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# Reasons, consequences, and suggested solutions for nursing workforce shortage: A review of literature

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**Abstract**---Nurses are an integral part of the health care system. Studies have shown that when hospitals and other health facilities have the right number of nurses, it improves patient safety, mortality rates, and overall patient outcomes. The lack of nurses is a complex problem with several causes. There are many aspects to play, from the aging population of nurses, fatigue from work overload, stressful working environment, low wages and work dissatisfaction. The combination of these factors causes a shortage of nurses and causes them to grow over time. The mental and physical pressure on nurses can increase their burnt out and is the main reason for the hectic retraction of nurses from their professions. This literature review is discussing the main reasons for the nursing shortage, and its negative impact on health systems and patient care, then finally discusses the solutions for this problem from the literature.

**Keywords**---Nursing shortage, Nursing workforce, Nursing career, Quality care.

## Introduction

In many countries, health systems have been experiencing increasing demands for the nursing workforce for many reasons such as changing demographics (rising number of the aging population), chronic, and infectious diseases, and disabilities (Australian Nursing Federation 2004). It is clear that recruiting and retaining nurses in the workforce needs urgent measures and attention in a concerted manner to achieve the growing demands of the 21<sup>st</sup> century. In many countries, nurses' availability for employment has coincided with economics, and it is unlikely that economic downturns will encourage a sufficient number of nurses back into nursing (Australian Nursing Federation 2004). According to the Australian Institute of Health and Welfare (2011), there was a 13.3% increase in the number of employed nurses between 2005 and 2009, and a 0.9% increase in the average hours they worked over this period. However, the number of nurses

entering the workforce is anticipated to decrease in the next 10 years (AIHW 2011). Moreover, a report from the Australian Nursing Federation (2004) declared that the nursing profession in Australia is an aging profession with the average age of nurses being 42.2 years. Moreover, this presents many challenges for the profession and the health care sector, because of the fact that old nurses are retiring. Additionally, there is a lack of young people entering the nursing workforce (AIHW 2005), with an estimated shortfall of 4,000 nursing graduates per year (AWHAC 2004). This review discusses some reasons for the nursing shortage. Next, describes some facts that may happen as consequences of the nursing shortage. Then, proposes some solutions that may help in addressing the shortage of nursing.

### **Reasons for nurses shortage**

#### ***Nurses' Work overload***

Work overload is a key source of dissatisfaction and concern specifically for nurses working in hospitals (Burke 2003). In a study by Khowaja, Merchant, and Hiram (2005) the authors indicated that nurses' lack of autonomy, inadequate staffing, and work overload had a great impact on nurses' decision to leave the profession. Furthermore, patient to nurse ratio was found to be one of the most consistent characteristics to have a harmful effect on nurses' outcomes, with a high patient-to-nurse ratio negatively impacting nurses' perception of work and work environment (McGillis-Hall, Doran & Pink 2008). Nurses having an overload of work would be stressed, therefore, would not be able to continue working in a stressful environment. The role of stress may be viewed as the consequence of disparity between an individual perception of the characteristics of a specific role, and what is actually being achieved by the individual currently performing the specific role (Lambert & Lambert 2001). Thus, role stress occurs when there is an incongruence between perceived role expectations and achievement.

The literature review conducted by Lambert and Lambert (2001) showed that nurses who are stressed have higher absenteeism rates, lower work satisfaction, and are more likely to 'voluntarily' leave the nursing workforce. In a study by Gardner and Walton (2011), the authors stated that nurses were consistently under pressure and reported they were not able to complete their basic nursing care for each patient, such as assessment, medication, and charting because they had to do other tasks at the same time. The authors also stated, that each nurse was responsible for more than 8 patients in one shift and was expected to provide quality care. According to the authors, this was an intense source of frustration and dissatisfaction for nurses; therefore, they expressed their intentions to quit their job within the few next years (Gardner and Walton 2011).

#### ***Demographic profile of the nursing workforce***

Personal factors play a role in a nurse leaving the profession. One personal factor influencing the shortage of nurses was age. Ganyor and colleagues (2007) stated that in forefront countries such as Australia 45% of the current nursing workforce are aged 45 years or older. Additionally, some Universities in Australia had students enrolled who were aged 50 years and some were 60 years, those students are expected to have a minimal contribution to employment years

(Ganyor et al. 2007). Moreover, Shader et al (2001) suggested that older nurses would stay until retirement because they have invested so much in the position. However, Moseley, Jeffers, and Paterson (2008) stated that some nurses choose to retire before they reach the age of retirement, in fact, a large number of nurses plan to retire themselves within the next 10 -15 years (Australian Nursing Federation 2005). Losing older nurses and their corporate disciplines, knowledge, expertise and skills, means the loss of valuable corporate intelligence (Wars-Smith et al 2007). In the United Kingdom nurses over 50 years of age indicated a lack of flexibility in work hours was a major factor influencing their decision about whether to continue participating in the nursing profession or retire (Andrews, Manthorpe & Watson 2005). In a qualitative study, the authors identified some key factors influencing aging nurses' decision to retire earlier than scheduled, largely related to meeting family commitments, lack of respect at work, stress at work and inadequate wages (Andrews, Manthorpe & Watson 2005).

The aging issue in the nursing workforce is compounded by fewer young people entering the profession, resulting in the nursing workforce aging more rapidly than the general population (AIHW 2006; Stone et al. 2006). According to Priest (2006), the governmental workforce data in some European countries reports that the students enrolled on nursing programs are older as many are entering the profession as a career change, accordingly, most graduates are in their late twenties, early thirties, or older. These nurses will have fewer years in the profession and then they will retire themselves. The population growth over the next couple of decades of around 1.6% a year (Australian Bureau of Statistics 2008), indicating a growth in the nursing workforce of around 4000 a year to maintain levels of staffing. In fact, the requirements of new recruits are likely to increase substantially over about 5-10 years as a consequence of the peak in the age profile around age 50 in 2009 passing through to retirement age (Preston 2009). This means the number of nurses retiring increases, and an annual increase in the number of nurses is required.

### ***Work environment***

The nurses' work environment has been studied for its impacts on nurse satisfaction and other important outcomes since the 1980s (Aiken, Clarke & Sloane 2002; Khazanjian et al. 2005; Needleman & Hassmiller 2009). In 2008, Thomas-Hawkins, Flynn, and Clarke declared that twenty percent of the nurses studied, reported they intended to leave their jobs within the next year because of the stressful environment of work, and for nurses intending to leave their current jobs; there was a significantly higher report in absenteeism. Another study was conducted to find nurses' perception of the outpatient hemodialysis work environment (Thomas-Hawkins et al 2003). Nurses revealed a perception of inadequate resources for the provision of quality care. Their work environment also did not support a participatory role or valued status for their contribution to patient care. In this study, nurses reported their desire to leave their current job, because they felt unappreciated and empowered (Thomas-Hawkins et al 2003).

Findings of some literature connected work environment with nurses' job satisfaction and patient outcomes. For instance, a study by Aiken and colleagues (2008) analyses the net effects of the nurse practice environment on nurse and

patient outcomes after accounting for nurse staffing and education. Work environments were measured with 10,184 nurses, and 232,242 patients in 168 hospitals in Pennsylvania, the United States in 1999. Findings revealed that hospitals with better care environments reported more positive job experience and fewer concerns with care quality. The most significant outcome, patients were satisfied with their stay and care. However, hospitals with less satisfied nurses with their work environment reported burnout, intention to leave the job, and less interest in giving quality of patient care. Apparently, improving nurse work environments will not only help retain nurses and avoid or at least alleviate the pre-indicated future nurse shortage but could also increase the quality of care (Aiken et al. 2008).

### ***Nurses' work Dissatisfaction***

Many nurses experience some difficulties in their profession especially, nurses working in hospitals. These difficulties involved frequent overtime, changing shifts, and long work hours, to which nurses must accommodate their personal life and family responsibilities (van Saane et al. 2003). Nurses' work environment is fast-paced, changing, complex, and technologically challenging. This creates feelings of frustration, fear of making errors, and physical exhaustion, all stressors leading to work dissatisfaction (Priest 2006). According to Duffield and O'Brien-Pallas (2003), a significant amount is known about the reasons why nurses leave the profession; workload, unsafe work environments, bullying and harassment are some of the important factors. Furthermore, as noted by Lu, While & Barriball (2004) job satisfaction depends on both, the nature of the job and individuals' expectations of work. Congruently, a gap between what nurses want from work and what they obtain is found to increase nurses' intention to quit the job (Takase, Maude & Manias 2005). Another reason for nurses' dissatisfaction is long or extended working hours. Long working hours may cause fatigue, and stress, reduce productivity, and increase the risk that the nurses will make mistakes that may harm patients, also could put pressure on nurses to leave the profession (Gottlieb 2003).

An additional element that may increase nurse dissatisfaction in work maybe is related to the nurse's gender. The nursing profession has been nominated as a female profession for a long period of time (Atkins 2009). It was believed that taking care of people required a female nature (Atkins 2009). Indeed, female nurses constitute the majority of the nursing workforce (AIHW 2011). Some studies have shown that female nurses are more satisfied than male nurses at work (Dæhlen 2007). This perhaps has an indication that fewer males entering the profession, thus, quitting the job earlier than female nurses (Dæhlen 2007). However, it may be argued that the high proportion of females, specifically in nursing, may conceal differences in job satisfaction between male and female nurses (Dæhlen 2007).

### ***Some consequences of nursing shortage Nurses to patient ratio and patient safety***

Some studies provided evidence to support that an increased number of registered nurses to patient ratio was associated with a reduction in hospital-

related mortality, failure to rescue, and reduced patient length of stay (Aiken, Clarke & Sloane 2002). The staffing ratio has long been described as a significant factor that affects patients' outcomes in acute care settings (Dimick et al. 2001). Aiken and colleagues (2002) found a 31% difference in mortality rates between hospitals in which registered nurses cared for 8 patients each and those in which nurses care for 4 patients. These ratios may also impact nurses' perception of their practice and to which they suffer emotionally and physically (Dimick et al. 2001), such nurse outcomes may also have a negative impact on patients' outcomes. However, Whitman and colleagues (2002) performed a study to identify the relationship between registered nursing staffing and patient outcomes in terms of adverse event occurrence. The researchers declared that they found no relationship between registered nursing proportion and patient adverse outcomes (Whitman et al 2002). However, this is not conclusive and does not reflect all research outcomes from different hospitals around the world.

### ***Nurses' burnout***

Nurses may experience workloads, extended working hours, and back-to-back shifts as negative outcomes of nursing staff shortage; therefore, these outcomes may have an undesirable impact on nurses, patient outcomes, and quality of care. It is believed that nurses cope with workload and time pressure by working longer than scheduled, and extended work duration increases the likelihood of errors (Scott et al. 2006). According to Teng and colleagues (2010), an extended work schedule adversely impacts decision quality, judgment accuracy, and nurses' total performance. Additionally, higher mortality rates were directly linked to working extended hours (Aiken et al 2001), because, nurses may experience high rates of fatigue, burnout, and dissatisfaction, therefore, decreased quality of care (Sheward et al. 2005). Furthermore, excessive amounts of research showed that the longer nurses worked with inadequate sleep, the more their performance was affected, including the ability to make decisions, and the time took to complete tasks (Baldwin 2003; Baldwin & Daugherty 2004; vander-Hulst 2003). In contrast, a study by Halm and colleagues (2005) found no significant association between working extended hours and patients' mortality, and they found the variable that may increase the patient mortality risk was that patients admitted with 'life-threatening conditions.

### ***Quality of care concerns***

Sufficient nurse staffing has been linked to better working conditions and high quality of patient care (Van Bogaert et al. 2009). Such conditions appear to reduce nurse burnout and improve job satisfaction and patient care (Stordeur & D'Hoore 2007). In addition, nurse job satisfaction and autonomy were associated with sufficient nursing staff at hospitals (Needleman et al. 2002), indicating that when nurses are satisfied with their jobs they would offer a better quality of care. Some studies showed that sufficient nursing staff had a strong relationship with decreased adverse events such as medication errors, falls, and nosocomial infection (Rafferty et al. 2007; Laschinger & Leiter 2006). In another study, Belgium nurses identified some barriers to quality of care; one barrier identified was the insufficient staff (Milisen 2006). This created time demands and a stressful work environment for nurses. Furthermore, nurses expressed their

intentions to leave nursing at some point in time (Milisen 2006). Irregular schedules, on-call requirements, mandatory overtime, and rotating shifts are some results of insufficient nursing staff (Jacobsen 2002). Insufficient nursing staff directs a great pressure on nurses and their ability to cope with high job demands and therefore, the quality of care.

### **Some strategies to address the nursing shortage**

The number of registered nurses leaving the profession to pursue other careers is increasing every day (Huerta 2003). At the same time enrolling on nursing programs has declined over several years (Nevidjon & Erickson 2001). Therefore, there is a need to address this issue before the numbers climb and become unmanageable.

### ***Changing the negative image of nursing***

The media has focused only on the challenges nurses face, rather than rewarding aspects of their career (Mooney, Glacken & O'Brien 2008). This image displayed by the media may discourage young adults from choosing to enter nursing. The image of nursing also has been connected to night shifts; extended work hours, work overload, low wages, and an unsafe work environment (Duffield and O'Brien-Pallas 2003). According to Neilson & Jones (2011), the negative view regarding nursing as a career has been identified in the literature as a barrier to young pupils from choosing nursing as a profession. Additionally, Cohen and colleagues (2005) highlighted the importance of career advisors' role at schools in changing the negative image of nursing and ensuring that students have up to date information regarding nursing as a career choice. Moreover, parents, guidance teachers, and career advisors have been identified as important influences in shaping high school pupils' career decisions (Borycki & Samuel 2001), but this influence may not always be positive. School students might feel discouraged to enter nursing because of these negative ideas and attitudes toward the profession (Neilson & Jones 2011). In a study by Neilson and Jones (2011) authors collected data from 1059 from 5<sup>th</sup> and 6<sup>th</sup>-year school students, from 11 schools in the United Kingdom. The authors stated that 28.3 % of students thought they would never consider nursing as a career option. Those students who would never consider nursing reported significantly more negative views towards nursing. Therefore, there is an immediate need to change the negative image of nursing to enhance the recruitment process of students into the profession.

### ***Improve the working environment***

Some reviews of literature supported the link between working environments and the shortage of nursing (Rogers 2004; Vahey et al 2004). The role of better working conditions in nursing is important in order to attract and retain professional nurses (Slater & McCormack 2007). Those working conditions that advocated nurse autonomy, adequate staff levels, and good co-workers relationship have been promoted as practices that influence nursing satisfaction (Slater & McCormack 2007). Moreover, retention of nursing staff has been also linked to nursing autonomy, empowerment and control over the patient's care environment (Cohen 2006). According to Burke (2005) acknowledgment,

performance appraisal, feedback, respect, empowerment, and cooperation in working in the environment has shown positive impacts on workers and thereby, their commitment to the profession. Another study showed that flexible scheduling also has been an important part of whether nursing staff stays or leaves an organisation (Janney et al. 2001). In this case, nurses would have the ability to choose from the shifts they are given. In addition, involving nurses in designing staffing and overtime policies is indicated as a successful strategy in retaining nurses to the profession. Finally, improving the nursing work environment has proved to be a successful policy to recruit and retain nurses (Curran 2003).

### ***Nurses' wages***

Wages have been found to have a strong relationship with the decision to become a nurse (O'Brien-Pallas, Duffield & Alksnis 2004). Which ensures a steady influx of new applicants into the profession. Additionally, a nurse's salary is more likely to have an impact on the decision to quit the job (O'Brien-Pallas, Duffield & Alksnis 2004).

In a study, authors declared that older registered nurses are also more likely to postpone retirement if they were offered high wages and compensations (Buerhaus, Staiger & Auerbach 2004). Moreover, Tellez and colleagues (2004, p. 195) stated that higher salaries are thought to have three possible effects on nurses. They may 'attract new entrants into the field, encourage an increase in the number of working hours, and allow nurses to reach a target income with fewer hours of work'. Consequently, promotions, high salaries, bonuses, and financial rewards may influence the retention of nurses and recruiting entrants to the nursing profession (O'Brien-Pallas, Duffield & Alksnis 2004).

### ***Retaining of aging nurses***

The need to have more experienced and aging nurses has supported the importance of prolonging their working years (Fitzgerald 2007). Aging, experienced nurses represent the future of nursing and their valuable experiential knowledge is necessary for the provision of optimum healthcare services (Fitzgerald 2007). In addition, because there are not enough young nurses to replace aging nurses (AHWAC 2004), also replace their expertise, there is a need to retain aging nurses, and keep them longer in the profession.

### **Conclusion**

The rising population's age, chronic diseases, disabilities and an increase in the complexity of patient care placed great demands on health sectors for more nurses. The increase in health care demands and the decrease in the nursing workforce indicated the necessity to create policies and practices that specifically address this issue. Nurses are an aging profession; therefore, there is a great need to attract more young people into the profession. It was discussed also the importance of creating a healthy environment for nurses to keep them longer in the profession. Additionally, nursing work overload, work dissatisfaction, and retirement are some factors that were linked to the shortage of nursing. Next, this

review also described the impact of nursing shortage on nurses' and patients' outcomes, and also the quality of care. Finally, explained some strategies that might participate in recruiting new nurses, and retaining nurses back into the profession.

### Conflict of interest

The author declares no conflict of interest.

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