Adhering to the principles of restraint free environments in residential aged care:
A literature review

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Abstract

The objective of this literature review was to summarise the reasons behind the continued use of physical restraints in residential aged care. Fifteen Australian and international research studies published in the last 10 years were reviewed.

The findings indicate that continued physical restraint use is based on the often poorly preconceived attitudes of nursing staff towards the elderly, restraint use, and staffing. It will also show that staff education is closely associated with successful restraint reduction and that restraint reduction is financially viable.

Introduction

The use of physical restraints such as posey vests, belts, wrist ties, fixed tables and bed rails in residential aged care settings has been widely documented. The reasons for using physical restraints include maintaining client safety, managing agitation and aggression, controlling wandering and other behaviour, providing physical support, facilitating work schedules, providing comfortable environments and preventing interference with treatment (Evans & Fitzgerald, 2002; Evans, Wood & Lambert, 2003).

Under the Commonwealth Aged Care Act (1997), federally funded nursing homes are subject to annual or triennial assessment for accreditation. Under this Act the Federal Minister for Ageing is authorised to establish principles which residential aged care providers must incorporate into their organisational policies.
The current principles, ‘Quality of Care Principles 1997’, provide some direction for the use of restraints. Accreditation standard 4.4 (living environment) requires that aged care facilities provide a restraint-free environment, where possible. If, after exploring all reasonable alternatives, restraint is used it must be the least restrictive type possible and must be undertaken in partnership with the resident (or their representative) and the health team.

The use of physical restraint practices has been shown time and again to have serious adverse affects on the physical and mental wellbeing of the restrained individual (Evans, Wood & Lambert, 2003; Evans & Fitzgerald, 2002). Twelve independent observational studies undertaken in acute care and residential care settings have found adverse affects of physical restraint use to include: an increased risk of falls and serious injury; more rapid cognitive decline; more non-social behaviour; significantly increased agitation; increased bladder and bowel dysfunction; pressure ulcers; reduced mobility; disorientation; and greater dependency on others for activities of daily living (Evans, Wood & Lambert, 2003). Furthermore the actual experience of being restrained has been found to be an overwhelmingly negative one. Those who have been subjected to physical restraint practices describe experiencing physical discomfort as well as: a loss freedom, humiliation, a perception of being treated like an animal, and feeling subjected to someone else’s control (Evans & Fitzgerald, 2002).

Despite legislation directing that physical restraint be used only as a last resort and extensive documentation of the adverse affects associated with its use, physical restraints continue to be used. Although the prevalence of physical restraint practice varies a great deal in each facility, the number of individuals subject to physical restraint is as high as 47% in residential aged care facilities (Evans, Wood & Lambert, 2002).

Objective
In this article we will examine the reasons behind the continued use of physical restraint practices in residential aged care. This will be achieved by exploring the actual, potential and perceived barriers that impede adherence to the principles of physical restraint-free environments. By highlighting these barriers it is hoped that individual health professionals and organisations will be empowered to advocate for their elderly clients by challenging current physical restraint practices. At the very least, a greater understanding of the issues will be achieved.

The definition of physical restraint varies widely in current literature. Unless otherwise outlined, in this article physical restraint practices refer to any device, material or equipment attached to or near a person’s body and which cannot be controlled or easily removed by the person and which deliberately prevents or is deliberately intended to prevent a person’s normal access to their body (Retsas, 1998, 186).

Method
A search for primary research studies on the use of physical restraints was undertaken using CINAHL and MEDLINE. The search terms used were: restraint; elderly; aged care; residential; nursing home. A comprehensive on-line review of abstracts was undertaken and studies published within the last ten years and related to the practical use of physical restraints in aged care were included. Studies based in acute settings were included where they discussed nurses reasoning for the use of physical restraint. Where available, the full text versions were downloaded, and a manual search undertaken for those that were not available on-line. Fifteen Australian and international original research studies were identified for use, including: 10 studies set in residential age care; four studies set in acute settings (each study focusing solely on the elderly); and one study set in a dedicated psychiatric setting.

Framework
A systematic examination of the research was undertaken. The key concepts were identified in each study and were separated into five main themes.
This information was used to facilitate a thematic analysis of the research articles under the headings of attitudes, staff security, education, staffing, and cost.

**Attitudes**

The current literature clearly highlights that personal attitudes or preconceived concepts held by nurses about physical restraint and/or the elderly have a significant impact on whether physical restraint will be implemented, continued or discontinued in a given situation (Werner & Mendelsson, 2001; Myers, Nikoletti & Hill, 2001; Irving, 2002; Hantikainen, 2001).

A study of the personal attitudes of 303 nurses working in a 800 bed eldercare hospital was undertaken by Werner & Mendelsson (2001). A 13-item scale was used to measure nurses’ attitudes, subjective norms (perceived expectations of others) and a sense of moral obligation toward the use of physical restraint with the elderly. The results indicate that registered nurses (RNs) have a moderately favourable attitude to using physical restraints with the elderly. Of these variables, the attitudes of nurses is clearly the most significant predictor of a nurse’s intentions to use physical restraint.

Nurses’ attitudes to physical restraint are also discussed by Myers et al (2001) who undertook a descriptive study of 201 nurses in an acute setting. A positive attitude towards the use of physical restraints was also identified here; a mean score of 3.34 on a scale from 1 to 5. A slightly positive attitude toward the elderly was found to exist – 3.61 on a scale of 1 to 7. Although a positive attitude was found to exist towards the use of physical restraints, in this study a link could not be made between this attitude and any negative attitude toward the elderly. Unfortunately, this study received a low response rate of 26%. Furthermore, the authors highlight that respondents’ comments on a significant number of the surveys indicate that political correctness may have influenced their responses. The low response rate may indicate that the issue of physical restraint use amongst the elderly is perceived to be of little importance. Alternatively, when linked with political correctness, nurses may be reluctant to admit to attitudes or practices that conflict with social desirability.

The attitudes of nurses toward the elderly and the use of physical restraints are explored further in Irving’s (2002) study. Here, discourse within the health team was explored utilising observation of a patient over 60 hours, interviews with four nursing staff and several other allied health professionals, and a comprehensive review of clinical notes. Paternalistic attitudes toward the elderly subject were continuously identified through their discourse. Significantly, where nurses decided that the subject was not able to self govern, their monopoly over information appears to perpetuate the inevitability of continued physical restraint use.

The main study participant was continuously restrained without having his toileting needs addressed, the resulting incontinence being noted in 16 of 44 clinical note entries. This individual’s perceived inability to self govern, as evidenced by the incontinence, was then used to justify the use of physical restraints. Whilst this study demonstrated a link between nurses’ paternalistic attitudes and the use of physical restraints with the elderly, only a single elderly participant was involved, providing a far from comprehensive data set.

Hantikainen’s (2001) study of 20 nurses from four long term aged care units highlights some interesting points regarding nurses’ attitudes toward the elderly individual and the use of physical restraints. In their role, nursing staff are required to continually assess their clients to ensure that appropriate interventions are in place to address health needs. It is through this process of continuous assessment that nurses might feel obligated to figure out why an individual is behaving in a particular way. A nurse’s assessment can potentially lead to oversimplification of the issues based on their own limits of acceptable behaviour. The resulting intervention, such as a physical restraint, is therefore used to bring the behaviour...
in line with the nurse's expectations and may not be appropriate in the given situation.

In support of this concept, Hantikainen (2001) found that physical restraints are often used to control behaviours so that they make sense to nursing staff. This medicalisation and/or normalisation of behaviour is thought to be partially attributable to nurses compensating for feelings of deficiency where they are unable to control a seemingly chaotic situation. This study speaks specifically to the attitudes that nurses hold about the adequacy of behaviours exhibited by the elderly. Where behaviour is seen as inadequate (irrational or nonsensical), the focus is typically on the consequences of the behaviour, and the likelihood of physical restraint use is higher. Where behaviour is seen as normal, the risk (possible consequence) is seen to be more acceptable, and physical restraint use is not likely to be seen as warranted.

Staff Security

Several of the current studies provide some evidence that the claim of putting the clients' welfare first, whilst important in the provision of health care, may not be the only motivation for the use of physical restraints. Physical restraints are often used to provide a sense of security for the nurse; a need largely coming from the fear of litigation (Lee et al, 1999; Hantikainen & Kappeli, 2000; Karlsson et al, 2000).

Lee et al's (1999) study of 20 acute nurses who regularly came into contact with elderly patients was able to demonstrate that some nurses routinely believe, despite many feeling some moral and ethical dilemma, that their overriding concern for patient safety directs them to use physical restraints at any cost. Further examination of the findings reveal that nurses feel comforted when physical restraints are used, citing protection for themselves and avoidance of writing incident reports should the patient be injured.

Hantikainen & Kappeli's (2000) study of 20 nurses in four aged care units, found that all of the nurses felt justified in the use of physical restraints as a preventative safety measure. Again the use of physical restraints increased the nurses' sense of security, fearing being seen as negligent should an accident occur.

Karlsson et al's (2000) study of 30 RNs working in two nursing homes found that one of the major deciding factors as to whether a nurse will use a physical restraint is the their willingness to take, what is perceived to be, a risk. Importantly, of the 20 nurses that would use a physical restraint in the vignette provided, 17 would not do so if all physical restraint was forbidden under national health guidelines.

These three studies highlight the close link between the safety of the elderly client and the professional security of nursing staff. Nurses feel that they are disempowered to allow at-risk elderly clients the right to autonomy or self-determination where there is potential for injury. This is supported by Karlsson et al's (2000) study where the majority of nurses felt that they were able to support restraint-free practises where national regulations provided protection for them.

Interestingly, none of these studies highlight any understanding of the litigious risks that can result from inappropriate use of physical restraint - from either severe injury or false imprisonment. It may be the case that nurses are more fearful of consequences from perceived avoidable injury than they are of any unlikely action taken by the often disempowered elderly population, for which physical restraint might be seen as justified.

Education

Despite the availability of vast amounts of information outlining the deleterious affects that physical restraint practise has on the elderly, as well as alternatives to physical restraint, many nurses seem to be unaware of them. Education about physical restraint use and the elderly is explored in Lee et al (1999), Mahoney (1995), and Sullivan-Marx et al (1995). Lee et al (1999) provides some worrying statistics. Whilst 45% of nurses were able to identify strangulation as a possible consequence
of physical restraint, no other consequences could be identified. Furthermore, 55% of nurses were not aware of any negative consequences associated with the use of physical restraints. Indeed, some nurses feel that those subjected to physical restraint were not likely to suffer any negative psychological effects as their mental functioning was already impaired.

Education about the possible alternatives to physical restraint is also examined in Lee et al. (1999). Whilst 20% were unable to offer any alternatives to physical restraint, the alternatives offered by some were simply different types of physical restraint; geriatric chairs and bedrails. A lack of education about the negative effects of physical restraint use, particularly to the extent seen in this study, would undoubtedly lead to inappropriate physical restraint use where nurses are unable to challenge routine practices on the basis of client welfare. Furthermore, without any knowledge of alternatives to physical restraint, attempts at physical restraint reduction would undoubtedly lead to client injury. The rigour of the study in Lee et al. (1999) is limited by the fact that only a small number of nurses from acute settings were involved.

Other studies have also identified education as one of the key factors in successfully reducing physical restraint practices. Mahoney (1995) and Sullivan-Marx et al. (1999) provide significant insight into the impact that education has on physical restraint use within residential aged care. Mahoney (1995) demonstrated, through her study of 20 nursing homes which had been physical restraint free for at least 18 months, that the catalyst for most facilities becoming physical restraint free was an education session on residents’ rights and/or physical restraint use. In addition, education was cited by almost half of the facilities as the activity that sustained the continuation of physical restraint-free practices. The content of this education was not specified. When given the opportunity to reflect on physical restraint reduction programs, facilities identified more education across all shifts and for all department heads as something that would be beneficial; again the specific types of education were not mentioned.

Similar findings were seen in Sullivan-Marx et al’s (1999) multivariate (before and after) analysis of 335 elderly nursing home residents. It was found that education, including consultation with advanced geriatric nurses, is closely linked to best outcomes in physical restraint reduction regimes. Amongst nursing homes with physical restraint reduction regimes in place, those with organisational policy alone had the highest incidents of physical restraint use. Nursing homes offering education (including change theory, behaviour management, and falls education) in addition to organisational policy had lower incidents of physical restraint use. Predictably, nursing homes providing continuous consultation with advanced geriatric nurses in addition to education and organisational policy had the lowest incidents of physical restraint use. This study was limited by the fact that only 23 of the original 335 subjects had, at any time, been subjected to physical restraint when the second part of the study was undertaken; providing pertinent information from only 6.9% of subjects.

These three studies confirm that there are significant deficits in staff education about physical restraint use and the elderly. Importantly, a clear link has been shown to exist between many forms of staff education and lower incidents of physical restraint use.

**Staffing**

Three of the studies which discuss nurses’ perceptions show that some nurses feel they are able to justify physical restraint practices where they perceive staff numbers to be insufficient. There are some
inconsistencies between theory and practice with regard to staff attending to the restrained individual (Marangos-Frost & Wells, 2000; Myers et al, 2001; Karlsson et al, 2000).

In their study of nurses working within a dedicated psychiatric setting, Marangos-Frost and Wells (2000) demonstrated that, in some facilities, the practice of restraining clients was generally used only when there was extra staff available to observe the restrained person. Where an person is required to be restrained, a nurse is immediately dedicated to continuously observe them, and this nurse’s patient load is redistributed amongst the remaining nurses until a replacement can be found. This practice, as directed by organisational policy in this case, clearly shows an understanding that restrained individuals are potentially at greater risk of injury than those not restrained. It should be noted that the nurses in this research study worked within a psychiatric inpatient setting where the ages and diagnosis of the clients are potentially somewhat different to those generally found within residential aged care.

In stark contrast to Marangos-Frost & Wells (2000), Myers et al (2001) found that when nurses used physical restraints, in more than 25% of the time it was believed to be justified where there was a lack of staff available to monitor the clients. Similar findings are provided in Karlsson et al (2000) where the physical restraint practices of thirty RNs in two aged care facilities were surveyed using a vignette outlining a situation where an elderly resident was restrained. Nine of the 30 nurses were willing to remove the physical restraint when the resident asked to be released, however six (66.6%) changed their minds when informed that the time of day meant fewer staff were on duty to monitor the residents activities.

The contrast in practices between the two studies suggests that the elderly are seen to be at less risk of injury from being restrained than those within dedicated psychiatric settings, and that less staff supervision of the restrained elderly is therefore acceptable. Whilst one must concede that individuals within dedicated psychiatric settings often exhibit behaviours that may put themselves and others at risk, a closer look at Myers et al’s (2001) study findings highlight that the elderly often exhibit similarly dangerous behaviours such as violence, combativeness, confusion, agitation, and impaired judgement. With this in mind, one could expect that staff practices similar to those seen in psychiatric settings should be afforded the restrained elderly.

Further unexplained inconsistencies are shown to exist in a study of all licensed Western Australian nursing homes undertaken by Retsas (1997). Eight percent of the directors of nursing cited understaffing as a reason for using physical restraints, however, in practice, a correlation between increased staff numbers and increased incidents of physical restraint was found to exist.

Anderson et al (1998), Bourbonnierre et al (2003) and Sullivan-Marx (1999) further explore staffing by focusing their research on how physical restraint practices are affected by the staff skill mix (ie. the level of qualifications held by staff).

Anderson et al (1998) provide a comprehensive comparison between 494 nursing homes where lower use of physical restraints was held to be a significant predictor of positive health outcomes. It is shown clearly that a higher number of RNs in a staff mix is associated with better health outcomes, including a reduction in physical restraint practices. The outcomes in Anderson et al (1998) were measured by more characteristics than physical restraint use alone however, making it difficult to gauge the actual amount of physical restraint reduction caused by the ratio of RNs.

Bourbonnierre et al (2003) provide further evidence of what affect skills mix, made up with higher qualified staff, has on physical restraint practices. This study of 174 nursing home residents admitted to acute care looked at the affect that specific organisational characteristics had on physical restraint use, including the ratio of advanced practice nurses to other staff. It shows that when more advanced practice nurses are available to have input into care practices the initiation of physical restraint is
significantly lower than where the skills mix involves fewer advanced practice nurses. Sullivan-Marx et al (1999) found that in some circumstances higher numbers of physical restraint initiation (ie. new physical restraints) correlates with higher numbers of RNs. This finding does not necessarily negate the findings of the two other studies because this study was undertaken following concerted physical restraint minimisation efforts. Two possible reasons might be suggested for the contrast. The first being that, while attempts at physical restraint reduction have been successful, the total eradication of physical restraints within aged care may not be possible. Alternatively, where obvious inappropriate physical restraint use has been minimised, identifying alternatives amongst those that continued to be restrained may be more challenging.

Cost
The ability to provide quality service in any setting is ultimately dependent on financial viability. Within the global culture of financial rationalisation any significant changes to the way health care is provided will depend on the bottom line. Anderson et al (1998), Phillips et al (1993) and Mahoney (1995) examine the costs associated with physical restraint reduction regimes. Anderson et al (1998) suggested that higher numbers of RNs contributed to fewer incidents of physical restraint and, it could be assumed from this that expenses would increase accordingly. This was in fact found to be the case. Using several models for data analysis, a direct correlation was found between the numbers of RNs and an increase in expenditure. The veracity of the finding was tested by repeating the data analysis whilst controlling the registered nurse ratio variance. This confirmed that facilities with best outcomes (ie. lower physical restraint use) spent more on wages but no more than any other facilities on administration and infrastructure (Anderson et al, 1998).

Phillips et al (1993) examined cost in terms of the total amount of time required to care for the restrained person versus that of the unrestrained person. A multivariate analysis of 11,932 residents in 276 nursing homes showed that restrained individuals required 40–60% more care time. It might be assumed that individuals subject to physical restraint would exhibit behaviours and suffer medical conditions different from those not restrained. That is to say, these behaviours and medical conditions might be the reasons for additional care time and not the use of physical restraints. Even after controlling for the differences in resident characteristics (ie. self care factors), it was found that restrained residents received more care than those that were not restrained. These findings were consistent across three data sets and different time periods, confirming their robustness.

Mahoney’s (1995) study of 20 nursing homes which had been physical restraint free for at least 12 to 18 months found that more than half did not experience additional expenses in their physical restraint reduction programs; 81% were able to reallocate existing resources to maintain residents’ activities (eg. providing group rehabilitation activities instead of individual activities such as reading and drawing). One facility reported that an initial start-up cost of $5000 was required for the purchase of adaptive equipment and activity supplies as well as for committee meetings and in-service education. This facility thereafter estimated that a marginal cost of $1500 annually would be needed to purchase the supplies and minor equipment needed to maintain physical restraint free care.

Surprisingly, some of the facilities were able to claim financial savings from a decrease in incontinence attributed to physical restraint reduction; one facility reported a reduction in incontinence of more than 80%. The savings were from reduced expenses such as laundry and incontinence pads (Mahoney, 1995).

Potential savings were also identified in staff time saved from less staff-assisted toileting, changing beds, and from having to remove physical restraints every two hours. Although this does not necessarily translate to actual financial savings, the extra staff time was reportedly directed into other activities for the benefit of the whole resident population (Mahoney, 1995).
These three comprehensive studies challenge any view that physical restraint reduction in residential aged care is prohibitively expensive. Whilst acknowledging that the higher salaried position of the registered nurse is associated with lower incidents of physical restraint, many facilities have shown success with physical restraint reduction regimes using existing staff mixes. Importantly, physical restraint reduction has been shown to be financially viable without compromising resident care or safety.

**Conclusion**

The current state of research highlights the complexity of the issues associated with the use of physical restraints within residential aged care. One clear theme is found to continuously emerge, the justification for the use of physical restraints is significantly based on the poorly preconceived attitudes or perceptions of individual health professionals, specifically nurses.

The research highlights that in the minds of nurses physical restraint is closely associated with the elderly. Furthermore, the elderly are not seen to be at risk from being restrained, in fact, physical restraint is thought by many nurses (and managers) to be a necessary tool in the overall management of the elderly residential population. There is also evidence that physical restraint is used to provide a sense of professional security for the nurse.

It has been shown that where facilities have had experience in the area of physical restraint reduction, education has been found to be the most significant factor, both in the implementation and the continuation of any physical restraint minimisation programme. A direct correlation was shown to exist between the levels of education provided to staff (initially and continuously) and lower levels of physical restraint.

The practice of citing poor staffing as justification for physical restraint use has been challenged. It fact, it has been shown that restrained individuals require more care time and are often at less risk when unrestrained.

Finally, facilities with significant experience in physical restraint reduction regimes were able to demonstrate absolute financial viability, from only marginal cost in some facilities to actual financial savings in others.

**Indications for Practice**

Nurses, as the front line in the provision of health care to the elderly in residential aged care hold an almost absolute monopoly over client care and information. With this in mind, organisations must endeavour to challenge the basic attitudes of nurses while encouraging a culture change through a greater emphasis on the rights of the elderly to self determination.

Education has been shown to be an effective tool for successful physical restraint reduction regimes and should be provided in all Federally funded aged care facilities. There is a clear need for further education encompassing the negative affects of physical restraint and the alternatives to physical restraint use. In addition, education must address how physical restraint reduction can be accomplished while offering fearful nurses a sense of protection.

There are indications that the wider health team and the client (or their representative) should be involved in physical restraint reduction. By involving the wider care team in the assessment of a resident, the monopoly over information is removed and the often significant attitudes of individuals can be challenged. The involvement of the client (and their representative) is important in any health setting because it offers client-focused interventions as well as an opportunity for consent, often forgotten with the disempowered elderly.

For any of this to occur, organisations and managers must be made aware of the benefits offered by physical restraint reduction regimes. These include better health outcomes for residents, protection of the rights of residents, retaining educated and proactive staff, potential improved resource allocation and/or cost savings and, importantly, by following legislative direction, adherence to the principles of a physical restraint free environment.
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