.007
45. Delobelle P, Rawlinson JL, Ntuli S, Malatsi I, Decock R, Depoorter AM. Job satisfaction and turnover intent of primary healthcare nurses in rural South Africa: a questionnaire survey. J Adv Nurs. 2011;67(2):371–83. https://doi.org/10.1111/j.1365-2648.2010.05496.x
46. Zhang Y, Wu J, Fang Z, Zhang Y, Wong FKY. Newly graduated nurses' intention to leave in their first year of practice in Shanghai: a longitudinal study. Nurs Outlook. 2017;65(2):202–11. https://doi.org/10.1016/j.outlook.2016.10.007
47. Jeong I-Y, Kim J-S. The relationship between intention to leave the hospital and coping methods of emergency nurses after workplace violence. J Clin Nurs. 2018;27(7–8):1692–701. https://doi.org/10.1111/jocn.14228
48. Lee Y-W, Dai Y-T, Chang MY, Chang Y-C, Yao KG, Liu M-C. Quality of work life, nurses' intention to leave the profession, and nurses leaving the profession: A one-year prospective survey. J Nurs Scholarsh. 2017;49(4):438–44. https://doi.org/10.1111/jnu.12301
49. Applebaum D, Fowler S, Fiedler N, Osinubi O, Robson M. The impact of environmental factors on nursing stress, job satisfaction, and turnover intention. J Nurs Adm. 2010;40:323. 10.1097/NNA.0b013e3181e9393b
50. Sasso L, Bagnasco A, Catania G, Zanini M, Aleo G, Watson R, et al. Push and pull factors of nurses' intention to leave. J Nurs Manag. 2019;27(5):946–54. https://doi.org/10.1111/jonm.12745
51. Marques-Pinto A, Jesus ÉH, Mendes AMOC, Fronteira I, Roberto MS. Nurses' intention to leave the organization: a mediation study of professional burnout and engagement. Span J Psychol. 2018;21. https://doi.org/10.1017/sjp.2018.30

52. Gharakhani D, Zaferanchi A. The effect of job burnout on turnover intention with regard to the mediating role of job satisfaction. J Health. 2019;10(1):109–17.
53. Lee SE, MacPhee M, Dahinten VS. Factors related to perioperative nurses' job satisfaction and intention to leave. Jpn J Nurs Sci. 2020;17(1):e12263. https://doi.org/10.1111/jjns.12263
54. Kooij DT, Jansen PG, Dikkers JS, De Lange AH. The influence of age on the associations between HR practices and both affective commitment and job satisfaction: A meta-analysis. J Organ Behav. 2010;31(8):1111–36. https://doi.org/10.1002/job.666
55. Ke Y-T, Hung C-H. Predictors of nurses' intent to continue working at their current hospital. Nurs Econ. 2017;35(5):259–66.
56. Brown RR, Farrelly MA, Loorbach DA. Actors working the institutions in sustainability transitions: The case of Melbourne's stormwater management. Glob Environ Change. 2013;23(4):701–18. https://doi.org/10.1016/j.gloenvcha.2013.02.013
57. Moloney W, Boxall P, Parsons M, Cheung G. Factors predicting Registered Nurses' intentions to leave their organization and profession: A job demands-resources framework. J Adv Nurs. 2018;74(4):864–75. https://doi.org/10.1111/jan.13497
58. Nantsupawat A, Kunaviktikul W, Nantsupawat R, Wichaikhum O-A, Thienthong H, Poghosyan L. Effects of nurse work environment on job dissatisfaction, burnout, intention to leave. Int Nurs Rev. 2017;64(1):91–8. https://doi.org/10.1111/inr.12342
59. Mertens DM. Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods. Sage publications; 2014.

Tables

Table 1: Nurses' perception about their professional practice environment

PES-NWI Sub-scales	Frequency	Percent	Min	Max	Mean	SD
Nurse Manager Ability, Leadership and Support			11	44	**21.98**	3.56
Dissatisfied	**140**	**60.3**				
Satisfied	92	39.7				
Collegial Nurse-Physician relations			7	28	**15.17**	4.19
Poor	**137**	**59.1**				
Good	95	40.9				
Staffing and resource adequacy			7	28	**15.47**	3.78
Inadequate	**129**	**55.6**				
Adequate	103	44.4				
Nurses participation in hospital affair			3	12	**7.03**	1.68
Dissatisfied	**118**	**50.9**				
Satisfied	114	49.1				
Nursing foundation for quality of care			4	16	**8.71**	2.07
Availability	89	38.4				
Non availability	**143**	**61.6**				
Total PES score			**32**	**128**	**65.87**	**9.68**
Dissatisfied	100	43.1				
Satisfied	**132**	**56.9**				

(Field Data, 2017)

PES – Practice Environment Scale, NWI- Nursing Work Index, SD-Standard Deviation

Table 2: Relationship between professional practice environment and turnover intention of nurses

VARIABLES	Intention to leave	
	r	p-value
Nurse Manager Leadership, Ability & Support	-.180**	.006
Nurse-Physician Relation	-.323**	.000
Nurses Participation in Hospital Affair	-.218**	.001
Staffing and Resource Adequacy	-.369**	.000
Nursing Foundation for Quality Care	-.341**	.000

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

Table 3: Predictors of turnover intention of nurses

		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
Model 1	(Constant)	-.604	1.342		-.450	.653
	Age of nurse	**.148**	**.056**	**.700**	**2.647**	**.009**
	Years in Nursing	-.133	.071	-.591	-1.888	.060
	Number of years in hospital	-.028	.077	-.080	-.365	.715
Model 1 Summary: R^2=.030, $F=_{(3, 228)}$=2.34, p=.074						
Model 2	(Constant)	.696	1.291		.540	.590
	Age of nurse	**.161**	**.052**	**.764**	**3.096**	**.002**
	Years in Nursing	**-.156**	**.066**	**-.691**	**-2.370**	**.019**
	Number of years in hospital	-.013	.072	-.038	-.186	.853
	Nurse Manager Leadership, Ability and Support	-.009	.009	-.063	-.949	.344
	Nurse-Physician Relation	.018	.024	.100	.735	.463
	Nurse Participation in Hospital Affair	-.050	.044	-.079	-1.141	.255
	Staffing and Resource Adequacy	-.054	.028	-.292	-1.897	.059
	Nursing Foundation for Quality Care	-.049	.036	-.140	-1.359	.175
Model 2 Summary: R^2=.184, $F=_{(8, 223)}$=6.301, p=.000						
Model 3	(Constant)	.853	1.287		.663	.508
	Age of nurse	**.154**	**.051**	**.728**	**2.981**	**.003**
	Years in Nursing	**-.154**	**.065**	**-.682**	**-2.368**	**.019**
	Number of years in hospital	-.005	.071	-.015	-.072	.943
	Nurse Manager Leadership, Ability and Support	-.010	.009	-.072	-1.082	.280
	Nurse-Physician Relation	.023	.024	.129	.950	.343
	Nurse Participation in Hospital Affair	-.055	.043	-.086	-1.264	.207
	Staffing and Resource	-.033	.029	-.182	-1.159	.248

Adequacy					
Nursing Foundation for Quality Care	-.017	.038	-.049	-.449	.654
Emotional Exhaustion	.005	.009	.044	.503	.615
Depersonalisation	.021	.013	.118	1.675	.095
Personal Accomplishment	**-.011**	**.005**	**-.255**	**-2.542**	**.012**
Model 3 Summary: R^2=.219, $F=_{(11, 220)}$=5.610, p=.000					

Dependent variable: Nurses' intention to leave job ***Criterion level: 0.05***