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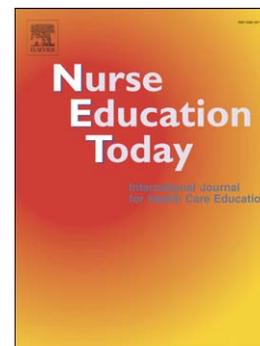
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Title

Aggression and violence in healthcare and its impact on nursing students: A narrative review of the literature

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Keywords

aggression and violence, nursing student, stress, coping

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Abstract

Aggression and violence is a significant social problem in many countries and an increasing problem in healthcare settings in which nurses are particularly vulnerable. The literature suggests that aggression and violence has a significant negative impact upon nurses and potentially upon nursing students and can result in these staff members experiencing stress as a direct result of these adverse events. The literature suggests that there is confusion over what constitutes aggression and violence in the workplace and therefore a true lack of understanding of the scale of the problem relating to nursing students. This review proposes that nursing students are indeed at significant risk of aggression and violence in the clinical setting which has the potential to significantly impact their role as a novice carer. Furthermore, aggression and violence can manifest negative stress responses in individuals, therefore, the potential for nursing students to cope with stressful situations shall be presented.

Keywords: aggression and violence, nursing student, stress, coping

Background

The potential for aggression and violence is present in all work places and is accountable for many injuries and deaths every year. Indeed aggression and violence is highly prevalent in the workplace in the United States (US) and the United Kingdom (UK) with an estimation of 2 million incidents per year in the US (United States Government, 2014) and 649,000 incidents in the UK in 2012/13 alone (Health and Safety Executive, 2014). Interestingly, there is no national collection of workplace aggression and violence data in Australia although it is recognised as a significant workplace issue (Perrone, 1999; Rural Doctors Association of Australia, 2012).

The healthcare setting is not immune from the presence of aggression and violence and it can affect all levels of staff. However, it is reported that nurses appear to be one of the groups at greatest risk of aggressive and violent incidents during their professional career (Hodge & Marshall, 2007; Jackson, Clare, & Mannix, 2002). The cause of this level of risk is multifactorial and can include reasons such as nurses being the primary care giver and that nurses spend more time in direct contact with patients. Aggression and violence towards nurses is associated with many negative responses and can lead to anxiety and depression in those nurses who are victims (Lim, 2010).

The review

The Aim

The aim of the review was to identify the prevalence of aggression and violence in nursing and specifically within the nursing student cohort. Furthermore, the review sought evidence relating to the affect aggression and violence has upon nursing students and how best to deal with this phenomenon.

Search Methods

A comprehensive search was conducted of publications from 1982 to 2014 using a variety of databases in addition to the Google and Google Scholar search engines using predefined keywords and inclusion and exclusion criteria (Table 1).

Quantitative and qualitative studies were included in this review if they met the selection criteria (Table 1). Studies that related aggression and violence specifically to nurses and more so nursing students were prioritised for inclusion and analysis. Publications that discussed responses to aggression and violence as well as studies that highlighted current or potential coping mechanisms were also included.

[Insert Table 1 here]

Results

The initial search generated over 37,000 articles, therefore keywords relating to nursing and nursing students were used to further refine the results. The refined search provided a surplus of articles relating to aggression and violence in healthcare and nursing (n=1654) with 60 articles meeting the inclusion criteria. There was a paucity of studies on aggression and violence toward nursing students (n=14), with all studies meeting the inclusion criteria (Table 1), therefore all were included in the review. As studies specific to nursing students and aggression and violence were limited, it was deemed that as they met the inclusion criteria, they would all would provide valuable information pertinent to this review.

This narrative review provides a synopsis of the evidence in the literature and presents the information pertinent to this review in a manner that identifies the journey undertaken by the authors when exploring the literature.

Increasing prevalence of Aggression and violence in healthcare

It is suggested that aggression and violence occurs frequently in the workplace (Garnham, 2001; Krug, Mercy, Dahlberg, & Zwi, 2002) and it is understandable that the consequences of aggression and violence will have an impact on healthcare settings and the individuals involved. Indeed, it has been suggested that aggression and violence in the healthcare environment is not a new phenomenon, although recently its occurrence is becoming more commonplace globally (Edward, Ousey, Warelow, & Lui, 2014), with reports in countries such as the USA, Switzerland, Italy and Australia (Hahn et al., 2010; Magnavita & Heponiemi, 2012; McKinnon & Cross, 2008; Nachreiner, Gerberich, Ryan, & McGovern, 2007). This increase may be an artefact of evolving health and safety measures, legal requirements and reporting mechanisms.

A recent cross sectional study of staff within a public health care facility in Italy not only identifies significant levels of aggression and violence in this healthcare facility but also that these levels remained constant over a four year period (Magnavita & Heponiemi, 2012). Over 9% (n=107) of the study participants had suffered physical aggression in the previous 12 months and nearly 20% (n=229) of the participants suffered verbal aggression. Furthermore, Magnavita and Heponiemi (2012) found that nurses and physicians were at greater risk of aggression and violence compared to all other workers surveyed within the health care facility, with psychiatric and emergency settings being the highest risk work environments. This study however, was undertaken in one hospital in Italy and surveyed different staff at three time points and did not carry out any interventions to address the findings, therefore no conclusions can be drawn as to the reasons for stability in the findings over time or generalised to other types of health care settings in Italy.

Similar findings were reported in a cross sectional study in Turkey revealing high incident rates of aggressive and violent behaviours in four different emergency department hospital settings in one province in Turkey over a five year period (Erkol, Gokdogan, Erkol, & Boz, 2007). Although this study had a relatively small survey sample (n=124), over 81% of nurses and nearly 97% of physicians had experienced aggressive behaviour whilst working in clinical areas. In addition to the small sample size there was an issue of the extended time line as the respondents were asked for a five year recall of experiencing aggressive behaviour. This may affect the accuracy of the data, however, there is evidence that long term recall is accurate for recall of specific events such as smoking and alcohol consumption (Friedenreich, 1994). Therefore, recalling significant events such as personal encounters of aggression and violence over time, may indeed be an accurate reflection of real world events. The study took place in only one hospital in Turkey and there is no information of the original sampling frame or of the response rate to the questionnaire, which may indicate issues with methodological procedures in the distribution and recall of the questionnaires. Interestingly, all of the studies discussed made recommendations for changes in practice to reduce the levels of aggression and violence experienced by healthcare staff, however, none of the studies attempted to tackle the problem through intervention studies.

The Turkish study has however provided some interesting data with similarities to results produced in a larger observational study in the USA, that also used a five year recall to ascertain aggressive behaviour towards healthcare staff (Kansagra et al., 2008). A large sample of staff were surveyed (n=5695) from 65 hospital emergency departments and reported nearly 3500 physical attacks on staff over a five year period. Interestingly the largest group of respondents were nurses (56% n = 1805) with physicians being the second highest response group (19% n = 776).

The studies discussed outline the significance of the prevalence of aggression in the healthcare setting but are primarily descriptive in nature. They do however provide interesting results which go some way to identifying the true scale of this problem. The addition of further mixed method research is required to add value and a richness to the current literature base.

The studies by Ekol et al (2007) and Kansagra et al (2008) identify that nurses make up a large proportion of staff reporting assaults in the emergency department setting, however aggression and violence is not isolated to emergency departments and is prevalent in the psychiatric environment and within the general hospital setting (Grenade & Macdonald, 1995; O'Connell, 2000).

The victim, perpetrators and reasons for aggression and violence in healthcare

It has been reported that nurses are at higher risk of violence and aggression than police and prison officers (International Council of Nurses, 2009; Perrone, 1999) and more recently, data from the United States of America presents that healthcare workers are four times more likely to experience workplace violence than other industries (Occupational Safety and Health Administration, 2015). Furthermore, nurses are four times more likely to experience a violent attack than any other health care worker (Wells & Bowers, 2002) and it has been suggested that at some point of their career, all nurses will be involved in a violent or aggressive situation (Yassi, 1994).

Aggression and violence is well documented throughout the healthcare literature and affects all members of staff regardless of position or locality. In a retrospective study of UK healthcare workers (n=1141) a variety of participants reported they had been assaulted, including doctors and allied health practitioners, however, nurses were assaulted more than any other staff group with 43% of nurses surveyed stating they had been assaulted in the previous 12 months compared with 13.8% of doctors (Winstanley & Whittington, 2004). However, despite the very real risk of aggression and violence, Kansagra et al., (2008) found that 73% of all staff reported feeling safe at work. This is not necessarily an unusual finding as it has been reported that many nurses feel that aggressive and violent incidents are merely part of their job (Anderson, 2011; International Council of Nurses, 2009; Jones & Lyneham, 2001).

This was also supported by another UK study where nursing staff reported higher rates of aggression than any other staff group (Whittington, Shuttleworth, & Hill, 1996). This study did have some methodological limitations related to a low response rate due to a restrictive methodology of postal questionnaires, and bias related to lack of response from acute care staff.

The reasons for people becoming violent are multi-faceted, however, aggression and violence in any setting evokes a reaction in the victim that may or may not be displayed externally. It is important to understand the type of potential responses and the consequences that are being experienced as this may assist in circumventing or minimising any adverse reactions to aggressive or violent incidents (Hodge & Marshall, 2007).

The main perpetrator of aggressive or violent acts is widely recognised as the patient (Paterson, Leadbetter, & Bowie, 2001; Taylor & Rew, 2011). This is reflected in a retrospective study by Winstanley and Whittington (2004) which found that patients were the

main source of threatening behaviour towards staff (n=248) followed by patients' visitors (n=101).

Patients may become aggressive and violent for many reasons and their underlying medical condition may contribute to their behaviour. The causes of violent acts due to medical conditions is discussed throughout the literature and it is acknowledged that this increases the difficulty in defining aggression and violence. This may be due to the difference between malicious aggression and non-intentional aggression as nurses do not consider aggression and violence from a patient with a medical condition such as dementia as maliciously violent (Ferns, 2006).

As aggression and violence is subjective, people perceive and understand it differently. Peoples' perceptions around aggression and violence can also be shaped by the setting in which it occurs as well as by the individuals' traits, experiences and cultural background. This is also compounded in the healthcare setting by aggression and violence being accepted in some cases because of a medical condition. Therefore the healthcare practitioner may have to make a distinction between intentional and non-intentional violence (Department of Health, 2004). It is suggested that non-intentional violence such as that resulting from a medical condition such as dementia or hypoxia needs to be considered differently to that of intentional violence (Department of Health, 2004) when considering what to do about the incident, such as reporting or carrying out an intervention to resolve the incident.

Varying causes of violence in a health setting have been described in a large UK study (n=396) of hospital staff who had experienced a work related violent incident (Whittington, 1996). Two of the three main reasons for assault were due to either the perpetrator suffering a medical condition such as confusion or due to clinical interventions undertaken by health care professionals, such as blood glucose monitoring (Whittington et al., 1996). Moreover, it has been suggested that there should be a clear difference between violence due to a medical condition and malicious forms of aggression and violence, however, the methodology for identifying the different forms and causes of aggression and violence, and the potential consequences remain unclear (Stirling, Higgins, & Cooke, 2001).

Effects of aggression and violence on health care workers

Evidence shows many nurses have experienced aggression and violence within the clinical setting and it is apparent that these incidents have the potential to cause lasting physical and psychological effects.

A qualitative study of 33 nurses in Australia demonstrated that all the study participants had a range of negative emotions derived from aggressive incidents they had experienced (Deans, 2004). Although this was a small scale study restricted to one state in Australia it revealed one vitally important point: Although nurses perceive the encounters of aggression in the workplace as an inevitable part of their role, they are psychologically and emotionally unprepared for the incident and ensuing events.

Indeed, people react to adverse events in different ways dependent on how they internalise the events and external influences such as the clinical environment (Arnetz & Arnetz, 2001). The literature supports the notion that the resulting impact on the individual is predominantly negative (Deans, 2004) and therefore the personal reaction to aggression and violence could result in the individual experiencing an acute stress response. However, the study by Deans relied on participants accounts of personal stress and did not objectively measure stress in the participants. Acute stress response occurs when an individual is subjected to an experience that impacts on their normal adaptive functioning and diminishes their coping mechanisms (Antai-Otong, 2001). The negative response may not only be experienced at the time of the incident or shortly afterwards, but can also be relived at a later stage or on a different occasion, and undermine their capacity for adaptive coping in clinical practice (Antai-Otong, 2001).

A recent cross sectional retrospective study from Germany identified significant negative effects and stress in healthcare workers exposed to aggression and violence (Franz, Zeh, Schablon, Kuhnert, & Nienhaus, 2010). The study by Franz et al (2010) measured stress using the validated and reliable Staff Observation Scale Revised (SOAS-R) and found nearly 45 % (N=55) experienced physical impairment as a result of aggressive incidents and 77% (N=95) experienced emotional reactions to the incident they were involved in. Nearly 67% of staff that had experienced both physical and non-physical aggression and/or violence in the last 12 months felt moderately to highly stressed as a result of the incident.

This German study clearly indicated that healthcare workers suffer some degree of stress as a result of aggression and violence. However, due to the subjective nature of aggression, and an individual's stress response, it would appear the only way to prevent the stress reaction would be to eradicate aggression and violence which is clearly unrealistic. Although strategies such as management techniques and education of staff (Beech, 2001; Duxbury, Hahn, Needham, & Pulsford, 2008) have been implemented in many clinical areas in an attempt to reduce the amount of aggression and violence, there are considerations to be made prior to implementing preventative strategies. It is reasonable to assume that if registered nurses are ill-prepared for these situations, nursing students who are less experienced than registered nurses, may be at risk of greater distress and harm if they are exposed to aggression and violence in the clinical environment. Therefore, it is important to understand and acknowledge triggers of stress in inexperienced workers such as nursing students in an attempt to minimise or prevent the impact of aggression and violence. The literature specifically targeting aggression and violence in this group of healthcare workers is limited, however it raises some important areas of discussion and is now presented.

Aggression and Violence and the nursing student

A small number of studies emerged which focused specifically on aggression and violence in nursing students. A recent Australian study found nursing students are exposed to significant levels of physical and non-physical aggression and violence (Hopkins, Fetherston,

& Morrison, 2014). Indeed, this study found that nearly 60% of second (n=55) and third year (n=32) nursing students had experienced non-physical aggression and violence in the clinical setting, and over a third (n=33) of the second years and a quarter (n=18) of the third year nursing students had been subjected to physical aggression and violence in the clinical environment. Moreover, 45% (n=44) of the second year students and 40% (n=18) of the third years felt at risk of physical aggression and violence either sometimes, often or all the time. Nursing students in this study also reported they felt more at risk of non-physical aggression and violence with 58% (n=56) of second years and 66% (n=37) of third years reporting they felt at risk either sometimes, often or all the time (Hopkins et al., 2014).

Studies in countries other than Australia have also focused on nursing students as a study population for aggression and violence research with some interesting results. A large retrospective study (n=1000) compared experiences of nursing students and qualified staff in a large teaching hospital in the UK (Grenade & Macdonald, 1995). It was reported that nursing students were assaulted significantly more than any other grade of nurse in the psychiatric setting and as often as other grades of nurses in the general hospital setting. The study focused on physical assault, suggesting that the actual numbers of incident may be significantly higher if non-physical abuse was to be considered.

In a more recent study from the UK, Ferns & Meerabeau, (2008) explored nursing students' experiences or witnessing of verbal aggression. A questionnaire was issued retrospectively to a cohort of third year nursing students (n=114). Over 45% of students had experienced verbal abuse in the clinical setting and nearly 35% had witnessed verbal abuse in their first two years of training. The study findings are similar to those in the general literature in that the perpetrators were patients, relatives and colleagues (Paterson et al., 2001; Winstanley & Whittington, 2004). Some of the accounts of aggression and violence reported

could be significantly damaging to anyone, let alone an inexperienced student, as some received death threats, sexually oriented aggression and racism.

Similar findings have been observed in other studies with students in Turkey, Germany and Israel (Bronner, Peretz, & Ehrenfeld, 2003; Celik & Bayraktar, 2004; Nau, Dassen, Halfens, & Needham, 2007). The study in Turkey found that 100% of students had experienced verbal aggression and over 50% had experienced sexually directed comments (Celik & Bayraktar, 2004). A more recent study from Turkey confirmed that the problem is continuing with over 90% of nursing students (n=380) experiencing verbal abuse and as in other studies, patients were the main offenders (Çelebioglu, Akpınar, Küçükoglu, & Engin, 2010).

Moreover, it is important to acknowledge the cost this aggression has upon caring. It may be argued that when unprepared, students who are exposed to aggression may find their attitudes towards patients are negatively impacted and subsequently their role as a carer may be compromised. This area of the literature requires further research to ascertain the impact aggression and violence has upon the nursing student's ability to carry out their role.

Potential factors influencing nursing students abilities to cope with aggression and violence

Aggressive and violent acts produce subjective responses from recipients, which in the healthcare setting is usually negatively attributed and contradictory to the nurse-patient therapeutic relationship (Bloom, 2011). The negative reaction associated with such incidents has been explained in the literature (Healy & Tyrrell, 2011; Ogińska-Bulik, 2006; Rodney, 2000) in relation to the acute stress response experienced by healthcare workers who are the victims of aggression and violence.

There is little evidence relating to the stress effects from aggression and violence in nurses and nursing students, however, there is a plethora of literature to support the notion that nursing students are exposed to stress in varying forms. Much of the literature is in agreement that nursing students have a somewhat unique exposure to stress as they suffer from both academic and clinical stress (Braun & Clarke, 2006; Evans, 2004; Fereday & Muir-Cochrane,

2008; Jones, 2000; Maltby, Williams, McGarry, & Day, 2010; Morse, Barrett, Mayan, Olson, & Spiers, 2008).

Indeed in a comparative longitudinal study it was identified that students across five countries experienced academic and clinical stress (Joffe & Yardley, 2003). A total of 1707 students from Albania, Brunei, the Czech Republic, Malta and Wales completed the Stress in Nurse Education (SINE) questionnaire and were analysed for perceived stress and causative factors. All students experienced a variety of academic and clinical stress but interestingly the focus of stress was different depending upon the country. Academic stress was highest in Brunei and Malta whereas stress from a clinical perspective was highest in Albania and the Czech Republic.

Stress was experienced by all students irrespective of year of training although there was a shift in stress towards an academic source in third year students. These findings identify the complexities and different forms of stress experienced by nursing students but the study did not consider cultural differences between the groups, which may also have a significant impact upon results. In addition to this, the study did not allow for individual responses to identify other extraneous causative factors of stress, such as aggression or violence, but was based on generic answers within the confines of the SINE. The questionnaire was issued in English only, which also raises the possibility that items within the SINE may have been misinterpreted and may be unreliable in those for whom English was a second language.

The levels of stress experienced by nursing students and the experiences of international student cohorts discussed are concerning, however to survive within this stressful environment nursing students have developed methods of coping with stress in the academic and clinical setting.

A small study of third year diploma nursing students (n=52) in the Republic of Ireland, identified nursing students had experienced a variety of emotional responses to educational and clinical stress. These emotions included exhaustion, worrying and frustration (Evans, 2004). Only a small number of students had no experience of educational stress or clinical stress but of those who had, all had devised methods of trying to cope with stress. Most of the coping strategies identified the positive use of social support such as talking to friends or family with only a minority using negative coping strategies such as taking sick leave. Although it is reassuring that students are developing coping mechanisms for stress, what is unclear is the level of success of their coping strategies and how adaptive these strategies proved to be in the short and long term. Moreover the fact that this appears to be an individually driven initiative means that students who do not possess the skills for developing more adaptive approaches may be left to flounder their way through the educational program.

Similarly in a study of first year nursing students (n=220), the ability to apply coping strategies to adverse situations resulted in lower levels of distress (Morse et al., 2008). However, the students who had lower levels of distress tended to use direct coping through problem solving strategies compared to students who used non-direct coping such as fantasy and hostility to others. Interestingly stress in both of these studies was higher in the younger

age ranges 17-25 and 18-24 years (Evans, 2004; Morse et al., 2008). This may indicate that life experience may provide more comprehensive coping strategies, although this is not explicit and requires further exploration. Although it is reassuring that student nurses have self-developed coping skills, there is no research evidence identifying if this is indeed the case when nursing students have been exposed to aggression and violence.

It is clear that nursing students are indeed exposed to adversity in the clinical setting, and that these experiences have a significant negative impact on them (Çelebioglu et al., 2010; Curtis, Bowen, & Reid, 2007; Ferns & Meerabeau, 2008).

Conclusion and recommendations

This narrative review has highlighted the problem of aggression and violence in clinical areas and discussed pertinent elements from the literature available from the last two decades. This review identifies the types and prevalence of aggression for nurses, and more specifically nursing students. The narrative element of this review not only raises important aspects but also generates further questions in all the areas discussed. Therefore, it is recommended that more specific systematic reviews of the literature pertinent to each area discussed be undertaken for a more comprehensive assessment of the problem.

It is clear that aggression and violence is a significant problem in healthcare and findings from two decades ago highlight that this is not a new problem, and it is evidenced that nurses are experiencing aggression as violence as part of their everyday role as a caregiver. What is also apparent is that nursing students are not excluded from this exposure, and with their apparent vulnerability it is clear that organisations need to lead by example and implement key strategies to address the problem specifically with this group.

The exposure of these hostile events on the nursing professions most inexperienced workers is cause for concern and may have dramatic consequences for future practice. It stands to reason that if this area of concern is not addressed it is possible that aggression and violence in healthcare will increase attrition of nursing students. More concerning though is the well-being of nursing students and based on the literature reviewed, it is a reasonable judgement that current levels of aggression and violence has the potential to cause long term physical and psychological damage to our most junior members of the nursing profession.

This review has raised some interesting points and it is clear that further research needs to be undertaken. It is recommended that:

- Programs need to be developed for undergraduate nursing students to assist in protecting them from aggression and violence

- Future programs need to consider incorporating methods to build resilience in nursing students, to enable them to cope with negative experiences such as aggressive and violent incidents
- Further research is required into the prevalence of aggression and violence in the nursing student population globally
- Further research is needed to clearly identify a universally accepted definition of aggression and violence for use in the clinical setting

ACCEPTED MANUSCRIPT

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Table 1 Databases, keywords and selection criteria

Databases	Keywords	Inclusion Criteria	Exclusion Criteria
CINAHL Informat Proquest Cochrane	Aggression and Violence Nursing Healthcare Nursing Student Student Nurse Coping Stress	Healthcare environment studies Prevalence of aggression and violence Aggression and violence and nursing Aggression and violence and nursing students Coping with aggression and violence	Non-English language publications Non- Healthcare related publications Abstracts Conference proceedings Editorials

Research Highlights

- Aggression and violence has a significant negative affect upon nurses and can result in physiological and psychological stress
- Aggression and violence is experienced by nursing students, possibly more than any other healthcare worker
- Nursing students, as a vulnerable inexperienced group, can find it difficult to cope following exposure to aggression and violent incidents

ACCEPTED MANUSCRIPT