

Work Load On Nurses And It's Impact On Patientcare

Major Navjeet Kaur, Dr.Harminder Kaur Gujral

PhD. Scholar-Amity Business School, Amity University, Noida (U.P)- 201301

Professor – Amity Business School, Amity University (U.P)- 201301

Abstract: Nursing work includes many factors that effects nursing workload and client outcomes. These factors include nursing condition of the client, the characteristics of the care providers, the medical condition of the client, the work environment and the nursing interventions. The key component to measure nursing resource intensity is known as a nursing workload measurement system. The nursing workload measurement system use currently just provide information about the mechanism to track the time it takes to deliver various activities in the department or program which is mandatory and ignoring the nursing and medical complexity of client, the work environment and the characteristics of nurses providing care. Nurse patient ratio is the unit level most commonly used to measure the nurses workload. In most of the hospitals all over the world heavy workload is the major problem. Nurses are experiencing heavy workload because of inadequate supply of nurses, reduction in patient length of stay, increased demand for nurses, reduced staffing and increased overtime. A heavy workload leads to suboptimal patient care thus reduced patient satisfaction. Workload a complex construct, it is more complex than the measure of the nurse patient ratio. It is not possible to measure the workload which is multifaceted structure, multidimensional by one unique representative measure. Nurse-patient ratio as a measure of workload is not contributing to understand the impact of workload on nurses and providing solutions in mitigating or reducing the nursing workload. Nurses may not have sufficient time to perform tasks properly which can have direct effects on patient safety under a heavy workload. A heavy workload will hinder in proper decision making of the health care providers. Nurse- physician collaboration will be effected with heavy workload due to lack of time. It will also effect the nurse- patient relationship due to lack of communication between them, dissatisfaction among nurses for creating conditions for unsafe patient care, errors and poor job performance. Heavy workload will result in job dissatisfaction thus turnover, absenteeism, low morale, and poor job performance. Potentially will threaten the patient care quality and organizational effectiveness.

Key Words: Workload, job satisfaction, quality of care, patient satisfaction, turnover.

Date of Submission: 26-08-2017

Date of acceptance: 06-10-2017

I. Introduction

The type of patients admitted in the hospitals with the advancement in the treatment of critical diseases has changed in the recent years. For replacing vital functions of various organs and systems in the human body and for maintaining these functions there are more therapeutic options to disappear the cause of disorder. Large number of employees required these days for the services create high hospitalization expenses for treatment and care. Patient admitted to intensive care unit require complexity of treatments. For these highly specialized services there is a precise need of the nursing staff to ensure quality nursing care and thus avoid the occurrence of adverse events associated with health care. To relate the versatile role nurses must play there are two themes have emerged. Colliding expectations – which is the conflict nurses face between what actually are required to do and their perceived job functions. Another one is the pressure nurses face professionally because of too much expectations. Morris et. al (2007) have suggested for measuring and defining workload a broad and dynamic method in nursing as a combination of definitions. They portrayed the major care provided as a function of the nursing profession including direct care administering medications (etc), indirect care (ordering medications, phone calls pertaining to patient care (etc) and non-patient related activities (staff meetings, nursing education, etc). The categorization of nursing workload can be done into four levels 1) Unit level 2) Job level 3) Patient level 4) Situational level

1¶ **Workload at Unit level** – Nurse patient ratio is the most commonly used measure in unit level. In relation to nursing staffing it can be used to compare units and their patient outcomes. It conceptualizes nursing workload at macro level which is the major weakness of this research. In a particular health care setting ignoring the contextual and organizational characteristics. Workload may be significantly affected by all this characteristics. The work factors on nursing workload should examine by this research in the microsystem of health care.

- 2¶ **Workload at the job level** –According to this conceptualization the type of specialty or nursing job the workload level depends. The job level measured by Schaufeli and LeBlanc by investigating the impact of workload on among ICU nurses on burnout and performance. When comparing with different level of workload on nurses with different specialties or job titles this measure is appropriate. There are other factors also which effects the level of workload on nurses other than the job level which is not possible to be measured by this conceptualized measure.
- 3¶ **Workload at the patient level** –This measure focuses on the the patient's clinical condition. This measure is used in the literature books of nurses. This measure is not considering the other factors like infrastructure, organizational policies, complexities etc.
- 4¶ **Situational level workload** –This conceptualization measure works at the microsystem, other than the patient clinical condition and number of patients assigned to a particular nurses it works on availability of supplies, stock in hand, work environment, communication between health care workers, family members of the patient, multidisciplinary members of the health care organization, infrastructure etc. Over a well defined and relatively short period of time on nursing workload it explains the impact of a specific performance obstacle or facilitator. Facilitators affects different types of workload and the different types of performance obstacles, situational level workload is a multidimensional. For example the condition of work environment (noisy versus quiet , hectic versus calm), distance between the patient's room assigned to a nurse, all the members of the same family asking nurse similar questions regarding the same patient's condition separately. This is a vital measure for redesigning the microsystem and thus reducing nursing workload.

Relationship between safety of patient and workload on nurses –

Lack of time – The workload on nurses will affect the time that a nurse a lots to various tasks. Nurses may not have sufficient time under heavy workload to perform tasks that will have direct effects on patient safety. It effects the decisions of the care providers to perform various procedures. The heavy workload on nurses will affect the nurse-physician collaboration. Results in hindrance in nurse-patient communication.

Nursing work load results in deterioration in motivation- Heavy workload will result in deteriorated motivation and job dissatisfaction. It can lead to low morale, poor job performance, absenteeism, turnover and potentially threaten patient care quality and organizational effectiveness. Positive association exists between a job satisfaction, patient satisfaction, job performance and quality of care.

Nursing stress and burnout- Heavy nursing workload lead to distress and results in burnout. To perform efficiently and effectively unable nurses because their cognitive and physical resources get reduced and thus performance of work may affect patient safety and caresuboptimally.

Nursing workload contributing to errors- For example mistake or knowledge errors, slips and lapses or execution errors. Heavy workload results in creating condition of errors and unsafe patient care by reducing attention on safety-critical tasksdevoted by nurse.

Violation of nursing practice- Deliberate deviation from the practices that is believed necessary to maintain safe or secure operation. It occurs more frequently under time pressure in emergency situations. To follow rules and regulations for safe patient care is not possible during emergency. For example- handwashing.

Impact of nursing workload on organization- Understaffing of nurses may results in lack of training oron new nurses supervision.

II. Research Objectives

- To study the workload on nursesimpact on patient care.
- To study the level of satisfaction among nurses.
- To study the workload on nurses in various hospitals.
- To draw conclusion and offer suggestion for better management of workload for nurses in hospitals.

III. Review Of Literature

To study workload among intensive care staff were review and analyzed by Kwiecien et al., (2012) given the conclusionfor comprehensive and dynamic measurement of workload. Psychological and physical workload are preferred in additionallyto movement toward more experimental measures. The subsequent changes in workload with the changing nursing environment in nature this approach addresses the changing nature, that nurses are exposed to (Kwiecien et al., 2012).

Weinger , Reddy and Slage (2004) suggested for a more complete profile of workload on multiple workload measurement. As the criteria across tasks psychological (self assessment), physiological (heart rate), and procedural (response latency) measures were used, such as events like inducing and maintaining anesthesia

and responding to emergent anesthesia (Weinger& al., 2004). Inducing anesthesia and emergent anesthesia displayed increased workload versus maintenance procedures.

Fagerstorm and Vainkainen's (2014) There are four factors from the nurses perception of work yielded by cross-sectional qualitative content analysis. These are (1) Working conditions (telephone traffic, interruptions) (2) Organization of work (planning schedules, meetings) (3) Cooperation with staff and (4) Self-control (mental stress) a. Myny et al. (2011) found from literature review similar results within the methods of prior research that examined non direct factors influencing workload. A systemic approach to workload due to the plethora of workload drivers that exist, the review suggested.

Myny et al. (2011) defined as the part of the hospital system, identified influencing variables (drivers) by level of impact that is affected (1) Nursing team, (2) Hospital and ward, (3) Individual nurse, (4) Mental characteristics and (5) Patient/ family. According to AuvoRauhala et al., on study of increased sickness absenteeism among nurses, what degree of work overload is likely to cause? The study from the Rafaela patient found in a observation cohort study with 877 nurses, 31 wards and five Finnish hospitals classification system. The Rafaela system was based on a six month monitoring period on patient associated workload scores from in 2004. Increasing workload and increasing sick leave the linear trend was found in between. 12 extra sick leave days per person-year resulted in these excess rate of sickness absence.

Needleman et al., found that a higher number of hours of care per day provided by RNs among medical patients, there were lower urinary tract infection rates. Incidence of E cloacae infection in the unit was significantly higher when there was understaffing of nurses revealed in a retrospective cohort study in a neonatal ICU. A significant relation between the monthly nosocomial infection rate in the unit and the nursing hours per patient day ratio found in a prospective study in a pediatric cardiac ICU, there were more nosocomial infections when the number of nursing hours per patient day was lower. Needleman J. et al., in (2002) found the association with higher number of hours of RN care per day, lower failure to rescue a rates in a study of 168 non federal adult general hospitals in Pennsylvania, while using the administrative data from 799 hospitals in 11 states in a study.

Aiken et al., found that increase in the 7 percent likelihood of mortality associated within 30 days of admission and in the likelihood of failure to rescue with each additional patient per nurse. Hospitals that had more RNs per admission had lower mortality rates found in one of the earlier study.

Stanton MW et al., (2004) on the relationship between hospital nurse staffing and quality of care (e.g, urinary tract infection, hospital- acquired pneumonia) and patient safety outcomes (e.g failure to rescue) a report describe several AHRQ founded studies by the agency for healthcare research and quality (AHRQ)

Cho SH et al., (2003) a multisite study with an 89 percent decrease in the odds of pneumonia among surgical patients in California correlated with an increase of one hour worked by registered nurses (RNs) per patient day. Konver C et al., (2000) found the rate of pneumonia was higher with fewer nurses. A significant relationship rate of pneumonia and between full time equivalent RNs per adjusted inpatient day. Pronovost PJ et al., found in hospitals between 1994 and 1996 that with a 20 percent increase in length of stay in patients in association with a nurse patient ratio of less than 1:2 during evening shifts with patients who had abdominal aortic surgery in Maryland.

Beckmann U et al., a critical incident study of Australian ICUs revealed that insufficient nursing staff was linked to drug administration or documentation problems, inadequate patient supervision incorrect ventilator or equipment set up, and self extubation.

Carayon P et al., on workload in human factors engineering, it is well known that workload is a complex construct, more complex than the measure of nurse-patient ratio.

IV. Research Methodology

The research used an exploratory research technique based on past literature from respective journals, books, newspaper and magazines covering wide collection of academic literature on workload on nurses and it's impact. According to the objective of the study, the research design is of descriptive nature. Available secondary data was extensively used for the study.

V. Conclusion

Nursing workload affects the quality of care, patient recovery, patient satisfaction. Situational workload need to measure in hospital setting for smoothly functioning of hospital organization system and improving the job satisfaction, quality of care, patient satisfaction thus results in decrease nursing stress, job dissatisfaction and burnout. Measurement of workload on nurses is a crucial part of human resource management strategy for maintaining healthy work environment in hospitals and reducing the absenteeism, burnout and sick leave among nurses.

References

- [1]. Aiken L, Sochalski J, Anderson G. Downsizing the hospital nursing workforce. *Health Aff.* 1996;15:88–92. [PubMed]
- [2]. Aiken LH, Clarke SP, Sloane DM, et al. Nurses' reports on hospital care in five countries. *Health Aff.* 2001;20(3):43–53. [PubMed]
- [3]. Aiken LJ, Clarke SP, Sloane DM, et al. Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *JAMA.* 2002;288(16):1987–93. [PubMed]
- [4]. Alper SJ, Karsh B, Holden RJ, et al. Protocol violations during medication administration in pediatrics. *The Human Factors and Ergonomics Society; Proceedings of the Human Factors and Ergonomics Society 50th annual meeting; Santa Monica, CA: The Human Factors and Ergonomics Society; 2006.* pp. 1019–23.
- [5]. Amaravadi RK, Dimick JB, Pronovost PJ, et al. ICU nurse-to-patient ratio is associated with complications and resource use after esophagectomy. *Intensive Care Med.* 2000;26(12):1857–62. [PubMed]
- [6]. Anderson FD, Maloney JP. A descriptive, correlational study of patient satisfaction, provider satisfaction, and provider workload at an Army medical center. *Mil Med.* 1998;163(2):90–[PubMed]
- [7]. Archibald LK, Manning ML, Bell LM, et al. Patient density, nurse-to-patient ratio and nosocomial infection risk in a pediatric cardiac intensive care unit. *Pediatr Infect Dis J.* 1997;16:1045–8. [PubMed]
- [8]. Baggs JD, Schmitt MH, Mushlin AI, et al. Association between nurse-physician collaboration and patient outcomes in three intensive care units. *Crit Care Med.* 1999;27:1991– [PubMed]
- [9]. Baumann A, Giovannetti P, O'Brien-Pallas L, et al. Healthcare restructuring: the impact of job change. *Can J Nurs Leadersh.* 2001;14:14–20. [PubMed]
- [10]. Beckmann U, Baldwin I, Durie M, et al. Problems associated with nursing staff shortage: an analysis of the first 3600 incident reports submitted to the Australian Incident Monitoring Study (AIMS-ICU) *Anaesth Intensive Care.* 1998;26:396–400. [PubMed]
- [11]. Bratton RL, Cody C. Telemedicine applications in primary care: a geriatric patient pilot project. *Mayo Clin Proc.* 2000;75:365–8. [PubMed]
- [12]. Carayon P, Alvarado C. Workload and patient safety among critical care nurses. *Crit Care Nurs Clin North Am.* 2007;8(5):395–428.
- [13]. Carayon P, Alvarado CJ, Brennan P, et al. Work system and patient safety. In: Luczak H, Zink KJ, editors. *Human factors in organizational design and management.* Vol. 6. Santa Monica, CA: IEA Press; 2003. pp. 583–9.
- [14]. Carayon P, Alvarado CJ, Hundt AS, et al. Employee questionnaire survey for assessing patient safety in outpatient surgery. In: 67. Henriksen K, Battles JB, Marks E, et al., editors. *Advances in patient safety: from research to implementation.* 4. Rockville, MD: Agency for Healthcare Research and Quality; 2005. pp. 461–73.
- [15]. Carayon P, Alvarado CJ, Hundt AS, et al. Patient safety in outpatient surgery: the viewpoint of the healthcare providers. *Ergonomics.* 2006;49:470–85. [PubMed]
- [16]. Carayon P, Gurses A. Nursing workload and patient safety in intensive care units: a human factors engineering evaluation of the literature. *Intensive Crit Care Nurs.* 2005;21:284–301. [PubMed]
- [17]. Carayon P, Gurses AP, Hundt AS, et al. Performance obstacles and facilitators of healthcare providers. In: Korunka C, Hoffmann P, editors. *Change and quality in human service work Vol 4* Munchen. Germany: Hampp Publishers; 2005. pp. 257–76.
- [18]. Carayon P, Hundt AS, Karsh BT, et al. Work system design for patient safety: the SEIPS model. *Qual Saf Health Care.* 2006;15(Suppl 1):i50–8. [PMC free article] [PubMed]
- [19]. Carayon P, Smith MJ. Work organization and ergonomics. *Appl Ergon.* 2000;31:649– [PubMed]
- [20]. Carayon P, Wetterneck TB, Hundt AS, et al. Evaluation of nurse interaction with bar code medication administration technology in the work environment. *J Patient Safety.* 2007;3(1):34–42.
- [21]. Cavanagh SJ. Job satisfaction of nursing staff working in hospitals. *J Adv Nurs.* 1992;17:704–11. [PubMed]
- [22]. Cho SH, Ketefian S, Barkauskas VH, et al. The effects of nurse staffing on adverse events, morbidity, mortality, and medical costs. *Nurs Res.* 2003;52(2):71–9. [PubMed]
- [23]. Crandall B, Klein G, & Hoffman R. R. (2006). *Working minds. A practitioner's guide to cognitive task analysis.* MIT Press.
- [24]. Crickmore R. A review of stress in the intensive care unit. *Intensive Care Nurs.* 1987;3:19– [PubMed]
- [25]. Cullen DJ, Civetta JM, Briggs BA, et al. Therapeutic intervention scoring system: a method for quantitative comparison of patient care. *Crit Care Med.* 1974;2(2):57– [PubMed]
- [26]. Darvas JA, Hawkins LG. What makes a good intensive care unit: a nursing perspective. *Aust Crit Care.* 2002;15(2):77–82. [PubMed]
- [27]. Davis S, Kristjanson LJ, Blight J. Communicating with families of patients in an acute hospital with advanced cancer: problems and strategies identified by nurses. *Cancer Nurs.* 2003;26:337–45. [PubMed]
- [28]. Duffield C, O'Brien-Pallas L. The causes and consequences of nursing shortages: a helicopter view of the research. *Aust Health Rev.* 2003;26(1):186–93. [PubMed]
- [29]. Fagerstrom, L., & Vainikainen, P. (2014). Nurses' experiences of non-patient factors that affect nursing workload: A study of the PAONCIL instrument's non-patient factors. *Nursing Research and Practice,* 2014, 1-9.
- [30]. Freeman T, O'Brien-Pallas LL. Factors influencing job satisfaction on specialty nursing units. *Canadian J Nurs Adm.* 1998;11(3):25–51. [PubMed]
- [31]. General Accounting Office. Nursing workforce—recruitment and retention of nurses and nurse aides is a growing concern. Washington, DC: United States General Accounting Office; 2001. No. GAO-01-750T.
- [32]. General Accounting Office. Nursing workforce: emerging nurse shortages due to multiple factors. Washington, DC: United States General Accounting Office; 2001. No. GAO-01-944.
- [33]. Greenglass ER, Burke RJ, Moore KA. Reactions to increased workload: effects on professional efficacy of nurses. *Appl Psychol: An International Review.* 2003;52(4):580–
- [34]. Griffith CH, Wilson JF, Desai NS, et al. Housestaff workload and procedure frequency in the neonatal intensive care unit. *Crit Care Med.* 1999;27:815–20. [PubMed]
- [35]. Gurses AP, Carayon P. Performance obstacles of intensive care nurses. *Nurs Res.* 2007;56(3):185–94. [PubMed]
- [36]. Gurses AP. ICU nursing workload: causes and consequences—final report. Rockville, MD: Agency for Healthcare Research and Quality; 2005. Available at: http://hfrp.umaryland.edu/People/gurses_AHRQ_final_report-06-15-05.pdf.
- [37]. Harbarth S, Sudre P, Dharan S, et al. Outbreak of Enterobacter cloacae related to understaffing, overcrowding, and poor hygiene practices. *Infect Control Hosp Epidemiol.* 1999;20(9):598–603. [PubMed]
- [38]. Hart, S.G. & Staveland, L.E. (1988). Development of the NASA-TLX (Task Load Index): Results of the experimental and theoretical research. In: Hancock, P.A. Meshkati, N. (Eds), *Human Mental Workload* (pp. 139-183). North Holland.
- [39]. Hughes RG, Clancy CM. Working conditions that support patient safety. *J Nurs Care Qual.* 2005;20(4):289–92. [PubMed]
- [40]. Keene AR, Cullen DJ. Therapeutic intervention scoring system: update 1983. *Crit Care Med.* 1983;11(1):1–3. [PubMed]
- [41]. Keijsers GJ, Schaufeli WB, LeBlanc PM, et al. Performance and burnout in intensive care units. *Work Stress.* 1995;9:513–27.

- [41]. Kovner C, Cheryl J, Chunliu Z, et al. Nurse staffing and postsurgical adverse events: an analysis of administrative data from a sample of U.S. hospitals, 1990–1996. *Health Serv Res.* 2002;37(3):611–29. [PMC free article] [PubMed]
- [42]. Kovner C, Gergen PJ. Nurse staffing levels and adverse events following surgery in U.S. hospitals. *Image J Nurs Sch.* 1998;30(4):315–21. [PubMed]
- [43]. Kovner C, Mezey M, Harrington C. Research priorities for staffing, case mix, and quality of care in U.S. nursing homes. *J Nurs Sch.* 2000;32(1):77–80. [PubMed]
- [44]. Kuehn BM. No end in sight to nursing shortage: bottleneck at nursing schools a key factor. *JAMA.* 2007 October 10;298, 1623–5. [PubMed]
- [45]. Kwiecien, K., Wujtewicz, M., & Medrzycka-Dabrowska, W. (2012). Selected methods of measuring workload among intensive care nursing staff. *International Journal of Occupational Medicine and Environmental Health*, 23(3), 209-217.
- [46]. Lang TA, Hodge M, Olson V, et al. Nurse-patient ratios: a systematic review on the effects of nurse staffing on patient, nurse employee, and hospital outcomes. *J Nurs Adm.* 2004;34(7–8):326–37. [PubMed]
- [47]. Lawton R. Not working to rule: understanding procedural violations at work. *Saf Sci.* 1998;28:77–95.
- [48]. Lichtig LK, Knauf RA, Milholland DK. Some impacts of nursing on acute care hospital outcomes. *J Nurs Adm.* 1999;29(2):25–33. [PubMed]
- [49]. Lintern (2009). *The foundations and pragmatics of Cognitive Work Analysis*. Melbourne, Australia: Cognitive Systems Design.
- [50]. Llenore E, Ogle KR. Nurse-patient communication in the intensive care unit: a review of the literature. *Aust Crit Care.* 1999;12(4):142–5. [PubMed]
- [51]. Lundstrom T, Pugliese G, Bartley J, et al. Organizational and environmental factors that affect worker health and safety and patient outcomes. *Am J Infect Control.* 2002;30(2):93–106. [PubMed]
- [52]. Malacrida R, Bomio D, Matathia R, et al. Computer-aided self-observation psychological stressors in an ICU. *Int J Clin Monit Comput.* 1991;8:201–5. [PubMed]
- [53]. Manheim LM, Feinglass J, Shortell SM, et al. Regional variation in Medicare hospital mortality. *Inquiry.* 1992;29(1):55–66. [PubMed]
- [54]. McCloskey JC, McCain BE. Satisfaction, commitment and professionalism of newly employed nurses. *Image: J Nurs Sch.* 1987;19(1):20–4. [PubMed]
- [55]. Morris, R., MacNeela, P., Scott, A., Treacy, P., & Hyde, A. (2007). Reconsidering the conceptualization of nursing workload: Literature review. *Journal of Advanced Nursing.* 57(5), 463-471.
- [56]. Mynyn, D., Goubergen, D.V., Gobert, M., Vanderwee, K., Hecke, A.V., Defloor, T. (2011). Nondirect patient care factors influencing nursing workload: A review of the literature. *Journal of Advanced Nursing.* 67(10), 2109-2129.
- [57]. Needleman J, Buerhaus P, Mattke S, et al. Nurse-staffing levels and the quality of care in hospitals. *N Engl J Med.* 2002;346(22):1715–22. [PubMed]
- [58]. Oates PR, Oates RK. Stress and work relationships in the neonatal intensive care unit: are they worse than in the wards. *J Paediatr Child Health.* 1996;32:57–9. [PubMed]
- [59]. Oates RK, Oates P. Stress and mental health in neonatal intensive care units. *Arch Dis Child.* 1995;72:F107–10. [PMC free article] [PubMed]
- [60]. Parker D, Lawton R. Judging the use of clinical protocols by fellow professionals. *SocSci Med.* 2000;51:669–77. [PubMed]
- [61]. Pellico, L.H., Brewer, C.S., & Kovner, C.T. (2009). What newly licensed registered nurses have to say about their first experiences. *Nursing Outlook.* 57(4), 194-203.
- [62]. Pronovost PJ, Jenckes MW, Dorman T, et al. Organizational characteristics of intensive care units related to outcomes of abdominal aortic surgery. *JAMA.* 1999;281:1310–7. [PubMed]
- [63]. Rasmussen, J. (1983). Skills, rules, and knowledge; signals, signs, and symbols, and other distinctions in human performance models. *IEEE Transactions on Systems, Man and Cybernetics*, 3, 257–266.
- [64]. Rasmussen, J., Pejtersen, A. M., & Goodstein, L. P. (1994). *Cognitive Systems Engineering*. Wiley.
- [65]. Reason J, Manstead A, Stradling S, et al. Errors and violations on the roads: a real distinction? *Ergonomics.* 1990;33:1315–32. [PubMed]
- [66]. Reason J. *Human error*. Cambridge, UK: Cambridge University Press; 1990.
- [67]. Schaufeli W, Le Blanc P. Personnel. In: Miranda DR, Ryan DW, Schaufeli WB, et al., editors. *Organisation and management of intensive care: a prospective study in 12 European countries*. Berlin: Springer-Verlag; 1998. pp. 169–205.
- [68]. Smith MJ, Carayon-Sainfort P. A balance theory of job design for stress reduction. *Int J Ind Ergon.* 1989;4:67–79.
- [69]. Stanton MW, Rutherford MK. *Hospital nurse staffing and quality of care*. Rockville, MD: Agency for Healthcare Research and Quality; 2004. AHRQ Pub No 04–0029.
- [70]. Tarnowski-Goodell T, Van EssCoeling H. Outcomes of nurses' job satisfaction. *J Nurs Adm.* 1994;24(11):36–41. [PubMed]
- [71]. Unruh L. Licensed nurse staffing and adverse events in hospitals. *Med Care.* 2003;41(1):142–52. [PubMed]
- [72]. Upenieks, V., Kotlerman, J., Akhavan, J., Esser, J., & Ngo, M. (2007). Assessing nursing staff ratios: Variability in workload intensity. *Policy, Politics, & Nursing Practice.* 8(1), 7-19.
- [73]. US DHHS. *HRSA Bureau of Health Professions National Center for Health Workforce Analysis. Projected supply, demand, and shortages of registered nurses: 2000–2020*. Rockville, MD: U.S. Government Printing Office; 2002.
- [74]. Vincent C, Taylor-Adams S, Stanhope N. Framework for analysing risk and safety in clinical medicine. *BMJ.* 1998;316(7138):1154–7. [PMC free article] [PubMed]
- [75]. Weinger, M. B., Reddy, S. B., & Slagle, J. M. (2004). Multiple measures of anesthesia workload during teaching and non-teaching cases. *Anesthesia and Analgesics*, 98, 1419-1425.
- [76]. Weissman, J. S., Rothschild, J. M., Bendavid, E., Spirivulis, P., Facem, F., Cook, F., Evans, R. S., Kaganova, Y., Bender, M., David-Kasdan, J., Haug, P., Lloyd, J., Selbovitz, L. G., Murff, H. J., & Bates, D. B. (2007). Hospital workload and adverse events. *Medical Care*, 45(5), 448-455.
- [77]. Wilson JR, Corlett N, editors. *Evaluation of human work. 3*. Boca Raton, FL: CRC Press; 2005.

Major Navjeet Kaur. “Work Load On Nurses And It’s Impact On Patientcare.” *IOSR Journal of Nursing and Health Science (IOSR-JNHS)* , vol. 6, no. 5, 2017, pp. 22–26.