Abstract

Physical Restraints are a common way for fall prevention for elderly patients in Hong Kong due to its convenience. However, application for the sole purpose of fall prevention has not been shown to be effective; has led to increased rates of complications and length of hospital stay; and may have negatively affected patient autonomy and dignity. Therefore, this essay aimed to highlight the application of restraint on fall prevention, 1) the possible challenges of patient autonomy, 2) its lack of efficacy and its many downsides, and 3) highlight the possible scenarios that led to overuse of physical restraints and offer some possible solutions for restraint reduction.

Introduction

Falls are a common complaint in elderly patients. Incidence of Hong Kong hospital admission for falls had steadily increased throughout the 10 years (1), and falls in elderly are associated with increased rate of recurrent falls (2), increased healthcare cost compared to non-fallers (2), and a myriad of complications such as prolonged hospital stay, prolonged immobility, and increased mortality (2-4). Physical restraints are equipment aimed at limiting physical movement of the patients in-hospital (1), but do not include situations where the patients are guided away from dangerous situations (5). Frontline health workers opted to use it as a “safe” and “low maintenance” way of fall prevention (6), mostly as a form of last resort (7). However, there are limited evidence that demonstrated its effectiveness in fall prevention (4, 8, 9). Despite efforts to reduce physical restraints, local restraint prevalence in long term care facilities are still higher than our international peers (10), and still remains commonplace in some institutions (9). This essay aims to show that physical restraints in elderly patients with high risk of fall neither help reduce fall risk, improve patient care outcomes, nor is an ethical choice. Subsequently, this essay would also point out possible solutions to hurdles on restraint reduction.

Physical Restraint in Hong Kong and its Concerns on Patient Autonomy

In Hong Kong, fall risk assessments are usually conducted by nurses using instruments such as the Morton Fall Scale (9). Subsequently, physical restraints would be given to these patients should the nurse deem them to have a high fall risk without other

alternatives of fall prevention(7). This arrangement meant that restraint application is more a clinical decision rather than shared care decision, leading to decreased autonomy of the patient.

Patients oftentimes are forced to be restrained in an undignified manner (9), carrying out private matters such as toileting at an uncomfortable position until they are reassessed at a time determined by clinical staff (7), usually once per shift by a member of the clinical management team (7). As a result, elderly patients have reported of being disrespected, fearful and undignified from these experiences (11), and suffered from discomfort from pressure sores, urinary and fecal incontinence from prolonged immobilization (12).

Although patients can refuse physical restraints if they are mentally competent, many patients with high fall risks have concomitant comorbidities that result in delirium or cognitive decline (9). It is difficult for these patients to voice out their disagreements in a convenient way, thus leaving the decision of physical restraint unchecked. Furthermore, physical restraints had been shown to increase risk of delirium and clinical decline (13), potentially trapping the patient in a vicious cycle of physical restraint use.

In recognition of possible ethical concerns and its clinical efficacy, there had been a general approach to shy away from physical restraints clinically, with some jurisdiction rendering physical restraints illegal in in-patient settings (5). However, it still remained commonplace in in-patient settings locally (9).

No Beneficence in Fall Prevention.

The mechanisms of restraints for fall prevention are simple. By limiting movement, patients are less likely to put themselves in a dangerous situation. Therefore, reducing fall risk. However, most studies showed that fall rates did not differ in patients with or without physical restraints (14), possibly due to patients attaining fall by their attempts in fighting off the restraints (15) or from delirium partially contributed by prolonged immobilization when they are released from their restraints (16).

Moreover, a study on restraint removal programs showed rates of falls and minor injuries due to fall decreased in settings with most restraint removal compared to those with the least (17). Injuries from restraints occurred during transfer from an ambulatory position (17). Reasons for these injuries were due to a consortium of factors such as delirium, poor judgement by the patient, and reduced motor functioning from prolonged immobilization (16, 17). The scientific community had such consensus on this issue that recent clinical guideline no longer endorse the use of physical restraints solely for fall prevention (4, 9).

Moreover, local convalescent hospitals had initiated restraint-reduction programs more than 10 years ago (9, 18). The program demonstrated lower length of stay with no change in fall incidence (18), indicating that physical restraints do not serve its purpose of fall prevention.

Many Maleficence and No Time Saved

A possible argument for physical restraints is its convenience and the perceived lower risk of complications compared to patients without restraints. Physical restraints could be applied with minimal additional resources, whereas methods such as muscle strengthening exercises and antiresorptive medication for osteoporosis require time. Therefore, using physical restraints could serve as a bridge to other interventions that would prevent patients from further falls, thus reducing workload and avoiding complications of falls.

However, physical restraints are not a benign form of intervention. The use of restraints was associated with higher rates of pressure sores (13), serious injuries from falls (12), and could result in death from asphyxiation (9).

Prolonged immobility brought on by physical restraints were associated with higher rates of complications such as pneumonia and deep vein thrombosis (19). Moreover, physical restraints are associated with sarcopenia in elderly adults (20), and sarcopenia is a powerful predictor of further falls and risk of fracture (21). Therefore, physical restraints may paradoxically lead to increased rates of fractures.

In addition, physical restraints also resulted in higher rates of delirium, more functional decline and poorer self-care (13, 18, 20) amongst elderly patients, partially due to a combination of comorbidities associated with physical restraints.

These overall side effects help contribute to higher length of stay in patients with restraints, and more time expended per hour of admission adjusted for comorbidities in acute hospital settings (16, 18). Therefore, physical restraints were neither a safe, nor time-saving method of patient care.

How could we better manage falls without restraints?

With the inherent downsides of physical restraints and previous trials, physical restraint reduction programs seemed to be an obvious evidenced-based solution to tackle the problem (17). However, there remained some practical obstacles that prevented its use.

In terms of fall risk assessment, the Morse Fall Scale, commonly used in Hong Kong (9), had shown to have a low specificity relative to other clinical scales in an acute hospital setting (22). Therefore, blind reliance on fall risk assessment tools could have led to unfair characterization of “high fall risk”, thus necessitate the use of unnecessary fall prevention methods, including physical restraints. The use of alternative scales or relying on clinical judgement by experienced nurses may provide a more accurate approach on fall risk assessment (8).

During shift change and in late evenings, restraint use increased due to decreased staffing levels (23). Physical restraints could be used in a way to reduce workload and uncertainty at times of staff shortages (6, 23), thus may provide cover possible medicolegal consequences related to fall injuries in elderly patients (24). Although local guidelines recommend doctors and nurses to reassess restraint use in each shift (7), doctors are often preoccupied in other clinical duties, thus the duty of restraint reassessment effectively falls on nurses. Moreover, there are no strict guidelines on consulting other allied health professionals in restraint application (7). Therefore, nurses could not conduct evidence-based methods of fall prevention, such as medication review (4, 25), which maybe under the purview of other health professionals. All the above factors, it shifts the legal and ethical duty towards the nursing staff, further exacerbating a conservative approach to restraint use. A multidisciplinary team that assesses restraint use may help reduce improper use of restraints, suggest alternative methods of fall prevention that are more effective and avoid complications from physical restraints (24).

As there are currently no specific pathway for patients to refuse restraints after they are applied (7), use of physical restraints becomes a clinical decision, thus disempowering patient autonomy. Moreover, the lack of clear guidance on opting out also disincentivizes nurses to respect patient’s wishes for opting out in fear of causing fall injuries. Therefore, communication with patients in these situations is important to find a middle ground. Nurse-led shared care with patients helps to express a patient's autonomy by providing in depth knowledge and context to particular nursing encounters

(26). The addition of nurse-led shared care for opting out on physical restraints is needed to respect patient autonomy and to protect staff from medicolegal issues surrounding restraint application.

Conclusion

Physical restraints are a commonly used method of fall risk prevention for elderly patients in hospital settings (9). However, its efficacy in fall prevention is questionable and application of physical restraints restricts autonomy of the patient, results in longer hospital stays and increased rates of comorbidities such as fall related injuries, and delirium. Improper fall risk assessments, lack of resources, and fear of medico legal consequences are potential reasons contributing to physical restraint use. Therefore, proper fall risk assessment multidisciplinary approach on restraint reduction, and shared decision making on restraint application should be applied to provide a safer and more ethical choice towards fall prevention in hospital settings.

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