

Measuring levels of patient dependency



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Title: Should patient dependency be used to set nurse-staffing levels in general hospital wards?

Introduction:

In this section, we perform a literature review to discuss patient dependency in clinical settings, and examine how we can measure patient dependency levels. We also discuss whether patient dependency levels should and could form the criteria for setting nurse-staffing levels in the hospital. We will also analyze the other different methods and criteria that can help to determine nurse staffing levels within the clinical setting. Patient dependency levels indicates the requirements of nurses and the extent to which patients will need nurses for their continuous care. Nurse patient ratios are often used to discuss the nurse staffing levels and these figures indicate whether staffing levels have to be increased or decreased. We would aim our discussion of patient dependency necessitating increase in staffing levels and the patient nurse ratio as indicators of nurse staffing both within general hospital wards and at critical care and emergency units.

Evidential Information

Patient dependency may just form an important part of nursing staff and workload of an individual nurse. Hurst (2005) conducted an important study on the nature and value of dependency acuity quality (DAQ) demand side nursing workforce-planning methods, which are set in the context of nursing workforce planning and development. Extensive DAQ data was obtained from UK nursing workforce in 347 wards, which involved 64 high quality, and 62 low quality hospital wards. The study gives special consideration to

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workload and quality contexts. New insights have been generated with this study and Hurst emphasizes that poor quality care is more common in larger wards that have fluctuating and unstable workload and nurse - patient ratio. Smaller workloads having consistent and high workload of nursing staff results in inflexible nurse staffing so staff levels and performed duties remain the same. Studies definitely suggest that nursing activity and staffing differences do form an important part of defining and contributing to the quality of the wards with higher staffing levels and more consistent work for nurses at high quality wards and lower staffing levels and irregular services with low nurse-patient ratio in low quality wards. From this evidence, it is possible to provide recommendations for nursing management and practice and probe into more accurate relations of dependency acuity quality in DAQ measures.

In a study using assessment of patient nurse dependency systems for determining nurse-patient ratio in the ICU and HDU, Adomat et al (2004) point out that a huge range of patient classification systems or tools are used in critical care units to inform workforce planning, and nursing workload although the application of these methods may not always be relevant, complete or appropriate. The systems or tools used for patient classification and categorization were developed solely for the purpose of more efficient distribution of patient across hospital sections, although now the same systems are used for workforce planning, distribution of workload, determining nurse-patient ratio in critical care settings. However these changes can raise a number of issues related to workforce planning, staffing levels and nursing management in general. Adomat and Hewison evaluate

the three main assessment systems used in critical care units to effectively determine the necessary nurse-patient ratio that can provide the best quality service in the wards. The application of these tools is to enhance the quality of care by keeping nurse-patient ratio at its optimum. The authors suggest that decisions relating to workload planning and determining the nurse patient ratio are dependent on an understanding of the origins and purpose of the classificatory tools that categorizes patients and measures their dependency on care services. Patient dependency and classification systems as well as patient dependency scoring systems for severity of illness are measures indicating mortality and morbidity although Adomat points out that these dependency measure may not be real indicators or determinants of the nurse-patient ratio that help in measuring nursing input. The costs of providing a nursing service within critical care uses nursing intensity measures to give a framework for nursing management and patient care and also determines the exact role of patient dependency in nurse staffing levels. However, components of the nursing role and how it determines standards of care have not been fully determined (Adomat and Hewison, 2004). They point out that careful consideration of patient dependency and classification systems may be necessary to plan, organize and provide a cost effective critical care service.

In a similar study, Adomat and Hicks (2003) evaluates the nursing workload in intensive care a there is a growing shortage of nurses in these care units. The problem identified in this shortage lies in the method for calculating the nurse/patient ratio using the Nurse Workload Patient Category scoring and classificatory system use in most intensive care units. The nurse-patient ratio

is determined by using the patient category or dependency scales and the general assumption is that the more critically ill a patient is, the more care and nursing time will be required for the patient. Many critically ill patients placed on a high level of mechanical care such as a feeding or ventilator tube and in intensive units may however require less direct personal nursing care than patients who are self ventilating or have been considered to have lower levels of dependence. Thus patient dependence may be addressed by means other than direct nursing care and artificial care and support systems may be used instead of nursing staff. These and other factors show that patient dependency may not be a completely relevant measure for determining nurse -patient ratio or nurse staffing levels and many associate factors have to be considered. This study by Adomat and Hicks use a video recorder to document nurse activity in 48 continuous shifts within two intensive care units and helped to determine the accuracy of the Nursing Workload Patient Category scoring system to measure nurse workload. The data obtained from the video of nurse activity was then correlated with the Patient category scale score that was allocated to the patient by the nurse in charge. The results of this study showed that the nursing skills required in these care units were of low skill type despite the needs of care being complex in general. It was found that nurses spent less time with patients who were categorized as in need of intensive care than those in need and in high dependency range in all units. The findings indicate that existing nurse patient ratio classifications are inappropriate as nurses spend less and less time with critically ill patients. The authors expose the flaws of classification or scaling systems that tend to correlate care with critical illness. They suggest that radical reconsideration of nursing levels and skills mix should

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make it possible to increase provisions and levels of intensive care providing the right numbers of staff at the appropriate units where patients need them most suggesting more flexible and alternative approaches to the use of nurse-patient ratios.

In a similar study discussing relationship between workload, skill mix and staff supervision, Tibby et al (2004) proposes a systems approach and suggests that hospital adverse events or AE are more likely when sub-optimal working conditions occur. Proper working conditions are thus absolutely necessary to ensure the smooth working of the clinical setting. Tibby and colleagues analyzed the adverse events in a pediatric intensive care unit using a systems approach and observational study to investigate the association between the occurrence of these adverse events and latent risk factors including temporal workload, supervision issues, skills mix, nurse staffing and the interactions between established clinically related risk factors (Tibby et al, 2004). The data was collected from 730 nursing shifts and the analysis was done with logistic regression modeling. The rate of adverse events was 6 for every hundred patient days and the factors associated with increased AE including day shift, patient dependency, number of occupied beds, and simultaneous management related issues although these were considerably decreased with enhanced supervisory ability of the nurses. Decreased number of adverse events have been found to be related to the presence of a senior nurse in charge, high proportion of shifts handled by rostered, trained, permanent staff and the presence of junior doctors. Patient workload factors such as bed occupancy and the extent to which the patient needs help and nursing supervisory levels and

level of staffing such as presence of a senior nurse have been found to be associated. This study sheds light on the factors increasing or decreasing adverse events and helps in identifying the issues closely related to the need of regulating and optimizing nurse staffing levels.

As we have already suggested through a study by Adomat and Hicks, patients in high dependency units may require more frequent nursing care and higher nurse-patient ratios than critical care units where patients may be supported by artificial methods. According to a study by Garfield et al (2000) high dependency units are increasing in the hospitals and becoming more important as part of a hospital's facilities. Although the optimum staffing ratio for patients is unknown for such units, the Department of Health and Intensive Care Society recommend a level of one nurse for every two patients. Garfield et al recorded Therapeutic Intervention Scoring System scores and Nurse Dependency Scores in high dependency units over 7 months. The results indicated a weak correlation between nurse dependency score and therapeutic intervention scoring system score. The authors argue that a nurse-patient ratio of 1: 2 may be insufficient for the management of a high dependency unit and based on their findings recommends a nurse to patient ratio of 2: 3.

Balogh (1992) points out that the literature on audits of nursing care shows a strong relation between the quality of nursing care provided and nursing labour force and staffing issues. Balogh suggests that all assumptions for setting nurse staffing levels on the basis of variations in patient dependency are unscientific and there are moreover no opportunities to use personal judgment in decision-making within hospitals to determine nurse-patient

ratios. Balogh points out that such methods for determining staffing levels as well as audit instruments are outdated and insufficient to optimize service levels. The paper highlights the need for greater flexibility, more decision making power, and a more significant role of nurses' personal judgment in selection and management of appropriate nurse staffing levels in dependency and critical care units.

Conclusion:

In this review of literature on the exact role of patient dependency in determining nurse staffing levels, we began by suggesting that it is generally believed that the more critical condition a patient is in, the higher the requirements of direct care suggesting that nurse patient ratio should be high in critical care units. This assumption however has been refuted by studies which shows that such clear criteria may not be sufficient for nurse management and staffing level decisions and other factors have to be considered. These include artificial means of life support and other mechanical devices that minimizes the need for manual staffing and reduces a critical patient's nursing needs. A related study suggested that high dependency units rather than critical care units should be provided with higher levels of staffing although many other factors such as supervisory levels of senior nurses, skills available and already established method of determining nurse patient ratios seem to be crucial factors. Along with the approach taken by several authors we can also suggest that personal judgment of nurses on the care needed by patients rather than inflexible scaling or scoring systems should be used by hospitals to determine staffing levels, considering patient dependency levels as well.

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